

New Inspirations & Solutions for 2024



Find all our new products at Johnnyseeds.com

Dear Growers,

For over 50 years, we have been committed to helping families, friends, and communities feed one another by providing superior seeds, tools, information, and service. Every year, that effort begins anew with seeds in the ground.

Our rigorous trialing program is the cornerstone of our commitment to growers. This work occurs on our research farm in Maine and the farms of growing partners across the country. This season, on our farm alone, our product team planted and evaluated 3,396 varieties across more than 9 miles of trial beds to ensure we select and offer only the best. We bolster our selection process by talking to farmers and gardeners year-round to better understand what they are facing, what has worked, and what they need new solutions for.

Our breeding program is unique in its aim to introduce exceptional varieties that meet the specific needs or solve challenges faced by small-scale farmers and avid home gardeners. The results of these programs are exciting products with the best flavors, colors, and disease resistance, like Harvest Moon tomato (page 117) and Honey Bun squash (page 104).

We're here to help you grow good food. Turning to Johnny's means you can plant high-quality, trial-proven varieties with confidence and know that our expert staff is ready to help with first-hand knowledge—because we've grown them ourselves.

Thank you for growing with Johnny's.

~ Johnny's Employee Owners

2023 Seed Variety Trials

3,396 Varieties Sown



49,901 Bed Feet (9.5 miles)



150 + New 2024 Products



Discover Hundreds of Seeds, Tools & Supplies Only Available Online



SCAN THIS CODE to explore our full selection of online-only products.





Start Growing with the Best Resources

It's all in the details. Everything offered in this catalog has been extensively tested by our product experts. Our team meticulously gathers details from our product trials to ensure we're offering only the best varieties. From yield data to disease resistance, and flavor descriptions to comparisons between similar varieties, our goal is to give you everything you need to choose the right seeds for your farm or garden.

Variety Description Key



- 1. Variety Name
- 2. Hybrid Status
- 3. Life Cycle Code
- 4. Part Number
- 5. Days to Maturity
- 6. Disease Resistance Codes
- 7. Species/Latin Name*
- 8. Variety Description
- 9. Variety Symbols
- 10. Pricing (M=1,000 seeds)
- *If different from Genus/Species specified in crop's Growing Information box.

Find each disease code key within the crop's growing information:

Cucumbers Resistance Codes (Abbreviated)

HR = High Resistance IR = Intermediate Resistance						
A	Anthracnose					
ALS	Angular Leaf Spot					
В	Bacterial Wilt					
CMV	Cucumber Mosaic Virus					

Symbol Key

- Objective
 Developed by Johnny's
- Greenhouse Performer
- Heirloom Variety
- * Exceptionally Cold Tolerant
- Y Suitable for Container Growing A Highly Fragrant
- ♠ Hydroponic Variety
- Certified Organic
- Certified Naturally Grown

- Dried Flower
- * Attracts Beneficial Insects
- >< Cut Flower Variety
- Suitable for Hanging Baskets
- Edible Flower
- Exceptionally Heat Tolerant

Easy Choice

Glossary of Terms

- Certified Naturally Grown: Seeds and other farm products verified to meet high standards for ecological production through a peerreview process. All standards are detailed at naturally grown.org.
- **Certified Organic:** Seeds harvested from, or plant material grown, harvested, stored, and handled under the guidelines and laws required by the USDA National Organic Program (NOP) and the Code of Federal Regulations.
- Conventional: Not certified organic.
- Heirloom: An open-pollinated variety whose seed lines have been maintained and passed down by gardeners and farmers over generations, prized for traits such as appearance, fragrance, and flavor.
- **Hybrid (F1):** The offspring of a cross between two genetically distinct parent lines. Hybrid varieties are selected for traits such as improved flavor, disease resistance, fruit quality, yield, and climate adaptability. An (F1) hybrid refers to first filial or first-generation offspring of the cross. Seeds saved from an F1 hybrid will not produce plants with characteristics equivalent to the F1 hybrid.
- NOP-Compliant: A substance or product that has met all of the regulatory standards established by the USDA National Organic
- Open Pollinated (OP): A non-hybrid variety that can reproduce itself in kind, demonstrating relatively stable traits from one generation to the next. Seeds saved from OP varieties will produce plants very similar to
- Pelleted: Covered with a coating that improves the shape, size, and uniformity of raw seeds for more accurate sowing by hand and machine.

Awards & Badges



All-America Selections (AAS) awards are given to new, top-performing varieties based on trialing results by this independent non-profit organization.



Organic Materials Review Institute (OMRI) lists items allowed for use in certified organic operations under the USDA National Organic Program.



FleuroSelect awards are given to ornamental varieties based on high performance, use, innovation, and beauty based on trialing performed by this international organization.

Discover More Helpful Resources in Our Online Grower's Library



Key Growing Information

Find our complete set of essential crop-by-crop sowing, planting, and growing instructions. Johnnyseeds.com/key-growing-information



Interactive Tools & Calculators

Use our calculators to help determine seed starting dates, seed quantities required for a given area, the costs for tunnel building, and more.

Johnnyseeds.com/calculators



Video Library

Browse our extensive video library featuring topics like overwintering flowers, grafting tomatoes, making soil blocks, and more. Johnnyseeds.com/videos



Other Helpful Resources

Direct-Sown Vegetable Seed Quantity & Yield Chart Johnnyseeds.com/direct-sown-chart

Full Disease Resistance Code List Johnnyseeds.com/disease-codes







ARTICHOKE & CARDOON

Tavor 4133G 84 days. C. cardunculus var. scolymus

Standard green artichoke. An improved Imperial Star type for lowinput systems. Minimal spines make for easier harvesting. Open-habit plants avg. 2-3' tall and produce 1-2 primary buds per plant about 3-4" in diameter. Secondary buds avg. 5–7 per plant at 1¹/₂–2" in diameter. **G** >< ⋄

PKT \$6.15; 100 Seeds \$16.60; 250 Seeds \$33.90; 1,000 Seeds \$94.90; 5M @ \$80.73/M; 10M @ \$72.63/M.

Imperial Star 2120 85 days. C. cardunculus var. scolymus Early green annual for summer harvests. Green artichoke specifically bred for annual production from seed. The 1¹/₂–3' tall plants typically produce a total of 1-2 buds, which avg. 3-4" in diameter, and 5-7 smaller secondary buds.

PKT \$5.75; 100 Seeds \$12.30; 250 Seeds \$25.10; 1,000 Seeds \$70.35; 5M @ \$59.75/M.

Porto Spineless 1749 100 days. C. cardunculus

Artichoke-flavored leaf stalks. The midrib and leaf stalks of cardoon have a similar flavor to artichoke when boiled (not for eating raw). If left unharvested, the 3–4' tall plants will produce large, purple, thistle-like flowers. The sharply lobed and serrated, silver-green leaves are a unique addition to flower arrangements. Significantly reduced spines. Perennial in Zones 6–10. PKT \$5.75; 100 Seeds \$8.15; 250 Seeds \$13.55; 1,000 Seeds \$36.10; 5M @ \$30.74/M.

Growing Artichoke and Cardoon — Cynara spp.

CULTURE: Artichokes and cardoon require very fertile, well-drained soils with a pH of 6.5–7.0. Sow artichokes indoors 8–12 weeks before transplant date. Cardoon is more vigorous and can be started later, 6-8 weeks before transplant date. Plant 2-3 seeds, ¹/₄" deep, per cell in 50-cell plug trays or individual containers. Germinate at 70–80°F (21–26°C) and grow at 60–70°F (15–21°C) day and 50–60°F (10–15°C) night. Thin to 1 plant per cell or pot. Transplant 6- to 12-week-old plants to the field 2-3' apart in rows 3-6' apart. Protect from frost. MILD AREAS: In Zone 9 and warmer, may be grown for annual or perennial production. GLOBE ARTICHOKES: IMPORTANT COLD **TREATMENT (VERNALIZATION):** Artichokes need 10 days of 45–50°F (7.2–10°C) temperatures to induce budding. In mild regions this can be accomplished naturally when overwintering a fall-planted crop. For spring-planted crops, cold exposure can occur in a refrigerator or cooler. Timing transplanting to expose seedlings to these temperatures is possible but may be unreliable. **HARVEST**: Clip buds at desired size before bracts fully open. SEED SPECS: SEEDS/LB.: Avg. 11,500. CARDOON: **BLANCHING:** Gather stalks after 3 months of growing. Tie upright with twine and wrap with black plastic or newspaper to exclude sunlight. Blanch for 3-4 weeks during cool weather. **HARVEST:** Harvest after blanching by cutting at the base of the stalks to keep them intact. SEED SPECS: SEEDS/LB.: Avg. 11,600. DAYS TO MATURITY: From transplant. PACKET: 25 seeds.

ASPARAGUS

Millennium (F1) Standard harvest begins third year after planting. IR: R. Superior all-around performer. A cold-hardy variety adapted to many soil types, even heavy soils. Uniform spears maintain tight tips as they mature. More vigorous than Jersey Supreme with higher yields over a longer period and a greater proportion of male plants. Bred by Dr. Dave Wolyn at the University of Guelph in Ontario, Canada. Intermediate resistance to rust. Perennial. Crowns are one year old.

Crowns 3423

25 Crowns \$43.50; 100 Crowns \$108.00; 300 Crowns \$276.00. **Seeds 3455** Avg. 15,000 seeds/lb.

PKT \$10.25; 100 Seeds \$28.05; 250 Seeds \$43.60; 1,000 Seeds \$153.05; 5M @ \$135.74/M.

Erasmus (F1) 4643 Standard harvest begins third year after planting. Outstanding purple asparagus. Tender, great-tasting spears. Higher yielding than Purple Passion with darker color and more uniform/standard size. 100% male plants for increased productivity over Purple Passion, which has only 60% males. Tips remain tight, even in warm weather. Perennial. Avg. 19,900 seeds/lb.

PKT \$19.45; 100 Seeds \$54.10; 250 Seeds \$99.85; 500 Seeds \$166.40; 1,000 Seeds \$268.30; 5M @ \$246.48/M.

Purple Passion (F1) 2225

Standard harvest begins second year after planting. Purple spears from crowns. Sweeter and more tender than green varieties, and a colorful option for raw eating in salads. Tighter spacing (6–8") is recommended for best market size. Perennial. Crowns are one year old. 25 Crowns \$42.00: 100 Crowns \$87.00: 300 Crowns \$246.00.



Find key growing information for asparagus at

Johnnyseeds.com/asparagus-kgi

Asparagus Resistance Codes HR = High Resistance

IR = Intermediate Resistance

Rust

ASPARAGUS SHIPPING INFORMATION

Asparagus crowns ship in the spring by plant hardiness zone, starting in the South. You may choose your desired ship week or select the ship week designated for your hardiness zone. For more information, visit Johnnyseeds.com/shipping-usa. We are unable to ship asparagus crowns outside of the U.S. or to U.S. territories. Physical address required for delivery; we cannot ship crowns to P.O. Boxes.







Northeaster and Marvel of Venice (L to R)

POLE BEANS

Round Pod

Seychelles 55 days. IR: A, BMV.

Early, vigorous, standard green snap bean. Easy-to-harvest clusters of gorgeous, dark green pods. The stringless pods are slow to develop seeds, extending the harvest period. The prolific vines produce smooth, straight, uniform pods that average 5-6" long. AAS winner. White seeds. **4545G Organic G** Avg. 1,900 seeds/lb.

PKT \$6.15; 250 Seeds \$12.15; 500 Seeds \$14.60; 1,000 Seeds \$21.55; 5M @ \$12.69/M; 25M @ \$11.74/M; 100M @ \$9.87/M.

4545 Conventional Avg. 2,000 seeds/lb.

PKT \$5.75; 250 Seeds \$8.50; 500 Seeds \$10.20; 1,000 Seeds \$15.05; 5M @ \$8.85/M; 25M @ \$8.16/M; 100M @ \$6.88/M.

Carminat 3170 62 days.

Beautiful, slender, purple pods. Much nicer than older purple pole bean varieties. Harvest pods at 8–9". Excellent, rich, and slightly sweet flavor. Suitable fresh or cooked. Beans turn green when cooked. Tan seeds. Avg.

PKT \$5.75; 250 Seeds \$16.70; 500 Seeds \$29.20; 1,000 Seeds \$47.00; 5M @ \$38.60/M; 25M @ \$32.93/M; 100M @ \$30.16/M.

Fortex 34 60 days.

Dependable favorite with excellent flavor. Growing to over 11", Fortex produces extra-long, round pods. Early and very productive, the beans may be picked at 7" in length for extra-slender "filet" beans. Green, firm-textured pods are completely stringless and delicious at all lengths, even after the seeds enlarge. Walnut brown seeds. Avg. 1,050 seeds/lb. PKT \$5.75; 250 Seeds \$15.15; 500 Seeds \$26.55; 1,000 Seeds \$42.80; 5M @ \$35.10/M; 25M @ \$29.94/M.



Find more bean varieties and types at Johnnyseeds.com

Monte Gusto 3169 58 days.

Smooth, bright yellow pods. This elegant, flavorful wax bean is a clear improvement over older varieties. Pods mature at 8–8¹/2" but may also be harvested as very attractive filet beans at 7". Better-tasting than bush wax beans. Brown seeds. Avg. 1.900 seeds/lb.

PKT \$5.75; 250 Seeds \$16.70; 500 Seeds \$29.20; 1,000 Seeds \$47.00; 5M @ \$38.60/M; 25M @ \$32.93/M; 100M @ \$30.16/M.

Flat Pod

Northeaster 39G 56 days.

Be the first to market with an organic option. This early maturing Roma-type pole bean has a deliciously rich, sweet flavor. The 8" long, 1" wide, flat green pods are stringless and stay tender for long periods. Extra vigorous in the seedling stage with strong vine growth. White seeds. Avg. 850 seeds/lb. CG

PKT \$5.90; 250 Seeds \$14.95; 500 Seeds \$26.20; 1,000 Seeds \$42.20; 5M @ \$34.63/M; 25M @ \$29.54/M; 100M @ \$27.06/M.

Marvel of Venice 2377 54 days.

Heirloom Italian wax bean. Full of flavor, the 8–9", yellow pods are ³/₄" wide and borne on vigorous vines. This white-seeded variety is remarkably early (earlier than the black-seeded variety with the same name). Avg. 1,200 seeds/lb.

PKT \$5.75; 250 Seeds \$15.15; 500 Seeds \$26.55; 1,000 Seeds \$42.80; 5M @ \$35.10/M; 25M @ \$29.94/M; 100M @ \$27.41/M.

INOCULANTS encourage the formation of nitrogen-fixing nodules on plant roots for richer soil, bigger plants, and better yields. Cannot ship to Canada or outside the U.S. OMRI Listed®



EXCEED Garden Combination Inoculant 7531

For beans, peas, and peanuts. Treats 8 lb. of seed. \$6.75.

HR = High Resistance IR = Intermediate Resistance

Bean Resistance Codes

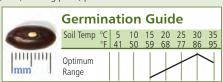
А	Anthracnose
BBS	Bacterial Brown Spot
BMV	One or more races of Bean Mosaic Virus
CTM	Curly Top Beet Mosaic Virus
НВ	Halo Blight
PM	Powdery Mildew
R	Common Rust

Growing Pole Beans — Phaseolus vulgaris

CULTURE: Grow pole beans on trellises, poles, or mesh fencing (such as Hortonova). Sow seeds 1" deep, spaced 3" apart in rows 4' apart after soil temperature exceeds 60°F (16°C). If using poles, plant 4-6 seeds at the base of each

pole. DISEASES, INSECTS, HARVEST, STORAGE: See Bush Beans. AVG. SEEDING RATE: 50 seeds/12' or 10 poles; 250 seeds/60' or 50 poles; 500 seeds/120' or 100 poles; 1M/ 250' or 200 poles.

SEED SPECS: SEEDS/LB.: See individual varieties. **PACKET:** 50 seeds, sows 12' or 10 poles.













BUSH BEANS Round Pod

Provider 50 days, HR; BMV, PM.

Earliest to market. Can be planted earlier than other beans because it tolerates cool soils. Provider is easy to grow and adaptable to diverse soil and climate conditions. Purple seeds.

10G Organic Avg. 1,350 seeds/lb. PKT \$6.15; 1,000 Seeds \$9.85; 5M @ \$8.07/M; 25M @ \$6.93/M; 100M @ \$5.60/M. 10 Conventional Avg. 1,370 seeds/lb. PKT \$5.75; 1,000 Seeds \$7.10; 5M @ \$3.99/M; 25M @ \$2.88/M; 100M @ \$2.68/M.





Affirmed 3561 56 days. HR: A, BMV, HB. IR: BBS. Excellent for both machine and hand harvest. Plants are upright and compact, producing high yields of straight, attractive, 5-6", dark green pods. Good disease resistance. More uniform beans, more upright plant habit, and more concentrated set than other green snap varieties. White seeds. Avg. 1,500 seeds/lb. PKT \$5.75; 1,000 Seeds \$9.50; 5M @ \$6.40/M; 25M @ \$5.60/M; 100M @ \$4.65/M.

Trilogy Mix 3193G 55 days.

EXCLUSIVE! A delightful mix of green, yellow, and purple bush beans. This mix of Provider, Royal Burgundy, and Rocdor is perfect for the gardener with limited space. NOTE: Provider will mature first, followed by Rocdor, and then Royal Burgundy. Avg. 1,470 seeds/lb. **CG**

PKT \$7.40; 5M @ \$7.52/M; 25M @ \$5.17/M.

Royal Burgundy 2944G 55 days.

Organic purple bean. The brilliant purple, $5-5^{1}/2$ " pods are eye-catching at market, easy to spot when harvesting, and add stunning color to salads when used raw. The pods turn green when cooked. Upright plants are dark green with a purple tinge. Buff-colored seeds. Avg. 1,360 seeds/lb. CG

PKT \$5.90; 1,000 Seeds \$9.70; 5M @ \$8.00/M; 25M @ \$6.84/M; 100M @ \$5.58/M.

Amethyst 3011 56 days. HR: BMV.

Fanciest purple bean. Thinner, straighter, and more attractive than Royal Burgundy. Pods avg. 5-5¹/₂" long and are set high on upright plants for easy picking. Very good flavor raw or cooked. Pods turn green when cooked. Tan seeds. Avg. 1,560 seeds/lb. PKT \$4.05; 1,000 Seeds \$9.40; 5M @ \$7.74/M; 25M @ \$6.59/M; 100M @ \$5.81/M.

Goldilocks 4390 52 days. HR: A, BBS, BMV. **Beautiful bright yellow beans.** The 5–6" pods are straight, attractive, and flavorful and borne on large, upright plants. Good heat tolerance. Concentrated set with good field-holding. Plant Variety Protected. White seeds. Avg. 1,900 seeds/lb.

PKT \$5.75; 1,000 Seeds \$9.20; 5M @ \$6.56/M; 25M @ \$5.58/M; 100M @ \$4.75/M.

Rocdor 26G 52 days. HR: A, BMV.

Organic yellow bush bean. Rocdor has straight, 6¹/₂" long, slender pods that have a deep yellow color. Early and productive on upright plants. The black seeds germinate well in cool soil. Avg. 1,650 seeds/lb. CG PKT \$6.15; 1,000 Seeds \$13.40; 5M @ \$9.70/M; 25M @ \$8.45/M; 100M @ \$6.94/M.

Growing Bush Beans — Phaseolus vulgaris

CULTURE: Choose well-drained soil with a pH range of 6.5-6.8. After last frost date, sow seeds about 2" apart, 1" deep, in rows 20-36" apart. Optimum soil temperature for germination is 70–90°F (21–32°C). Plant when daytime soil temperatures average at least 60°F (16°C), or risk poor germination. Inoculants can increase yields (see index). For a continuous supply, make successive sowings every 2–3 weeks through midsummer. Filet Beans: For extra-fine pods (1/4" diam.), pick every 36–48 hours, with a maximum of 2 days between harvests in hot weather. DISEASES: Plow under or remove and compost bean straw in the fall to hasten destruction of most disease organisms. For Sclerotinia spp. (white mold) control, plant at wider row spacing to promote drying of plant leaves and soil. Practice a 3-year crop rotation. All our bush bean seeds are produced in areas known to be free of halo blight. INSECT PESTS: Mexican bean beetles and potato leafhoppers can be controlled with pyrethrin or azadirachtin. HARVEST: Pick regularly to encourage new pod set. STORAGE: Store at 40°F (5°C) and 90% relative humidity for 7-10 days. AVG. SEEDING RATE: 1M/125', 1 lb./175', 116M/acre at 8 seeds/ft. and 3' row spacing. SEED SPECS: See individual varieties. PACKET: 175 seeds, sows 29'.









Flat Pod

Capitano 3734 52 days. HR: BMV, HB.

Beautiful, pale yellow pods. Flat pods avg. $5^1/2-6''$ and have a rich flavor. Plants are large and semi-upright. Pairs nicely with Dulcina. White seeds. Avg. 1,300 seeds/lb. PKT \$5.75; 1,000 Seeds \$12.45; 5M @ \$10.16/M; 25M @ \$8.21/M; 100M @ \$6.74/M.

Dulcina 3286 53 days. HR: BMV.

Tender, full-flavored Italian bean. The sweet, medium-green pods avg. $5^1/_2$ –6'' x $^3/_4''$, and are borne on large, semi-upright plants. Plant Variety Protected. White seeds. Avg. 1,170 seeds/lb. PKT \$5.75; 1,000 Seeds \$16.00; 5M @ \$13.80/M; 25M @ \$11.60/M; 100M @ \$9.60/M.

Dragon's Tongue 3175 57 days.

Unique, flashy heirloom. Avg. 6–6¹/2" flat pods are pale yellow with purple streaks. They are tender, sweet, and good in salads or cooked. Purple disappears upon cooking. Tan seeds with dark speckles. Avg. 1,200 seeds/lb. ♣
PKT \$5.75; 1,000 Seeds \$11.40; 5M @ \$9.40/M;
25M @ \$8.04/M; 100M @ \$6.57/M.

SOYBEANS Edamame

Tohya 2553 78 days. Glycine max

Early with delicious, buttery flavor and tender-firm texture. Plump, pale green pods avg. 3 seeds per pod. Compact plants avg. 2' and have a concentrated set, which allows for hand or machine harvest. For retail sales, harvest whole plants and strip the leaves, leaving the pods on the stalks. Determinate. White pubescence. Avg. 1,130 seeds/lb. PKT \$7.50; 1/2 Lb. \$33.00; Lb. \$54.00; 5 Lbs. @ \$44.80/Lb.; 25 Lbs. @ \$39.80/Lb.

Chiba Green 3581G 82 days. Glycine max

High-quality organic soybean. Upright, compact plants produce good yields in a concentrated set. Crisp and tasty, the large, plump pods avg. $2^1/2''$ with 3 beans each. $2^1/2'$ tall plants. Widely adapted. Determinate. White pubescence. Avg. 1,900 seeds/lb. **G**PKT \$6.15; 1/2 Lb. \$17.25; Lb. \$27.70; 5 Lbs. @ \$23.36/Lb.; 25 Lbs. @ \$20.48/Lb.

Karikachi 3569 85 days. Glycine max

Heavy yielder with long harvest window. Upright, tall, sturdy, and vigorous plants. Large, plump pods avg. 3 seeds each. Larger yields than Tohya. Strong resistance to lodging. Tastes great when steamed. Indeterminate. Light tan pubescence. Avg. 1,340 seeds/lb. PKT \$6.95; 1/2 Lb. \$25.00; Lb. \$42.00; 5 Lbs. @ \$36.00/Lb.; 25 Lbs. @ \$31.40/Lb.

Find key growing information for soybeans at **Johnnyseeds.com/soybeans-kgi**

FILET BEANS

Maxibel 22 50 days.

Long and elegant. High yields of slender, 7" long, green pods. Extended pod set. Brown mottled seeds. Avg. 1,750 seeds/lb. PKT \$5.55; 1,000 Seeds \$13.25; 5M @ \$10.88/M; 25M @ \$9.24/M; 100M @ \$8.18/M.

Bamako 4356 54 days. HR: A, BMV, HB. **Bright yellow filet bean.** Straight, dainty, 4–5" pods on upright, tidy plants. Well-suited to hand harvest because stems stay on, keeping the pod intact. Avg. 4,600 seeds/lb. PKT \$5.75; 1,000 Seeds \$9.20; 5M @ \$6.56/M; 25M @ \$5.58/M; 100M @ \$4.75/M.

Velour 2559 51 days. HR: BMV, HB. **First purple filet bean.** "Extra-fine" grade beans are 4–5" long with straight, slender, bright purple pods. Turns green upon cooking. Medium-size, upright plants yield well. Small, light brown seeds. Avg. 3,400 seeds/lb.

PKT \$5.15; 1,000 Seeds \$8.30;

5M @ \$5.91/M; 25M @ \$4.99/M;

100M @ \$4.27/M.

Tavera 19G 54 days. HR: A, BMV. **Short fancy pods.** Sets the standard for uniformity and eating quality in a filet bean. "Extra-fine" grade beans are short, 4–5" long with medium-dark green, round pods. Medium-size plants. White seeds. Avg. 3,350 seeds/lb. **CG**

PKT \$6.15; 1,000 Seeds \$9.70; 5M @ \$6.68/M; 25M @ \$5.17/M; 100M @ \$4.50/M.

Celine 4357G 55 days.

Gorgeous lavender wax bean. Very vigorous at the seedling stage. The 3¹/2-4¹/2" long pods are lavender on the outside, yellow on the inside, and easy to locate on the openhabit plant. Slightly sweet, nutty flavor. Plant Variety Protected. Avg. 3,200 seeds/lb. CG PKT \$6.15; 1,000 Seeds \$13.75; 5M @ \$11.33/M; 25M @ \$9.64/M; 100M @ \$8.51/M.











BEETS

Red

Zeppo (F1) 3039

40 days baby; 50 days full size. The perfect bunching beet at any size.

Smooth skin, a round shape, and a very fine taproot. Tops are compact, but exceptionally strong and ideal for bunching. Zeppo also makes perfectly proportioned baby beets. Our

most refined beet! More uniform and with a

higher yield potential than Red Ace. PKT \$5.80; 5M @ \$2.42/M; 25M @ \$1.75/M; 100M @ \$1.48/M; 500M @ \$1.35/M.

Boro (F1) 50 days.

Fast-maturing with strong tops. Widely adapted and reliable. Smooth, rich red skin and excellent flavor. Attractive, fine taproot. Big healthy tops. Stores well through the winter in proper conditions.

3300G Organic CG

PKT \$5.90; 5M @ \$4.25/M; 25M @ \$3.43/M; 100M @ \$3.25/M; 500M @ \$2.87/M. 3300 Conventional

PKT \$5.60; 5M @ \$2.41/M; 25M @ \$1.96/M; 100M @ \$1.87/M; 500M @ \$1.83/M.

Subeto (F1) 4042G 50 days.

Consistent, organic red beet. An excellent early organic option. Attractive, productive, and uniform. Similar to Boro, but with smaller tops. Very fine taproot. Smooth skin. CG

PKT \$6.15; 1,000 Seeds \$8.80; 5M @ \$4.17/M; 25M @ \$3.38/M; 100M @ \$3.21/M.



Merlin (F1) 2758G 48 days.

Exceptionally uniform and sweet. Smooth, round roots with high sugar content. Tops are somewhat smaller than Red Ace and can be used for bunching. QG

PKT \$6.15; 5M @ \$4.25/M; 25M @ \$3.43/M; 100M @ \$3.25/M; 500M @ \$2.87/M.

Red Ace (F1) 50 days.

Workhorse standard red beet. A reliable and adaptable standard red beet. Medium-tall, redveined greens for bunching. Less uniform and not as attractive as our other red hybrids.

2841 Organic CG

PKT \$6.15: 5M @ \$4.49/M: 25M @ \$3.63/M: 100M @ \$3.43/M; 500M @ \$3.03/M. 125 Conventional

PKT \$5.80; 5M @ \$2.55/M; 25M @ \$1.74/M; 100M @ \$1.41/M; 500M @ \$1.31/M.



Babybeat 3871 40 days.

The best mini beet. Babybeat is a true baby, which means that it is well-proportioned even when young. Unlike full-size beets harvested young, Babybeat forms a nice, round shape with a small taproot and smooth skin early in growth. The perfect size for cooking or steaming whole. Small, attractive tops. PKT \$5.50; 5M @ \$2.14/M; 25M @ \$1.55/M; 100M @ \$1.31/M; 500M @ \$1.22/M.

Moneta (Monogerm) (F1) 2319 46 days. Precision sowing saves thinning.

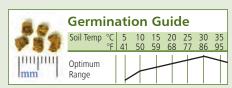
A typical beet seed can contain 2–3 embryos, which results in clumping. Monogerm beet seeds contain only one embryo. This feature eliminates thinning and results in superior uniformity. Smooth, deeply colored roots with medium-tall greens.

PKT \$5.50; 5M @ \$3.72/M; 25M @ \$3.00/M; 100M @ \$2.44/M; 500M @ \$2.30/M.

Growing Beets — Beta vulgaris

CULTURE: First-rate crops grow quickly in light or loamy soils with a pH over 6.0. Cool temperatures produce the best flesh color. Acute weather fluctuations will cause zoning (white rings) in the roots. DIRECT SEEDING: Begin early sowings when soil has warmed to 45°F (7°C). Sow 15 seeds/ft. 1/2" deep, rows 12–18" apart. Thin to 1 plant per 3". For a continuous supply of greens and small tender beets, sow seed at 2-week intervals until 8 weeks before regular heavy frosts are expected. **TRANSPLANTING**: Sow seed in a cold frame or indoors in early spring, about 5-6 weeks before transplanting out after heavy frosts become infrequent. Sow 1/2" deep, 2-3 seeds per cell in 72- or 128-cell flats. Transplant 3" apart in rows 12-18" apart. DISEASES: Keep beets well-irrigated to prevent scab, which causes raised brown rough spots on the mature roots. Internal breakdown or browning is most likely to occur in alkaline soils after prolonged hot, dry periods. This is caused by a boron deficiency. Rotate crops to prevent Cercospora leaf spot, which is especially important for bunching and baby-leaf beets. HARVEST AND STORAGE: Harvest when roots reach desired size, wash, and store bunches up to

10 days at 32°F (0°C) and 95% relative humidity. WINTER STORAGE OF ROOTS: Sow about 8 weeks before heavy freeze is expected. Cut tops, wash, and store up to 6 months at 32°F (0°C) and 95% humidity. DAYS TO MATURITY: From direct seeding; for days to maturity from transplant date, subtract 14–21 days. AVG. SEEDING RATE: 1M/66', 5M/333', 436M/acre at 15 seeds/ft. and 18" between rows. SIZED SEEDS: "Sized" seeds have been sorted so they are roughly the same size. This consistency allows for more accurate spacing with mechanical seeders and more even germination. Beet seeds are sized, except when noted in the product description. SEED SPECS: SEEDS/LB.: Avg. 37,000. PACKET: 350 seeds, sows 23'.





Formanova



Specialty

Chioggia Guardsmark 55 days.

Improved strain of Chioggia. The highest-quality Chioggia strain available. Medium-height tops are green with pink-striped stems. Excellent flavor.

25G Organic 😘

PKT \$6.15; 5M @ \$5.14/M; 25M @ \$4.10/M; 100M @ \$3.83/M; 500M @ \$3.33/M.

25 Conventional

PKT \$5.75; 5M @ \$2.35/M; 25M @ \$2.06/M; 100M @ \$1.81/M; 500M @ \$1.65/M.

Boldor 55 days.

Beautiful, bright yellow flesh. Compared to Touchstone Gold, germination and seedling vigor are a bit better, and interior color is a shade lighter. Otherwise, it is very similar, with strong tops and great flavor. Also keeps its color when cooked.

NEW 3121G Organic CG

PKT \$6.15; 5M @ \$6.11/M; 25M @ \$5.54/M; 100M @ \$4.71/M; 500M @ \$4.23/M.

3121 Conventional

PKT \$5.75; 1,000 Seeds \$7.85; 5M @ \$5.41/M; 25M @ \$4.93/M; 100M @ \$4.00/M; 500M @ \$3.66/M.

Touchstone Gold 55 days.

Striking golden-fleshed beet. Smooth, golden roots with intensely colored yellow flesh retain their color when cooked. Excellent, sweet flavor. Leaves and petioles are green. Very good germination for a golden beet.

2818G Organic CG

PKT \$6.15; 5M @ \$7.86/M; 25M @ \$7.43/M; 100M @ \$7.06/M; 500M @ \$6.44/M.

2818 Conventional

PKT \$5.75; 5M @ \$6.96/M; 25M @ \$6.57/M; 100M @ \$5.98/M; 500M @ \$5.56/M.

Avalanche 3631 55 days.

Mild and sweet white beet. A delicious white beet that won't leave red stains. Avalanche produces consistently large, round roots with clean, vigorous tops. Widely adaptable. AAS winner. PKT \$5.75; 5M @ \$4.47/M; 25M @ \$4.06/M; 100M @ \$3.42/M; 500M @ \$3.07/M.

Formanova 4430G 54 days.

Great canning beet. Healthy, upright, and vigorous tops with neat and clean cylindrical roots. Easy to peel and slice for canning. Nicely uniform red roots have a unique appearance, sweet flavor, and make attractive bunches. **G**PKT \$6.15; 5M @ \$4.19/M; 25M @ \$3.27/M; 100M @ \$2.95/M.

Baby Leaf/Greens

Fresh Pak (F1) 3291

28 days baby leaf; 40 days full-size leaf.

Healthy leaves for bunching and baby leaf. Early, uniform, and productive. Dark magenta stems and veins beautifully contrast the rich green leaves. Better quality than OPs. Intermediate resistance to *Cercospora* and high resistance to downy mildew. NOTE: For baby leaf and bunching greens only, as it does not form a marketable root.

PKT \$5.80; 5M @ \$1.99/M; 25M @ \$1.28/M; 100M @ \$1.19/M; 500M @ \$1.14/M.

Early Wonder Tall Top 123

35 days baby leaf; 45 days full-size leaf; 55 days roots. **Great for greens and beetroots.** Selected for tall, glossy tops with excellent foliar disease resistance and good volume for bunching. Also produces a respectable, flat-round beetroot. PKT \$4.55; Oz. \$6.20; 1/4 Lb. \$8.10; Lb. \$17.40; 5 Lbs. @ \$13.73/Lb.; 25 Lbs. @ \$13.00/Lb.

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Bull's Blood 58 days roots.

Deep burgundy leaves for salad greens.

Heirloom variety produces beautiful, dark red leaves even under low-light conditions. The foliage color intensifies as the plant matures. Provides color and interest to salad mixes. Roots show attractive candy-striped zoning when sliced.

2912G Organic OG

PKT \$5.90; Oz. \$9.60; 1/4 Lb. \$20.45; Lb. \$66.55; 5 Lbs. @ \$58.76/Lb.; 25 Lbs. @ \$54.54/Lb. **2912 Conventional**PKT \$4.60; Oz. \$6.95; 1/4 Lb. \$9.30; Lb. \$26.55; 5 Lbs. @ \$23.87/Lb.; 25 Lbs. @ \$21.46/Lb.

Seed beets with quick precision using the Jang JP-1 Seeder and the \sqcup or LV rollers, size -12 or -24. See page 187.



Pelleted Beet Seeds

Smooth, consistently sized pelleted seeds help to reduce jamming of irregularly shaped beet seeds in mechanical planters. Our beet pellets are made of inert, NOP-compliant materials, and are size 18.0—suitable for use with Stanhay seeders (belt size 18.0) or many of the precision seeders offered by Johnny's (see page 186). NOTE: These larger pellets may be too heavy for air or vacuum planters. For best results, we recommend consistent soil moisture during the germination period. Pelleted seed must be kept cool and dry prior to planting, and should be used within one year of purchase. **Seeding Rate:** For 12" rows: 261,500–522,700 pellets/acre at 6–12 pellets/ft. For 18" rows: 174,200–348,500 pellets/acre at 6–12 pellets/ft. **Packet:** 250 pellets.

Variety	Part #	PKT	5M @/M	25M @/M	100M @/M	500M @/M					
Organic Seed/NOP-Com	Organic Seed/NOP-Compliant Pellet										
NEW Boldor	3121GP CG	\$7.70	\$8.78	\$8.00	\$6.46	\$5.86					
Chioggia Guardsmark	25GP CG	\$7.70	\$5.36	\$4.38	\$3.91	\$3.61					
Merlin	2758GP C	\$7.70	\$5.36	\$4.38	\$3.91	\$3.61					
Subeto	4042GP CG	\$7.70	\$5.36	\$4.38	\$3.91	\$3.61					
Conventional Seed/NOP-Compliant Pellet											
Babybeat	3871JP	\$6.35	\$2.80	\$2.00	\$1.67	\$1.55					
Boldor	3121JP	\$6.05	\$5.86	\$5.32	\$4.33	_					
Boro	3300JP	\$6.45	\$3.06	\$2.40	\$2.20	_					
Chioggia Guardsmark	25JP	\$6.35	\$2.98	\$2.35	\$2.14	_					
Red Ace	125JP	\$6.45	\$2.70	\$1.85	\$1.52	_					
Zeppo	3039JP	\$6.45	\$2.80	\$2.00	\$1.67	_					
Organic Seed/NOP-Compliant Pellet & 1r Organic Treatment [†]											
Boro	3300RGP CG	\$7.70	\$5.49	\$4.52	\$4.11	_					
†See page 26 for more in	formation about	this treati	ment. M=1,0	000 seeds							





BROCCOLI **Standard Heading**

Monty (F1) 4405 56 days.

Superior heat tolerance. Excellent tolerance to heat and variable conditions during summer trials. An attractive broccoli with well-domed. bright green heads. Good adaptability. 🚢 PKT \$5.80; 1,000 Seeds \$14.95; 5M @ \$13.01/M; 25M @ \$11.74/M; 100M @ \$10.11/M.

Green Magic (F1) 2813 57 days. Excellent heat tolerance. Heads are smooth, well-domed, and very attractive. Extremely uniform in maturity. Similar to Gypsy, but with a smaller plant, smoother heads, and better uniformity. $\overset{...}{=}$.

PKT \$5.80; 1,000 Seeds \$12.15; 5M @ \$10.60/M; 25M @ \$9.36/M; 100M @ \$8.50/M.

Emerald Crown (F1) 3534 59 days. Our best fall variety for the East. Large, well-domed heads with a fine bead. An excellent choice for fall crops as it resists purpling in cold weather. Performs well on both coasts and in the Midwest and Southeast. PKT \$5.80; 1,000 Seeds \$14.80; 5M @ \$12.86/M; 25M @ \$11.40/M; 100M @ \$10.40/M.

Amadeus (F1) 2643 59 days. EXCLUSIVE! Early for spring sowings.

Medium-size, fancy heads are dark blue-green with nice domes and a fine bead. Initial heads are followed by good yields of side shoots. Vigorous, medium-large plants. Unsized seed. PKT \$5.80; 1,000 Seeds \$13.25; 5M @ \$11.51/M; 25M @ \$10.40/M; 100M @ \$8.96/M.

Gypsy (F1) 2413 60 days. IR: DM. Strong root system for plantings in belowaverage fertility. Uniform, well-domed heads with a medium-small bead size and mediumsize stem. Good heat tolerance. Decent side-

PKT \$5.80; 1,000 Seeds \$10.95; 5M @ \$9.82/M; 25M @ \$8.57/M; 100M @ \$7.70/M.

Eastern Magic (F1) 3297 62 days.

shoot production.

Excellent in the Northeast. Medium-size plants yield well-domed, blue-green heads with a fine bead. Produces quality crops under less-than-ideal conditions. For summer and fall harvest. PKT \$5.80: 1.000 Seeds \$15.75: 5M @ \$13.66/M: 25M @ \$12.32/M; 100M @ \$10.60/M.

Belstar (F1) 2815G 65 days. Organic hybrid for spring and summer plantings. Widely adapted. Performs well in Florida in the winter. Medium-green heads. Strong, stress-tolerant plants with good sideshoot production. CG

PKT \$6.15; 500 Seeds \$13.50; 1,000 Seeds \$24.65; 5M @ \$22.94/M; 25M @ \$20.02/M; 100M @ \$16.99/M. Kariba (F1) 4642 66 days. HR: FY (1).

Cold tolerant for fall and winter. A latematuring variety that performs well as a fall crop in the East. Also used as a winter crop in the desert Southwest, and a late fall/early winter or spring crop in coastal California. Not suitable for summer harvest. 攀

PKT \$5.80; 1,000 Seeds \$11.95; 5M @ \$10.30/M; 25M @ \$9.11/M; 100M @ \$8.25/M.

Imperial (F1) 3041 66 days.

Excellent heat tolerance. Best suited for harvest in summer and early fall in areas with long days and moderate heat. Also grown for late-fall harvest in California and Arizona. PKT \$5.80; 1,000 Seeds \$12.30; 5M @ \$10.60/M; 25M @ \$9.37/M; 100M @ \$8.49/M.

Marathon (F1) 151 68 days.

Excellent for overwintering. Highly tolerant to cold. Grown successfully in the Northeast for late-summer and fall crops, and over the winter in Florida and California. 攀

PKT \$5.80; 1,000 Seeds \$10.15; 5M @ \$8.79/M; 25M @ \$7.81/M; 100M @ \$7.10/M.

Standard Heading Broccoli Planting Program

Variety	Part #	Days	Heat Tolerance	Cold Tolerance	Cool/ Spring	Warm/ Summer	Cool/Fall	Cold/ Winter
Amadeus	2643	59	Good	Average				
Belstar	2815G CG	65	Average	Good				
Eastern Magic	3297	62	Average	Good				
Emerald Crown	3534	59	Average	Good	_			
Green Magic	2813	57	Very Good	Average				
Gypsy	2413	60	Good	Average				
Imperial	3041	66	Excellent	Average				
Kariba	4642	66	Poor	Excellent				
Marathon	151	68	Poor	Good				
Monty	4405	56	Excellent	Average				
	•			•	Transı	olant:	Harve	st:

Growing Broccoli — Brassica oleracea

CULTURE: See "Cabbage." Broccoli prefers a well-drained, fertile soil that is high in organic matter with a pH of 6.0-7.5. A consistent supply of moisture throughout the growing season is important; irrigate regularly for best results. While more heat-tolerant varieties are now on the market, broccoli does not generally do well in hot weather. The best success is with spring and fall crops. PLANTING, DISEASES, INSECT PESTS, AND NOTES: See "Cabbage." HARVEST: Before flower buds open, cut center head. Hydrocool or ice as soon as possible. Harvest secondary side shoots regularly to encourage continued production. STORAGE: Store at 32°F (0°C), 95–98% relative humidity, with good air circulation for 10-14 days. DAYS TO MATURITY: From date of transplanting; add about 20 days if direct seeding. AVG. PRECISION SEEDING RATE: 1,000 seeds/333' at 3 seeds per foot, 87,000 seeds (avg. 8.3 oz.)/acre spaced 7" apart in rows 18" apart. TYPICAL PLANT POPULATION: 43,560 plants/acre (1 sq. ft./plant) spaced 8" apart in rows 18" apart. TRANSPLANTS: Avq. 850 plants/1,000 seeds. SIZED SEEDS: "Sized" seeds have been sorted so they are roughly the same size. This consistency allows for more accurate spacing with mechanical seeders and more even germination. Broccoli seeds are sized, except when noted in the product description. SEED SPECS: SEEDS/LB.: 52,900-142,100 (Avg. 104,100). **PACKET:** 100 seeds, sows 50', unless otherwise noted.



Broccoli Resistance Codes

HR = High Resistance IR = Intermediate Resistance

BR	Black Rot	
DM	Downy Mildew	
FY	Fusarium Yellows	



MINI BROCCOLI

Early Sprouting Melody (F1) 4264 24 days.

EXCLUSIVE! Tender, flavorful mini broccoli. An early maturing variety, ready 2-3 days earlier than Happy Rich though it has a shorter harvest period. May be transplanted or direct sown at 4-6" in the row. More vigorous plant with a higher yield potential than Noble Jade (available online). Pinching not recommended. PKT \$5.80; 1,000 Seeds \$9.65; 5M @ \$8.05/M; 25M @ \$4.75/M; 100M @ \$3.85/M.

Sweet Bunch (F1) 4626 25 days. Early for spring and summer sales. Large, vigorous plants produce attractive, 3-4" diameter central heads followed by abundant side-shoot production. Excellent flavor, raw or cooked. Will produce for 4–6 weeks if harvested regularly. Similar to Happy Rich, but a few days earlier. Pinching not necessary.

PKT \$6.90; 500 Seeds \$18.85; 1,000 Seeds \$31.20; 5M @ \$28.36/M; 25M @ \$24.99/M.

Happy Rich (F1) 2629 27 days. EXCLUSIVE! The solution for successful summer broccoli production. Uniform, vigorous, dark green plants produce jumbo-size florets that resemble mini heads of broccoli and have an excellent, sweet broccoli flavor. Produces ample quantities of tender side shoots. Pinching not necessary. PKT (250 seeds) \$5.80; 1,000 Seeds \$18.65; 5M @ \$15.58/M; 25M @ \$13.27/M.

De Cicco 148 45 days. B. oleracea var. italica Favorite multi-cut Italian variety. Traditional Italian heirloom. Produces small, avg. 3-4" main heads followed by a large yield of side shoots. Grow as later succession to BC1611. Longer

harvest period than other varieties, with more variation in shoot size. Pinching recommended to encourage heavier side-shoot production. Unsized seed. 🂢 🖺 PKT \$4.75; 1,000 Seeds \$6.65; 5M @ \$1.18/M; 25M @ \$0.47/M.

High yields and excellent flavor. Long, attractive, 7-8" stems with very good eating quality. The large, vigorous plants will produce over several weeks if harvested promptly. Harvest central head at 3" diameter or pinch to encourage greater side-shoot production. Similar to BC1611, but florets are more tender and flavorful. Not available until May 2024. PKT \$6.90; 500 Seeds \$15.50; 1,000 Seeds \$26.90; 5M @ \$24.71/M; 25M @ \$22.43/M. BC1611 (F1) 4124 33 days.

NEW Bella Verde (F1) 5018 35 days.

Easy, attractive bunches. Stems are tender and pickable at a longer length (up to 8") for easier bunching. Fewer leaves on the stems for minimal stripping during harvest. Beautiful bright green color and head shape. Strong plant with an open habit. Pinching not necessary. PKT \$6.90; 500 Seeds \$14.80; 1,000 Seeds \$25.70; 5M @ \$23.59/M; 25M @ \$21.46/M.

Burgundy (F1) 3460 37 days. Abundant, concentrated side-shoot yields. Beautiful purple buds with purple-green stems. Easy to harvest because of concentrated side-shoot production and tall, strong plants. Slender stems with few leaves make for easy bunching. Pinching recommended. PKT \$9.55; 250 Seeds \$17.60;

1,000 Seeds \$53.20; 5M @ \$48.76/M; 25M @ \$44.34/M.

Broccoli Raab

Spring Raab 137

42 days. B. rapa var. ruvo

Best for main-season crops. The most versatile broccoli raab for growing throughout the season. Especially for spring and summer harvest, and overwintering in mild climates. Large plants mature over a 1–2 week period. Tender, abundant, large leaves borne on thin stems with delicate buds. PKT (250 seeds) \$5.00; Oz. \$9.00; 1/4 Lb. \$16.80; Lb. \$54.70; 5 Lbs. @ \$49.34/Lb.; 25 Lbs. @ \$41.85/Lb.

Sprouting Cauliflower

Fioretto 70 (F1) 3461

70 days. B. oleracea var. botrytis

Attractive and flavorful. Reliable sprouting cauliflower with two-toned florets. Sweet, tender, and ideal for dip platters or sautés. Market as whole heads or bunched. Stems continue to elongate once heads form; can be harvested up to 8" tall. NOTE: Excess heat can result in purpling and uneven curds. The ideal temperature range is 60–80°F during head formation. We suggest trialing before implementing on a larger scale. PKT \$9.05; 250 Seeds \$23.50; 1,000 Seeds \$65.50; 5M @ \$65.00/M; 25M @ \$64.48/M.

Harvest broccoli quickly and cleanly with our selection of high-quality knives. Find them all at Johnnyseeds.com.

Growing Mini Broccoli — *Brassica oleracea* (unless otherwise indicated)

CULTURE: See "Broccoli." DISEASES AND INSECT PESTS: See "Cabbage." TRANSPLANTING: Sow 2 seeds per cell in 72-cell plug flats, 3–4 seeds/in. in 20 row flats, or in outdoor beds 1/4" deep. Seedlings should be ready to transplant in 3-4 weeks. If possible, keep soil temperature 75-80°F (24-27°C) until germination, then reduce air temperature to about 60°F (16°C). Ensure good air circulation and light. Transplant outdoors 6–12" for spring raab and 12-24" apart for sprouting broccoli in rows 18-36" apart. DIRECT SEEDING: Sow 3 seeds per foot, 1/2" deep, rows 18–36" apart, thinning to one plant per foot. COLD TREATMENT (VERNALIZATION): Late-sprouting varieties require exposure to temperatures at or below 50°F (10°C) to induce budding. See individual varieties for duration of vernalization period. PINCHING: For some varieties, side-shoot production can be increased by pinching the initial head as soon as it forms. See individual varieties for pinching recommendations. **HARVEST**: Before flower buds open, cut stems of central head and side shoots. 4–8" stems can be bunched for sale or sold loose. Harvest regularly to encourage continued production. DAYS TO MATURITY: Sprouting broccoli: from transplant date to central head harvest, side shoots will follow. Spring raab: from direct seeding. SIZED SEEDS: See "Broccoli." SEED SPECS: See "Broccoli." PACKET: 100 seeds, sows 50', unless otherwise noted.









BRUSSELS SPROUTS

Gladius (F1) 4539 98 days. Early and firm. Blue-green sprouts are uniform in size and color and hold well on their stalks. Plants resist lodging. Medium-small sprouts. For early and mid-fall harvest. Avg. 76,100 seeds/lb. PKT \$5.80; 250 Seeds \$13.85; 500 Seeds \$23.45; 1,000 Seeds \$41.95; 5M @ \$35.80/M; 25M @ \$28.60/M; 100M @ \$25.90/M.

Dagan (F1) 3633G 100 days. Dependable midseason variety. Perfect for selling "on the stalk" sprouts. Smooth, attractive, and holds very well in the field compared to others in this planting slot. Tall plants. Medium-large sprouts. Avg. 110,000 seeds/lb. QG

PKT (50 seeds) \$6.90; 250 Seeds \$28.00; 1,000 Seeds \$79.00; 5M @ \$73.80/M; 25M @ \$68.00/M.

NEW Silvia (F1) 4821 103 days. HR: FY. IR: BR. Black rot resistant. Sprouts are mediumlarge, round, and very dense. The plants are medium-tall, upright, and resist lodging. Similar to Dagan, but a few days later and with the added benefit of intermediate resistance to black rot. Avg. 76,100 seeds/lb.

PKT \$5.80; 250 Seeds \$11.85; 1,000 Seeds \$36.00; 5M @ \$32.76/M; 25M @ \$31.46/M.

Divino (F1) 110 days.

Tall stalks resist lodging. Firm, uniform, and attractive sprouts hold well on the stalk for whole-stalk harvest. Medium-size sprouts. For late-season harvest. Avg. 64,900 seeds/lb. 4566G Organic CG

PKT (50 seeds) \$9.65: 250 Seeds \$26.35: 1,000 Seeds \$74.90; 5M @ \$70.31/M; 25M @ \$63.81/M.

4566 Conventional PKT \$5.80; 500 Seeds \$22.20; 1,000 Seeds \$39.85; 5M @ \$34.02/M; 25M @ \$29.64/M; 100M @ \$26.86/M.

CABBAGE Fresh Market

Green

Tiara (F1) 63 davs.

Mini for high-density plantings. Beautiful, avg. 1–2 lb., round heads packed with mildly sweet leaves that are excellent for cooking or fresh use. Delicious flavor—an annual favorite in our taste tests.

3626G Organic CG

PKT \$7.90; 1,000 Seeds \$23.20; 5M @ \$21.49/M; 25M @ \$18.95/M.

3626 Conventional

PKT \$5.80; 1,000 Seeds \$12.85; 5M @ \$11.90/M; 25M @ \$10.40/M.

Farao (F1) 2110G 65 days.

Delicious early cabbage. Attractive, deep green, 3 lb. heads are filled with tender, thin, crisp, peppery-sweet leaves. Holds well in the field and is slow to split. CG PKT (50 seeds) \$7.45; 250 Seeds \$9.10; 1,000 Seeds \$22.00; 5M @ \$20.37/M; 25M @ \$17.96/M.

Primo Vantage (F1) 3231 73 days. HR: FY. Mid-early with great flavor. Heads avg. 4–4¹/₂ lb., have a very short core, and are juicy, tender, and sweet. Holds well in the field. Performs well in the East, West, and Desert Southwest. PKT \$5.80; 1,000 Seeds \$10.55; 5M @ \$9.65/M; 25M @ \$8.24/M.

NEW Botran (F1) 4819 90 days, HR: FY, IR: BR. Widely adapted with black rot resistance. Botran has performed well as a spring or fall crop in the Northeast, Pacific Northwest, and the Carolinas. Plants may be grown 8-9" apart for 3-4 lb. heads and up to 18" apart for 7-8 lb. heads. PKT \$5.80; 500 Seeds \$7.85; 1,000 Seeds \$12.60; 5M @ \$10.33/M; 25M @ \$10.19/M.

Savoy

Famosa (F1) 313G 81 days. IR: DM.

Midseason organic savoy. Famosa has deep blue-green heads weighing in at 2-4 lb. The yellow-tinted interior is filled with very flavorful, tender leaves. Best in cooked dishes. CG PKT (50 seeds) \$7.65; 250 Seeds \$15.50; 1,000 Seeds \$43.05; 5M @ \$38.44/M; 25M @ \$35.34/M.

Deadon (F1) 306G 105 days. HR: FY.

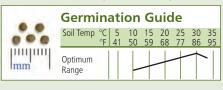
Beautiful red savoy with light green interior leaves. The magenta color intensifies with colder weather for this January King-type cabbage. Medium-large, firm heads have a delicious, sweet flavor. Avg. weight: 5–8 lb. **CG**攀 PKT (50 seeds) \$7.65; 250 Seeds \$21.10;

1,000 Seeds \$55.25; 5M @ \$46.96/M; 25M @ \$40.86/M.

Growing Brussels Sprouts — Brassica oleracea var. gemmifera

CULTURE: Brussels sprouts prefer irrigated, fertile soil with a pH above 6.0. **TRANSPLANTING:** In May, sow 2 seeds per cell in 50 to 72-cell plug flats, 3–4 seeds/in. in 20-row flats, or in outdoor beds ¹/₄" deep. Seedlings should be ready to transplant in 4–6 weeks. Space 18–24" between plants, in rows 30–36" apart. **DIRECT SEEDING:** About 4 months before expected fall frost, sow 3 seeds every 18'', $\frac{1}{4}$ – $\frac{1}{2}$ '' deep, in rows 30–36" apart; thin to 1 plant per spot. **DISEASES AND INSECT PESTS**: See "Cabbage." **HARVEST:** Pick after frost and until the end of December in most areas, and through the winter where cold is not severe. Sprouts should be firm and well-formed. Break off the leaf below the sprout and snap off the sprout. The upper sprouts continue to form and enlarge as the lower ones are harvested. WHOLE-STALK HARVESTING. MARKETING. AND TOPPING: For a once-over harvest (uniform maturity of most sprouts on the plant) and whole-stalk marketing, the plants should be topped: pinch out the growing point (rosette of several small leaves at the top of the plant) when the lower sprouts are $^{1}/_{2}$ – $^{3}/_{4}$ " in diameter. A full stalk of uniform-size sprouts will develop in about

4 weeks. STORAGE: Before ground freezes, pull plants out by the roots and place in a humid cooler at 32°F (0°C) or cold cellar for 4-6 weeks. DAYS **TO MATURITY:** From transplanting; add about 20 days for direct seeding. TRANSPLANTS: Avg. 800 plants/1,000 seeds. **SEED SPECS:** SEEDS/LB.: See individual varieties. **PACKET:** 100 seeds unless otherwise noted, direct seeds avg. 33', avg. 80 transplants.



Brussels Sprouts Resistance Codes

HR = High	Resistance IR = Intermediate Resistance
BR	Black Rot
FY	Fusarium Yellows









Red

Primero (F1) 4625G 72 days.

Organic midseason red. Heads are round to oval-round and avg. 3 lb. Flavor is slightly sweet and peppery. May also be planted at close spacing for mini-head production. Very similar to Omero, but available organic. 🔀 PKT (50 seeds) \$7.45; 250 Seeds \$16.70; 500 Seeds \$23.85; 1,000 Seeds \$40.00; 5M @ \$35.00/M; 25M @ \$29.80/M.

Omero (F1) 3627 73 days.

Midseason red with good flavor. The avg. 3 lb. heads are a vibrant red and are round to slightly oval. Good, slightly sweet and peppery flavor. Suitable for planting at close spacing to produce mini heads. PKT \$5.80; 1,000 Seeds \$17.40; 5M @ \$15.65/M; 25M @ \$13.42/M.

Integro (F1) 262G 85 days.

A mid-late red with good flavor. Medium-size heads have a uniform, high-round shape. The leaves are thick and crisp, but not tough. Longstanding in the field. Short core. Avg. weight: 4–5 lb. 💢 PKT (50 seeds) \$6.15; 250 Seeds \$12.45; 1,000 Seeds \$32.80; 5M @ \$30.03/M; 25M @ \$26.58/M.



Find more cabbage varieties including Alcosa and Clarissa at Johnnyseeds.com

Flat/Wrapper

Tendersweet (F1) 2221 71 days.

EXCLUSIVE! Great flavor for fresh use or light cooking. Midsize, flat heads stand well without splitting. Tender leaves are very thin, sweet, and crisp—perfect for cole slaw or stir-fries. The leaves, used whole or cut into squares, are also suitable for wraps. Widely adapted for spring, summer, and early fall harvest. Avg. weight: 3¹/₂ lb. Unsized seed. PKT \$5.80: 1.000 Seeds \$17.05: 5M @ \$14.82/M: 25M @ \$12.38/M.

Pointed Head

Caraflex (F1) 68 days.

Pointed mini cabbage. Extremely uniform, small heads with good wrapper leaves. Inner leaves are tender and crunchy. Flavor is excellent sweet and mild. Perfect for summer salads, slaws, or cooked dishes. In the UK, they are harvested early in the season, before they have fully headed, and sold as "spring greens." Avg. head weight: 1¹/₂–2 lb.

109G Organic CG

PKT (50 seeds) \$8.20; 250 Seeds \$24.80; 1,000 Seeds \$73.00; 5M @ \$64.90/M; 25M @ \$58.52/M.

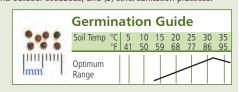
109 Conventional

PKT \$6.00; 250 Seeds \$14.00; 500 Seeds \$20.25; 1,000 Seeds \$35.80; 5M @ \$32.30/M; 25M @ \$28.28/M; 100M @ \$26.85/M.

Growing Cabbage — Brassica oleracea var. capitata

CULTURE: Cabbage as well as cauliflower, Brussels sprouts, broccoli, and related brassicas are heavy feeders. They require fertile soils in a pH range of 6.5–7.5, supplied with consistent irrigation throughout the growing period. EARLY SPRING CROP: Use early and midseason varieties. Sow 2 seeds per cell in 50- or 72-cell plug flats, 3-4 seeds/ in. in 20-row flats, or in outdoor beds ¹/₄" deep. Seedlings should be ready to transplant in 4–6 weeks. If possible, keep soil temperature over 75°F (24°C) until germination, then reduce air temperature to about 60°F (16°C). Transplant outdoors, 4–6 weeks after sowing, 12–18" apart in rows 18–36" apart. Cabbage prefers cooler growing temperatures, between 55–75°F (13–24°C), optimum being 60–70°F (16–21°C), but will produce good crops under warmer, summer conditions. FALL CROP: Use midseason and storage varieties. Start seedlings as above in May and transplant to the garden in June-July. To ensure mature heads, seed the crop early in areas where heavy freezes occur early in fall. WINTER CROP: Successful cabbage crops can be grown where winters are mild (temperatures rarely below 32°F/0°C). Transplants can be set out from September to February in these regions. **DIRECT SEEDING:** Sow 3–4 seeds 12" apart, 1/2" deep, rows 24–36" apart, thinning to one plant in each group. **DISEASES:** Adhere strictly to a preventive program including: (1) long crop rotations with non-brassica crops, (2) clean starting mixes and outdoor seedbeds, and (3) strict sanitation practices.

Johnny's Selected Seeds only sells seed lots of broccoli, Brussels sprouts, cabbage, cauliflower, Chinese cabbage, collards, kale, and kohlrabi that have tested negative for black rot (Xanthomonas campestris pv. campestris) and black leg (Phoma lingam). INSECT PESTS: Repel flea beetles and root maggots on young seedlings by covering with floating row covers from day of planting. Treat flea beetles with pyrethrin or azadirachtin if heavy pressure is observed. For cabbage worms and loopers, use Bacillus thuringiensis (Bt). Cutworm prevention: Cultivate soil 2-4 weeks before planting to work in cover crops and destroy weeds. **HARVEST AND STORAGE**: Relatively young heads (still green and actively growing) store best. Ideal conditions are 32°F (0°C), at 95–98% relative humidity, with good air circulation. Store only disease-free heads. DAYS TO MATURITY: From date of cool weather, spring transplanting. Subtract 10-14 days for late spring or early summer, warm weather transplanting. Add about 14 days for direct seeding. AVG. PRECISION SEEDING RATE: 100 seeds/50', 500 seeds/250', 1M/500', 29M/acre at 2 seeds/ft. with rows 36" apart. SIZED SEEDS: "Sized" seeds have been sorted so they are roughly the same size. This consistency allows for more accurate spacing with mechanical seeders and more even germination. Cabbage seeds are sized, except when noted in the product description. **SEED SPECS**: SEEDS/LB.: 67,500–164,300 (avg. 108,600). PACKET: 100 seeds, unless otherwise noted.



Cabbage Resistance Codes

HR = High Resistance IR = Intermediate Resistance

BR	Black Rot
DM	Downy Mildew
FY	Fusarium Yellows
WR	White Rust











Storage

Green/Sauerkraut

Storage No. 4 (F1) 167 95 days. HR: FY. Excellent eating quality from storage. For fresh use, storage, and sauerkraut. Makes nice cabbage even under fertility or weather stress. Firms up in as few as 75 days for fresh use, continuing to enlarge to 4-8 lb. for midfall harvest. The solid heads have delicious, crisp leaves, and are capable of long-term storage into spring. Flavor is superior to the typical cabbages available at the supermarket. Developed by cabbage breeder Don Reed, Cortland, NY. 貅

PKT \$5.80; 250 Seeds \$7.50; 500 Seeds \$9.08; 1,000 Seeds \$15.70; 5M @ \$14.53/M; 25M @ \$12.83/M.

Promise (F1) 4037 96 days. HR: FY. Best quality from storage. Fantastic right out of the field, or after long-term storage. Juicy, tender, sweet leaves—the best flavor in our spring storage cabbage taste tests. The dense heads are held high above the ground, which allows for good air circulation and reduced disease pressure. Heads will avg. 6¹/₂ lb. at 18" spacing and 9–10 lb. at 24" spacing. Excellent for slaws, cooking, and sauerkraut. Growers of Storage No. 4 will love this variety. *

PKT \$5.80; 500 Seeds \$13.60; 1,000 Seeds \$23.75; 5M @ \$20.60/M; 25M @ \$16.44/M.

Typhoon (F1) 4036G 98 days. HR: FY. Good fresh or processed into sauerkraut.

Very good eating quality—much better than a typical storage type—and an excellent choice for sauerkraut as it has a high dry matter content. Suitable for long-term storage into spring. For large, 10-lb. heads, space plants 18" apart. Not recommended for close spacing. Resistant to thrips. 0G

PKT \$6.50; 250 Seeds \$13.50; 500 Seeds \$20.50; 1,000 Seeds \$34.50; 5M @ \$29.50/M; 25M @ \$25.04/M; 100M @ \$24.00/M.



SCAN THIS CODE to watch a video on tips for choosing storage cabbage varieties.

Red

Buscaro (F1) 4442 98 days. Late maturing for fresh market or processing. Heads avg. 5 lb., are round to slightly oval, have a short core, and are suitable for fresh use or short-term storage. Good flavor makes it especially suitable for slaws and salads. Heads are set high off the ground on tall plants which allows for good air circulation for better plant health.

PKT \$5.80; 250 Seeds \$11.05; 1,000 Seeds \$30.10; 5M @ \$28.63/M; 25M @ \$27.30/M.

Ruby Perfection (F1) 177 85 days. Fancy fall-storage red. The #1 mid-late red cabbage. The heads are medium-size and dense with a uniform, high-round shape and good wrapper leaves. Good field-holding ability. Matures just in time for late-summer crops or fall harvest for medium-term storage. Avg. weight: 3¹/₂ lb. Resistant to thrips. Unsized seed. PKT \$5.80; 1,000 Seeds \$16.10; 5M @ \$12.37/M; 25M @ \$10.50/M.

GROWING TIP

Plant storage cabbage varieties so they mature just before fall temperatures drop below 25°F (-4°C). After harvest, whole heads can be stored well into the winter months. The length of storage varies by variety, but our selection includes both medium-term and long-term storage varieties.





CHINESE CABBAGE

Napa/Michihili

Citrus (F1) 4271 54 days.

EXCLUSIVE! Deep orange interior. Well-filled heads average 11" tall and 5¹/2–6 lb. Similar to standard Napa types except for the interior color and a distinctive orange ring around the edges of the cut stems. NOTE: Under very rainy conditions, the interior will be less orange. Suitable for cooking, kimchi, salads, and slaws. PKT \$5.45; 1,000 Seeds \$10.25; 5M @ \$8.69/M; 25M @ \$6.95/M.

A. Minuet (F1) 2901 48 days. HR: DM. Best mini variety. 9" tall heads with dark green outer leaves and an attractive yellow interior. Light, sweet taste. Space 12" apart for high yields of upright, dense heads. Slow to bolt. Tolerant to bottom rot and black speck. PKT \$5.80; 1,000 Seeds \$9.20; 5M @ \$5.28/M; 25M @ \$4.28/M.

Rubicon (F1) 2246 52 days. **Full-size for cooking and kimchi.** Firm, 11" tall heads weigh 51/2–61/2 lb. Blemish-free, deep green leaves and broad, white ribs with a creamy yellow, blanched interior. The flavor is sweet, tangy, juicy, and delicious. Slow-bolting. Tolerant to black speck.

PKT \$5.80; 1,000 Seeds \$8.95; 5M @ \$5.00/M; 25M @ \$4.23/M.

B. Bilko (F1) 2814G 54 days. HR: CR, FY. Full-size organic variety. Compared to Rubicon, Bilko is slightly bigger at 12", darker green, and a couple of days later. Wide adaptability. Slow-bolting heads have a good, mild, sweet flavor. **OG**

PKT \$6.15; 250 Seeds \$12.15; 1,000 Seeds \$16.45; 5M @ \$14.74/M; 25M @ \$13.00/M.

C. NEW Haku (F1) 4920 55 days. IR: CR, DM. **Widely adapted.** Very good performance along the Eastern Seaboard, as well as in Arizona and California. Heads avg. 11" tall and $5^1/2-6$ lb. Good tolerance to heat and tipburn. More adaptable than Rubicon, and with better tolerance to tipburn and heat.

PKT \$5.80; 1,000 Seeds \$9.05; 5M @ \$7.04/M; 25M @ \$5.12/M.

D. NEW Red Trumpet (F1) 4921 60 days. EXCLUSIVE! Elegant red michihili type.

Tall, fancy, vibrant red heads avg. 11–12" tall by 3–3¹/2" wide. Good for salads, slaws, and attractive red kimchi. Similar color but much more slender than Merlot. NOTE: There are 4–5% green Napa-type off-types in this variety. PKT \$6.90; 250 Seeds \$10.20; 500 Seeds \$15.25; 1,000 Seeds \$25.50; 5M @ \$21.60/M; 25M @ \$17.28/M.

E. Merlot (F1) 4171 60 days.

Improved Red Dragon type. Full, bulky, and dense heads avg. 11–12" long. Very attractive dark red. More prone to internal tipburn than green varieties. Somewhat susceptible to bolting under stressful conditions, such as cold nighttime temperatures (below 50°F) after transplanting. PKT \$6.90; 250 Seeds \$10.60;

500 Seeds \$15.85; 1,000 Seeds \$26.50; 5M @ \$22.46/M; 25M @ \$17.97/M.

Open-Head

Tokyo Bekana (F1) 2251

18 days baby; 45 days full size. *B. rapa var. chinensis* Fast growing with great color contrast for mixes. This one-of-a-kind blonde leaf with ruffled texture adds loft and a pop of color to salad mixes. A non-heading Chinese cabbage that has buttery leaves with a crunchy rib and mild flavor. At full size, softly curled leaves on narrow, white petioles can be sold as bunched greens. Thin to 4–8" for full-size heads for bunching.

PKT (250 seeds) \$5.75; Oz. \$8.15; 1/4 Lb. \$13.20; Lb. \$38.75; 5 Lbs. @ \$36.50/Lb.; 25 Lbs. @ \$33.80/Lb.

Growing Chinese Cabbage — Brassica rapa var. pekinensis (unless otherwise indicated)

CULTURE: Spring-planted crops: Sow 2 seeds per cell, ¹/₄" deep in 72-cell plug trays. If possible, keep soil temperatures above 75°F (24°C) until germination and then maintain air temperature to 60–70°F (16–21°C). Transplant out in 3–5 weeks, around the last frost date (see BOLTING below), taking care not to disturb roots; water-in plants. Summer/

fall-planted crops: Start seedlings as described above in mid to late June or direct seed from late May to mid-July as described below. **DIRECT SEEDING:** Sow 3–4 seeds every 12–18" (thin to one plant) in rows 18–30" apart from late May to mid-July. **BOLTING:** This crop performs best in the gradually decreasing day length and cooler temperatures of late summer, but can be grown successfully in the spring if careful attention is paid to prevent bolting. For spring and early summer transplanted crops, be sure to wait until the last frost date to transplant or direct-seed the crop. Young plants may bolt to seed prematurely if they are exposed to frost or over a week of sub 50°F (10°C) nights. **DISEASE:** Practice preventive crop rotation and sanitation. **INSECT PESTS:** Control flea beetles and cabbage root maggots with floating row covers from day of planting. **STORAGE:** Heads will store 1–2 months in a near-freezing, humid cooler, or in a root cellar if trimmed and wrapped in newspaper. **HARVEST:** Cut when heads are very firm. **DAYS TO MATURITY:** From date of transplanting; add 14–21 days for direct seeding. **AVG. PRECISION SEEDING RATE:** 1,000 seeds/333', 5M/1,666', 66M/acre at 3 seeds/ft. in rows 2' apart. **TRANSPLANTS:** Avg. 700 plants/1,000 seeds. **SEED SPECS:** SEEDS/LB.: Avg. 136,800. **PACKET:** 100 seeds, sows 33'.



Chinese Cabbage Resistance Codes

HR = High Resistance IR = Intermediate Resistance

CR	Club Root
DM	Downy Mildew
FY	Fusarium Yellows

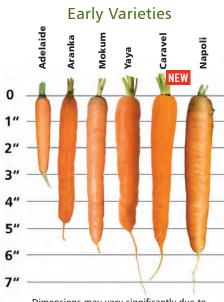












Dimensions may vary significantly due to culture and environmental conditions.

CARROTS

Early

Adelaide (F1) 3117

32 days baby; 50 days full size. (Amsterdam) True baby carrots. Roots are faster to sweeten, size-up, and blunt than other early carrots, yet they retain a baby-size, 3-4" length, at full maturity. Short, proportional tops are strong enough for making attractive, compact bunches. Adaptable for higher planting densities, which makes it exceptional for winter tunnels and containers.

PKT \$5.80; 5M @ \$2.33/M; 10M @ \$1.71/M; 25M @ \$1.44/M; 100M @ \$1.22/M; 500M @ \$1.12/M.

Aranka (F1) 4596

36 days baby; 56 days full size. (Amsterdam) A versatile, early bunching carrot. Excellent texture and sweetness both at the baby stage and at maturity. Fancy, slender, 4¹/₂–5¹/₂" roots with smooth skin maintain their quality for an extended harvest period. Quick to size-up and blunt. A good alternative to Mokum or Adelaide. PKT \$5.80; 5M @ \$2.33/M; 25M @ \$1.44/M;

100M @ \$1.22/M; 500M @ \$1.12/M.

Mokum (F1) 2186

36 days baby; 54 days full size. (Amsterdam) Slender "pencil carrots." Top-rated for flavor among our early varieties. Attractive, slender roots are great for early bunches. A bit earlier than Yaya, more slender, the same length (5¹/₂- $6^{1}/2^{"}$) and color, and with similar high sugar and brittle tenderness. Holds sweet taste even in warm weather. Short tops. Widely adapted. PKT \$5.45; 5M @ \$2.19/M; 25M @ \$1.35/M; 100M @ \$1.14/M; 500M @ \$1.08/M.

Yaya (F1) 2681G

56 days. (Early Nantes)

Nelson snacking type. Similar to Nelson, with more uniform roots and plant vigor. The 5¹/2-6¹/2" roots have mild flavor and crisp, juicy texture with early sugar development. Strong, compact tops for bunching. Q PKT \$5.75; 5M @ \$3.54/M; 25M @ \$2.34/M; 100M @ \$2.09/M; 500M @ \$1.98/M.

NEW Caravel (F1) 5164G

58 days. (Early Nantes)

Bulky, early Nantes type. Slightly tapered 6–7" semi- to fully blunted roots that are quick to bulk up. Flavorful for fresh eating. Strong, vigorous tops to compete with weeds and grow through cooler conditions. CG

PKT \$6.15; 5M @ \$3.54/M; 25M @ \$2.34/M; 50M @ \$2.20/M; 100M @ \$2.09/M.

Napoli (F1) 209G

58 days summer sowing. (Early Nantes)

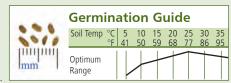
Ideal for overwintering. Up to 7" long, bulky, semi-blunt roots. A specialized variety with a sweet taste when sown in fall for winter harvest. In cold regions sow in the greenhouse. In mild regions sow outdoors in the open or protected with fabric row cover. Overwintered crops will take longer to reach maturity. Strong, medium-short tops. QG

PKT \$6.15; 5M @ \$3.54/M; 25M @ \$2.34/M; 100M @ \$2.09/M; 500M @ \$1.98/M.

Growing Carrots — Daucus carota var. sativus

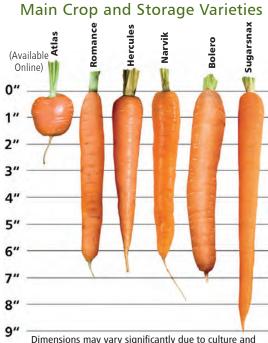
CULTURE: Carrots require well-drained soils, with a pH range of 6.0–6.8. Deep, loose, and fertile sandy loams and peat soils with good moisture-holding capacity grow the straightest and smoothest roots. **PLANTING**: Sow from early spring to midsummer, $\frac{3}{4}$ -1" apart, $\frac{1}{4}$ -1/2" deep, in a 2" wide band (about 30 seeds/ft.), or single rows 16–24"

apart. For minimum soil compaction, use raised beds with 2 or 3 rows 16–24" apart, beds 5–6' on center. Sprinkle the soil surface to keep moist. Don't allow soil to crust before the emergence of seedlings, which takes 1–3 weeks, depending on temperature and moisture. If necessary, thin young seedlings to 3/4–2" apart, depending on root size desired. Keep weed-free by tine weeding and shallow hoeing. To prevent greening, cover exposed crowns. DISEASES: Blights can reduce yield and quality. Alternaria blight shows as brown-black lesions edged with yellow on leaf margins beginning on oldest leaves. Leaflets may shrivel and die. Cercospora blight first appears as small dark spots with yellow margins on the younger leaves and stems. To prevent blights, practice a 3-year crop rotation.













Main Crop

Hercules (F1) 2735

65 days. (Kuroda x Chantenay)

Widely adaptable. Performs especially well in shallow, heavy, or rocky soils where growing longer carrots can be challenging. Cone-shaped, 61/2-7" long roots with good eating quality from summer or fall harvest. Stores well. Strong, medium-tall tops. PKT \$5.80; 5M @ \$2.13/M; 25M @ \$1.36/M; 100M @ \$1.12/M; 500M @ \$0.98/M.

Sugarsnax 54 (F1) 2322

68 days. HR: AB. (Imperator)

Long, slender roots. Dark orange color develops at an early stage. Tapered roots are sweet and tender, smooth, and a uniform 9-10" long. Strong, medium-tall tops. PKT \$5.80; 5M @ \$1.93/M; 25M @ \$1.26/M; 100M @ \$0.97/M; 500M @ \$0.83/M.

Romance (F1) 3116 70 days. (Nantes) Impressive flavor for a summerharvested carrot. The highly marketable, deep orange roots average 6–7" long. Excellent uniformity. Consistently good flavor across soil types. Strong root attachment makes the medium-size, healthy tops great for bunching. $\stackrel{\text{def}}{=}$ PKT \$5.80: 5M @ \$2.13/M: 25M @ \$1.36/M; 100M @ \$1.12/M; 500M @ \$0.98/M.

Narvik (F1) 4615 70 days. (Nantes) Extended harvest window. A highly marketable Nantes with excellent root appearance and quality. Similar to Yaya, but with later maturity and stronger, more upright, darker tops. Dark orange roots are 6–7" long with a small core. Excellent storage potential for a midseason variety. PKT \$5.45; 5M @ \$2.19/M; 25M @ \$1.35/M; 100M @ \$1.14/M; 500M @ \$1.10/M.



Find Atlas carrot at Johnnyseeds.com

Storage

Bolero (F1) 216

environmental conditions.

75 days. HR: AB, PM. IR: BB, C, CS. (Heavy Nantes) Reliable storage carrot. Medium-long, 7–8" roots are uniform, thick, slightly tapered, and blunt. Excellent eating quality both fresh and after long-term storage, with juicy texture and sweet, complex flavor. A great choice for fall and winter harvest. Tops are vigorous, fast, and healthy for better field-holding and mechanical harvesting. PKT \$5.45; 5M @ \$1.82/M; 25M @ \$1.19/M; 100M @ \$0.92/M; 500M @ \$0.89/M.



Copper fungicides can be employed as a preventive measure or control. INSECT PESTS: Carrot rust flies and wireworms. Provide fertile growing conditions and avoid ground recently in sod if possible. Exclude adult insects with fabric row covers. HARVEST: Carrots may be dug any time after they reach the desired size. Generally the best harvest period lasts about 3 weeks (longer in cool, fall weather), after which time the roots may crack or the taste and appearance may decline. Make a few sowings at 3-week intervals for a continuous supply of tender carrots at their prime. **STORAGE:** Plant carrots intended for winter storage about 100 days before expected fall frost. Carrots store best at 32°F (0°C) and 98% relative humidity. AVG. SEEDING RATE: 1M/33', 5M/166', 25M/830', 720M/acre at 30 seeds/ft. in rows 24" apart. SIZED SEEDS: "Sized" seeds have been sorted so they are roughly the same size. This consistency allows for more accurate spacing with mechanical seeders and more even germination. Carrot seeds are sized, except when noted in the product description.

SEED SPECS: SEEDS/LB.: 204,000-436,100 (avg. 294,900). PACKET: 750 seeds, sows 25'.

Carrots Resistance Codes

HR = High Resistance IR = Intermediate Resistance

AB	Alternaria Blight
ВВ	Bacterial Blight
C	Cercospora Blight
CS	Cavity Spot
PM	Powdery Mildew
1 101	Towaci y Willactv















Colored

Mixes

Glow Stix Sunrise Mix 4767

70 days.

EXCLUSIVE! Stunning colors. Early harvests with this guick-maturing mix of pastel-colored carrots. Tested for uniform growing speed and sizes. Well suited for both early spring and summer sowing. Compact tops lend well to bunching.

PKT \$5.75; 1,000 Seeds \$7.30; 5M @ \$3.00/M; 25M @ \$2.05/M; 100M @ \$1.80/M; 500M @ \$1.64/M.

NEW Glow Stix Moonrise Mix 4941 75 davs.

EXCLUSIVE! Bold colors. A thoughtfully blended mix for the fall harvest slot. Wellmatched maturity, size, and shape creating a beautiful display of deeper colors than Sunrise. Stronger tops for mechanical harvest and longer roots that will keep better in cold storage. PKT \$5.75; 1,000 Seeds \$7.30; 5M @ \$3.00/M; 25M @ \$2.05/M; 100M @ \$1.80/M; 500M @ \$1.64/M.

Cultivate carrots with the Flex Tine Weeder for fast and effective weed control. See page 194.



Yellow & White

Rainbow (F1) 2414

67 days. (Nantes x Imperator)

A blend of colors in one variety. The flavor varies a bit with root color, but all are tender, sweet, and flavorful. 7–9" tapered roots. Because Rainbow is a single variety with color variability, it will mature uniformly. Medium-tall, strong tops. PKT \$5.45; 5M @ \$2.83/M; 25M @ \$1.93/M; 100M @ \$1.70/M; 500M @ \$1.55/M.

White Satin (F1) 2746

68 days. (Nantes x Imperator)

Pure white roots. Crisp and juicy. Roots are cylindrical in shape and average 8-9" long. Adaptable to difficult growing conditions. Tends to develop green shoulders. Tops are tall but have a weaker attachment to the root than other varieties. PKT \$5.80; 5M @ \$3.00/M; 25M @ \$2.05/M; 100M @ \$1.80/M; 500M @ \$1.64/M.

Yellow Moon (F1) 4616

70 days. (Nantes x Imperator)

Consistent quality across seasons. Beautiful, brighter-toned yellow carrot pairs well with Yellowbunch. Vigorous tops early in growth remain strong, upright, and healthy for more efficient bunching or mechanical harvest. 6-7" long roots with reduced green shoulder. PKT \$5.80; 5M @ \$3.14/M; 25M @ \$2.17/M; 100M @ \$1.88/M; 500M @ \$1.73/M.

Gold Nugget (F1) 3332

68 days. (Nantes)

Flavorful and uniform. Small-cored, lateblunting Nantes type with improved flavor. Deep yellow, 5–7" long roots with vigorous, attractive, dark green tops.

PKT \$5.50; 5M @ \$3.74/M; 25M @ \$2.48/M; 100M @ \$2.18/M; 500M @ \$2.12/M.

Yellowstone 3333G

73 days. (Nantes x Imperator)

Deep color, strong tops. Yellowstone's 6–8" long roots are deeper in color than most other yellow carrot varieties. Nice, vigorous tops will compete with weeds. Compared to Yellowbunch, it is earlier and shorter with a slightly blunter tip. Pairs well with Purple Star and White Satin. CG

PKT \$6.95; 5M @ \$2.93/M; 25M @ \$1.81/M; 100M @ \$1.53/M; 500M @ \$1.44/M.

Yellowbunch (F1) 3259

75 days. HR: AB. (Imperator)

Very uniform with strong tops. A completely yellow Imperator type with attractive, 7¹/₂–8" long roots. Excellent storage variety with strong dormancy, firm texture, and good flavor retention. PKT \$5.80; 5M @ \$3.14/M; 25M @ \$2.17/M; 100M @ \$1.88/M; 500M @ \$1.73/M.

Purple & Red

NEW Purple Star (F1) 4846

68 days. (Kuroda x Nantes)

EXCLUSIVE! Speedy and uniform. Finally, a purple carrot that can keep up with our earliest oranges! A great pair for Hercules and Caravel due to its tall tops and larger root size potential. A real improvement in the Purple Haze class. Purple pigment increases with maturity; early harvest will yield more tie-dye red/purple coloration. PKT \$5.80; 5M @ \$3.14/M; 25M @ \$2.17/M; 100M @ \$1.88/M; 500M @ \$1.73/M.

Rubvpak (F1) 4455

72 days. HR: AB, PM. (Nantes x Imperator)

Our top-choice red carrot. A standout for yield and reliability. Bolt resistance for earlier sowing. Strong, disease-resistant tops. Uniform 7-8" long, semi-blunted roots with a small core. Red color intensifies in cooler soils and when cooked. PKT \$5.80; 5M @ \$3.89/M; 25M @ \$3.44/M; 100M @ \$3.00/M; 500M @ \$2.75/M.

Deep Purple (F1) 2737

73 days. (Imperator)

Dark color to the core. 7–8" tapered roots with earthy flavor, similar to Purple Haze. Especially good for juicing. Tall, strong, healthy tops. PKT \$5.80; 5M @ \$3.00/M; 25M @ \$2.05/M; 100M @ \$1.80/M; 500M @ \$1.70/M.

Dragon 4597

75 days. (Kuroda x Chantenay)

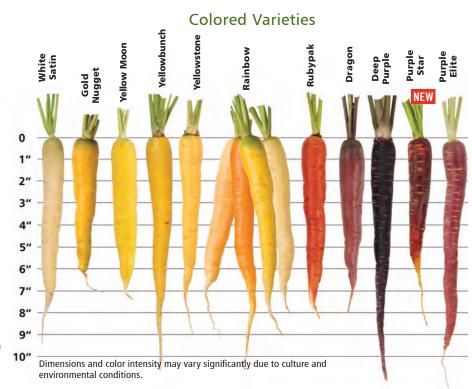
Distinctive, deep magenta carrot. Wellknown for its beautiful magenta-purple skin and broad, Chantenay-type shoulders. Slicing reveals a surprise of orange or yellow interior, sometimes both. Very thin, smooth skin makes Dragon easier to wash and serve unpeeled than other purples. Tops are strong and vigorous in early growth to compete with weeds. Avg. 5-7" long. Originally bred by Dr. John Navazio. PKT \$5.75; 5M @ \$1.58/M; 25M @ \$0.69/M; 100M @ \$0.55/M; 500M @ \$0.51/M.

Purple Elite (F1) 3385

75 days. (Imperator)

Bright color and strong tops. Rich purple skin contrasts nicely with core and striations. both a beautiful yellow hue. Roots are 7-9" tapered. Tolerant to spring bolting. PKT \$5.80; 5M @ \$3.14/M; 25M @ \$2.17/M; 100M @ \$1.88/M; 500M @ \$1.81/M.





Pelleted Carrot Seed

Reduce time-consuming thinning and increase planting uniformity by planting pelleted carrots with a precision seeder. Pellets are made of inert NOP-compliant materials. For best results, we recommend consistent soil moisture during the germination period. Our carrot pellets are size 11.5 or 13.0 (depending on the raw seed size), and can be planted with Stanhay seeders (belt sizes 11.5 or 13.0) or any of the precision seeders offered by Johnny's (see page 186). Pelleted seed must be kept cool and dry prior to planting, and should be used within one year of purchase. Packet: 250 pellets sows 15'. Seeding Rate: 348,480 pellets/acre @ 16 pellets/ft. (3/4" spacing) in rows 24" apart or 16,000 pellets/1,000 ft. row.

Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M	100M @/M	500M @/M
Organic Seed/N	IOP-Compliant		•	<i>,</i>	,,	, <u>O</u> ,	
NEW Caravel	5164GP CG	\$7.70	\$13.90	\$5.71	\$3.71	\$3.34	\$3.23
Napoli	209GP CG	\$7.70	\$13.90	\$5.71	\$3.71	\$3.34	\$3.23
Yaya	2681GP CG	\$6.70	\$12.30	\$5.06	\$3.29	\$2.96	\$2.86
Yellowstone	3333GP CG	\$8.50	\$11.70	\$4.67	\$2.88	\$2.41	\$2.26
Conventional S	eed/NOP-Com	pliant Pe	ellet				
Aranka	4596JP	\$6.60	\$8.75	\$3.52	\$2.17	\$1.82	\$1.67
Bolero	216JP	\$5.80	\$6.55	\$2.59	\$1.69	\$1.31	\$1.11
Deep Purple	2737JP	\$6.60	\$11.30	\$4.52	\$3.05	\$2.72	\$2.48
Dragon	4597JP	\$6.50	_	\$2.20	\$0.97	\$0.77	\$0.72
Gold Nugget	3332JP	\$6.95	\$13.65	\$5.62	\$3.66	\$3.29	\$3.17
Hercules	2735JP	\$6.60	\$7.85	\$3.17	\$2.04	\$1.68	\$1.47
Mokum	2186JP	\$5.80	\$7.95	\$3.19	\$1.97	\$1.65	\$1.52
Narvik	4615JP	\$5.80	\$7.95	\$3.19	\$1.97	\$1.65	\$1.52
Purple Elite	3385JP	\$6.60	\$11.30	\$4.52	\$3.05	\$2.72	\$2.48
NEW Purple Star	4846JP	\$6.60	\$11.30	\$4.52	\$3.05	\$2.72	\$2.48
Rainbow	2414JP	\$6.10	\$10.65	\$4.26	\$2.87	\$2.57	\$2.34
Romance	3116JP	\$6.60	\$7.85	\$3.17	\$2.04	\$1.68	\$1.47
Rubypak	4455JP	\$6.60	\$11.30	\$4.63	\$3.17	\$2.89	\$2.80
Sugarsnax 54	2322JP	\$6.60	\$7.20	\$2.86	\$1.86	\$1.45	\$1.23
White Satin	2746JP	\$6.60	\$11.30	\$4.52	\$3.05	\$2.72	\$2.48
Yellow Moon	4616JP	\$6.60	\$11.30	\$4.52	\$3.05	\$2.72	\$2.48
Yellowbunch	3259JP	\$6.60	\$11.30	\$4.52	\$3.05	\$2.72	\$2.48
M=1,000 seeds							



CAULIFLOWER

White

EarliSnow (F1) 4247 45 days. **EXCLUSIVE!** First early. Performs well in both spring and fall trials. Earlier, more consistent, and more dependable than Snow Crown. Medium-size plant with an average wrap. Widely adapted.

PKT \$6.85; 250 Seeds \$11.10; 1,000 Seeds \$31.60; 5M @ \$27.74/M; 25M @ \$23.40/M.

Snow Crown (F1) 230 50 days. Standard early variety. This hybrid shows unusual seedling vigor. Good quality medium-size heads whether harvested in summer or fall. Good tolerance to moderate fall frost (25-32°F/-4-0°C). AAS winner. NOTE: When grown under fertility or moisture stress all cauliflower, but particularly Snow Crown, can show a purplish coloration on the undersides of the heads. Unsized seed. PKT \$5.80; 250 Seeds \$6.65; 1,000 Seeds \$19.05; 5M @ \$16.55/M; 25M @ \$14.13/M.

Synergy (F1) 4406 60 days. Adaptable midseason variety. Large, sturdy plants produce big, well-domed heads. Performs exceptionally well in fall trials and is also suitable for spring production. PKT \$5.80; 250 Seeds \$11.50; 500 Seeds \$20.00; 1,000 Seeds \$30.75; 5M @ \$28.56/M; 25M @ \$26.80/M; 100M @ \$22.07/M.

Twister (F1) 4226 62 days.

Superior wrap and adaptability. Big, heavy, well-domed heads with large wrapper leaves to protect them from the sun. Excellent color and head quality. Performs well in summer and fall in the Northeast and Midwest, from late June through late October in Coastal California, and in winter in desert areas.

PKT \$5.80: 250 Seeds \$8.80: 500 Seeds \$16.75: 1,000 Seeds \$25.60; 5M @ \$23.70/M; 25M @ \$22.20/M; 100M @ \$18.00/M.

Bishop (F1) 3832 65 days.

Improved Fremont-type hybrid. For summer and fall crops. Well-wrapped heads, excellent vigor, and wide adaptability. PKT \$5.80; 250 Seeds \$8.35; 1,000 Seeds \$22.20; 5M @ \$19.98/M; 25M @ \$17.74/M.

Paxton (F1) 4481 67 days. HR: CR (0-2). **Tolerant to club root**. An excellent choice for summer and fall-harvested crops, particularly in the Pacific Northwest and the Northeast. Large, well-domed, attractive heads that are selfwrapping and do not need to be tied. PKT (50 seeds) \$5.80; 250 Seeds \$12.75; 500 Seeds \$21.50: 1.000 Seeds \$36.45: 5M @ \$35.77/M; 25M @ \$33.16/M.

Amazing 223 68 days.

For late summer and fall. Medium-size plants with domed, solid curds and self-blanching, upright wrapper leaves when well fed. Tolerant to both heat and cold stress.

PKT \$5.75; 1,000 Seeds \$18.95; 5M @ \$16.43/M; 25M @ \$14.04/M.

Denali (F1) 3014 73 davs.

For fall production. Large, heavy, self-wrapping heads. Good heat and humidity tolerances make Denali an excellent choice for summer sowings in Eastern conditions. Good for fall and winter in mild climates. Extensive root system makes it a good choice for plantings in fields with belowaverage fertility. Good for fresh market or florets. Widely adapted.

PKT \$5.80: 250 Seeds \$11.10: 1,000 Seeds \$31.75; 5M @ \$27.79/M; 25M @ \$23.44/M.

Skywalker (F1) 2593G 80 days.

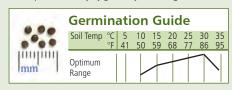
The best organic variety for fall. Uniform. medium-size, self-wrapping heads. Large, healthy plants. Cold tolerant. For late-summer and fall harvest. OG

PKT (25 seeds) \$6.50; 250 Seeds \$21.85; 1,000 Seeds \$66.70; 5M @ \$53.69/M; 25M @ \$47.05/M.

Growing Cauliflower — Brassica oleracea var. botrytis

CULTURE: See "Cabbage." Cauliflower prefers a well-drained, fertile soil high in organic matter, a pH of 6.0–7.5 with consistent moisture throughout the growing season. Irrigate regularly for best results. Cauliflower does not do well in hot weather; the best success is with spring and fall crops. **PLANTING**: Sow in 1–1¹/₂" cell-type trays or peat pots from early March through June. If possible, keep soil at least 70°F (21°C) until germination, and 60°F (16°C) thereafter. Transplant outdoors when seedlings are no older than 4–5 weeks old. Older plants tend to be stressed and do not perform as well as actively growing seedlings. For early spring planting, harden plants carefully by gradually increasing cold before

transplanting out, 18" between plants and 24-36" between rows. DISEASES, INSECT PESTS, AND NOTES: See "Cabbage." BLANCHING: When small white heads become visible through leaves, gather the outer leaves over the head and tie with string or a large rubber band to preserve white curd color. Although tying is not necessary to grow cauliflower, the practice helps prevent yellowing of the curd due to exposure to sunlight and results in better head quality when curd develops during hot weather. HARVEST: Keep an eye on development, cutting heads when desired size is obtained but before the curds become loose. STORAGE: Store at 32°F (0°C) and 95–98% relative humidity for 2–3 weeks. **DAYS TO MATURITY:** From transplanting. **SIZED SEEDS:** "Sized" seeds have been sorted so they are roughly the same size. This consistency allows for more accurate spacing with mechanical seeders and more even germination. Cauliflower seeds are sized, except when noted in the product description. SEED SPECS: SEEDS/LB.: 84,000-164,400 (Avg. 105,800). PACKET: 100 seeds, unless otherwise noted.



Cauliflower Resistance Codes

HR = High Resistance IR = Intermediate Resistance

CR Club Root







Orange

Clementine (F1) 4654 55 days. **Brightest orange.** Big, sturdy plants produce excellent crops, even under less-than-ideal conditions. The earliest orange variety in our trials. For summer and fall harvest. PKT (25 seeds) \$7.05; 100 Seeds \$20.70; 250 Seeds \$36.00; 500 Seeds \$65.40; 1,000 Seeds \$109.00; 5M @ \$105.30/M; 25M @ \$101.71/M.

Cheddar (F1) 2954 58 days. Bright orange. Holds well in the field. Becomes an even brighter orange when lightly cooked. Display with other specialty varieties for an attractive presentation.

PKT (25 seeds) \$6.50; 100 Seeds \$18.50; 250 Seeds \$37.30; 500 Seeds \$59.65; 1,000 Seeds \$99.40; 5M @ \$96.07/M; 25M @ \$92.77/M; 100M @ \$82.84/M.

Flame Star (F1) 3342 62 days. **Improved heat tolerance.** Performs very well in both spring and fall trials. Compared to Clementine and Cheddar, Flame Star is paler in color and more tolerant to heat and stress. Pastelorange heads on medium-large plants. PKT (25 seeds) \$6.50; 100 Seeds \$22.35; 250 Seeds \$38.90; 500 Seeds \$70.75; 1,000 Seeds \$117.85; 5M @ \$113.92/M; 25M @ \$109.97/M; 100M @ \$98.20/M.

Purple

NEW Purple Moon (F1) 4822 62 days. **Exceptionally early.** Be first to market with purple cauliflower. Very attractive, medium-dark heads. Our best-performing purple variety in warm weather. Makes an excellent fall crop. Much earlier than Graffiti or Lavender. Widely adapted. PKT (25 seeds) \$7.05; 100 Seeds \$16.95; 250 Seeds \$25.65; 500 Seeds \$49.00; 1,000 Seeds \$89.20; 5M @ \$75.84/M; 25M @ \$69.85/M.

Lavender (F1) 4404 70 days.

Well-domed, violet heads. Attractive, bright purple florets that are great for dipping platters. Stems are a beautiful medium-purple in fall, paler in spring. Performs best for fall crops but also suitable for summer.

PKT (50 seeds) \$13.25; 100 Seeds \$23.35; 250 Seeds \$35.35; 500 Seeds \$67.40; 1,000 Seeds \$122.75; 5M @ \$104.37/M; 25M @ \$96.13/M; 100M @ \$87.45/M.

Green

Vitaverde (F1) 3097 71 days. For both cool and warm-weather production.

Big, heavy, heads mature early on large plants. Grown for traditional harvest in fall, but also suitable for summer in areas with moderate heat, and winter production in mild areas.

PKT \$6.00; 250 Seeds \$13.50; 1,000 Seeds \$38.65; 5M @ \$35.21/M; 25M @ \$33.20/M.

Romanesco

NEW Whitaker (F1) 6038 80 days. First white hybrid romanesco! Fibonacci would be proud of Whitaker's perfect spiral pattern. Similar to standard green types like Puntoverde except in color. Recommended for summer and fall harvest. Large, sturdy plant. Excellent sold alone or with Puntoverde. NOTE: under fertility and/or drought stress, heads may show a slight green tinge.

PKT (25 seeds) \$6.50; 250 Seeds \$30.35; 1,000 Seeds \$96.10; 5M @ \$84.23/M; 25M @ \$75.47/M.

Puntoverde (F1) 4374 78 days.

Our most reliable all-season romanesco.

Attractive, high-quality heads for summer or fall harvest. Produces very good summer crops in areas without extreme summer heat, unlike other romanesco types. Suitable for winter or early spring production in areas with mild winters. Strong, rugged plants.

PKT (25 seeds) \$6.50; 250 Seeds \$30.35; 1,000 Seeds \$96.10; 5M @ \$84.23/M; 25M @ \$75.47/M.



Find organic Veronica romanesco and purple Graffiti cauliflower at Johnnyseeds.com



Cauliflower Planting Program

Variety	Part #	Color	Days	Heat Tolerance	Cold Tolerance	Cool/ Spring	Warm/ Summer	Cool/ Fall	Cold/ Winter
Amazing	223	White	68	Good	Good				
Bishop	3832	White	65	Very Good	Good				
Cheddar	2954	Orange	58	Very Good	Good				
Clementine	4654	Orange	55	Very Good	Good				
Denali	3014	White	73	Good	Excellent		_		
EarliSnow	4247	White	45	Very Good	Good				
Flame Star	3342	Orange	62	Very Good	Good				
Lavender	4404	Purple	70	Good	Good		-		
Paxton	4481	White	67	Very Good	Good				
Puntoverde	4374	Green	78	Very Good	Good				
NEW Purple Moon	4822	Purple	62	Good	Good				
Skywalker	2593G CG	White	80	Average	Very Good				
Snow Crown	230	White	50	Good	Good				
Song TJS-65	4131	White	42	Very Good	Good				
Synergy	4406	White	60	Good	Good				
Twister	4226	White	62	Very Good	Good				
Vitaverde	3097	Green	71	Very Good	Very Good				
NEW Whitaker	6038	White	80	Good	Average				

Green Stem

Song TJS-65 (F1) 4131 42 days. **Early and sweet.** Green-stem cauliflower is popular in Asia, where it is commonly grown. Sweeter and more tender than standard whitestemmed varieties, and with longer stems that are exceptional for dipping. Kitchen prep work is quick, as a few knife strokes will cut most of the florets from the heads. Typically harvested after florets have elongated and curds have started to separate, though harvesting at the same stage as standard types is acceptable. Performs better in hot weather and belowaverage fertility than standard types. Also known as sweet stem. loose curd, or soft curd cauliflower. 🙇

PKT \$5.80; 500 Seeds \$11.25; 1,000 Seeds \$19.90; 5M @ \$17.26/M; 25M @ \$14.75/M; 100M @ \$12.17/M.







CELERY

Kelvin (F1) 4198 80 days.

A farmer favorite. Thick, juicy, and succulent. Petioles and leaves are a healthy dark green and stalks hold well in the field. Performs well under heat and moisture stress and in soils of average fertility. Upright and uniform. Avg. 62,500 seeds/oz.

PKT \$5.80; 1,000 Seeds \$15.60; 5M @ \$12.37/M; 25M @ \$10.54/M; 100M @ \$9.35/M.

Tango 647G 80 days.

Vigorous organic celery. Highly adaptable variety with great flavor and tender stalks. Tango performs well under less-than-ideal growing conditions such as heat or moisture stress. Avg. 66,700 seeds/oz. CG PKT \$6.15; 1,000 Seeds \$13.40; 5M @ \$10.53/M; 25M @ \$8.99/M.



Harvest your celery with ease using our stainless harvest machetes, available at Johnnyseeds.com



CELERIAC

Balena (F1) 4602G 95 days. **Hybrid organic celeriac.** Dense white roots resist hollow heart and pithiness. Vigorous, upright plants with healthy foliage yield large, uniform, attractive roots. Improved bolt tolerance. Avg. 79,800 seeds/oz. CG

PKT \$7.40; 1,000 Seeds \$23.40; 5M @ \$20.20/M; 25M @ \$18.24/M. Brilliant 245 100 days.

Large, round, solid roots. Medium-large, round, and relatively smooth roots with buffcolored skin. Interiors are white and flavorful, and resist pithiness and hollow heart. Ava. 79,200 seeds/oz. PKT \$6.05; 1,000 Seeds \$11.80; 5M @ \$8.79/M; 25M @ \$8.08/M.

ABOUT CELERIAC

Celeriac will store 6–8 months at 98–100% RH and 32°F (0°C). Its flesh has almost no fibers and is packed with pure celery flavor. The roots store as easily as carrots and add celery flavor to vegetable juice, soups and stews, or can be grated for salads through fall and winter. Very popular in Northern and Central Europe.

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Pelleted Celery & Celeriac Seed

Use pelleted seed to reduce time-consuming thinning and increase planting uniformity and precision. Pellets are made of inert NOP-compliant materials. For best results, we recommend consistent soil moisture during the germination period. Our celery and celeriac pellets are both size 8. Pelleted seed must be kept cool and dry prior to planting, and should be used within one year of purchase. Packet: 250 pellets.

Organic Seed/NOP-Compliant Pellet

Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M
Balena	4602GP CG	\$7.70	\$28.10	\$24.25	\$21.89
Tango	647GP CG	\$7.70	\$15.90	\$13.72	\$11.68

Conventional Seed/NOP-Compliant Pellet

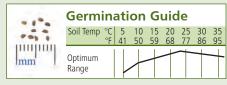
Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M
Brilliant	245JP	\$6.80	\$13.50	\$10.66	\$9.09
Kelvin	4198JP	\$7.60	\$20.30	\$16.06	\$13.68

M=1,000 seeds

Growing Celery & Celeriac — Apium graveolens

CULTURE: Celery and celeriac require fertile soils with a pH range of 6.0–7.0. This crop needs a consistent supply of moisture throughout the season for optimum flavor and yield. **GROWING SEEDLINGS**: Sow in trays 10–12 weeks before transplanting outdoors. Sow 6 seeds/inch, ¹/s" deep, in 20-row, open flats or plug trays. Seeds require light to germinate. Keep soil moist and temperatures 70–75°F (21–24°C) if possible. Seedlings emerge in 2–3 weeks and then temperature can be reduced to 60–70°F (16–21°C). TRANSPLANTING: When seedlings have 2 true leaves, transplant to 11/2" plug trays. Transplant outdoors when weather is warm and settled. Set plants 6–8" apart in rows 24-36" apart. Irrigate to keep soil moist. **BOLTING:** Caused by exposure of young plants to temperatures below 55°F (13°C) for 10 days or more. When hardening plants before transplanting out, reduce water for 7-10 days. Do not harden off celery plants by lowering temperatures. DISEASES AND PESTS: For leaf blights, rotate crops. Ensure adequate soil calcium and water to prevent blackheart. For Celery Mosaic (mottled leaves, twisted stems, dwarfing), control aphids. HARVEST: Celeriac: Harvest late summer through fall at a 3-5"

diameter. Celery: Cut stalks when they are of edible size but before becoming pithy. Stalks may be blanched if desired by hilling with soil or by placing paper collars around plants. STORAGE: After harvest, remove field heat by dunking plants in cold water. Store heads/roots at 32°F (0°C) with 98–100% relative humidity. Celery will store for 1–2 months and celeriac 6–8 months. CAUTION: In rare instances, contact with the foliage can result in a severe rash. When working with this crop on hot, sunny days, we recommend wearing long sleeves and long pants and washing any exposed skin surfaces as soon as possible after contact. **SEED SPECS:** SEEDS/OZ: See individual varieties. **PACKET:** 250 seeds.









Catalogna Special, Italiko Red, and Clio (L to R)

Tender and uniform. Clio is similar but superior

uniform, and delivers a higher marketable yield.

Better for multiple harvests than other varieties,

as it is less prone to bolting during regrowth. 攀

to Catalogna Special. It is more upright and

Italian Dandelion

CHICORY: Endive & Escarole **Endive** Escarole

Benefine 3421G 48 days.

Fancy, blanched leaves for salad mixes. Beautiful, ruffled head of light green leaves that are deeply cut and toothed. At maturity, its heart blanches to reveal creamy, sweet leaves. More tipburn tolerant and slower to bolt than other chicories of this type. Suitable for warmseason production. Also known as frisée or Trés Fine Maraîchère. 06

PKT \$6.90; 1,000 Seeds \$12.90; 5M @ \$11.01/M; 25M @ \$9.65/M; 50M @ \$9.42/M.

Curlesi 52 days.

Compact, slow-bolting endive. Strong tipburn and bolt tolerance with a self-blanching, upright growth habit. Most adaptable to spring/ summer planting but suitable year-round. Highyielding and easy to harvest.

3448G Organic CG

PKT \$6.90; 1,000 Seeds \$12.90; 5M @ \$11.01/M; 25M @ \$9.65/M; 50M @ \$9.42/M.

3448 Conventional

PKT \$6.05; 1,000 Seeds \$11.45; 5M @ \$9.57/M; 25M @ \$8.37/M; 50M @ \$8.06/M.

Eros 2811G 45 days.

Earliest escarole. Dense, heavy heads of mildly bitter leaves suitable for salads or sautéing. A compact plant with paler leaves than Eliance. CG PKT \$6.15; 1,000 Seeds \$12.40; 5M @ \$10.49/M; 25M @ \$8.81/M; 50M @ \$8.19/M.

Eliance 4216G 50 days.

Upright and slow to bolt. Dark green escarole with delicate, nutty flavor. Later to mature than Eros, making it a nice complement in harvest timing. Suitable for all seasons. Better field-holding than Eros for summer, but less vigorous in fall/winter. CG

PKT \$6.90; 1,000 Seeds \$12.90; 5M @ \$11.01/M; 25M @ \$9.65/M; 50M @ \$9.42/M.

Produce tender, sweet, succulent endive and escarole with our blanching caps at Johnnyseeds.com



PKT \$5.75; 1,000 Seeds \$8.70; 5M @ \$3.70/M; 25M @ \$2.96/M; 50M @ \$2.75/M.

CHICORY:

Clio (F1) 2634 48 days.

Catalogna Special 375 35 days baby; 48 days full size.

For salad mix or bunching. Uniform strain. At baby-leaf stage, leaves are narrow with subtle spikes along the margins and a thin petiole. At full size, leaves are long, deep green, slender, and deeply cut with white midribs. 貅 PKT \$5.75; Oz. \$11.25; 1/4 Lb. \$24.80; Lb. \$76.20: 5 Lbs. @ \$66.87/Lb.: 25 Lbs. @ \$60.23/Lb.

Italiko Red 3358

40 days baby: 56 days full size.

Adds beautiful red color to salad mix. Bold red stems and midribs for vibrant contrast. Deeply lobed leaves with classic bitter flavor. Good cold tolerance. Shows some variation in plant habit, leaf shape, and color. Avg. 327,700 seeds/lb. 緣 PKT \$5.75; Oz. \$10.85; 1/4 Lb. \$24.95; Lb. \$75.00; 5 Lbs. @ \$67.24/Lb.; 25 Lbs. @ \$60.22/Lb.

Pelleted Chicory Seed

See pelleted lettuce on page 70 for more information. Packet: 100 pellets.

Organic Seed/NOP-Compliant Pellet

Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M	50M @/M
Benefine	3421GP CG	\$6.95	\$14.05	\$12.03	\$10.49	\$10.35
Curlesi	3448GP CG	\$6.95	\$14.05	\$12.03	\$10.49	\$10.35
M=1,000 seeds						

Growing Endive & Escarole

Cichorium endivia

CULTURE: Generally, see "Lettuce." Suitable for growing any time during the season, but performs best in cool weather. Close spacing, 8-10", encourages these varieties' self-blanching characteristics. DAYS TO MATURITY: From transplant; add 14-21 days if direct seeding.

AVG. DIRECT SEEDING RATE: 1M/160', 5M/830', 25M/4,150', 175M/acre at 6 seeds/ft. in rows 18" apart. TRANSPLANTS: Avg. 500 plants/M (2 seeds per cell, thinned to one seedling).

SEED SPECS: SEEDS/OZ.: Avg. 18,150. PACKET: 200 seeds, sows 33' full size.



Growing Italian Dandelion Cichorium intybus

CULTURE: Start like lettuce by direct seeding or transplanting. Suitable for growing any time during the season but performs best in cool weather. For full-size bunches, space 6-8" apart and clip leaves at any stage, ideally less than 10" tall. Unharvested plants will eventually make a flower stalk with the characteristic blue chicory flowers. The flavor is bitter, with background sweetness. DAYS TO MATURITY: From direct seeding; for days to maturity from transplant date, subtract 10-14 days. AVG. SEEDING RATE: Sow 12 seeds/ft. in rows 12–18" apart and thin to 6-8" in-row: 1 oz./1,900', 1 lb./acre. 1M/20', 5M/100', 1 oz./285', 1 lb./4,600'. TRANSPLANTS: 500 plants/1,000 seeds (2 seeds per cell thinned to one seedling). SEED SPECS: SEEDS/OZ: Avg. 19,650. PACKET: 200 seeds, sows 14' full size.

CHICORY: Radicchio

Castelfranco/Lusia

Giorgione 4582 50 days.

Early, pear-shaped heads. Dense, compact Castelfranco type. Attractive internal speckling intensifies in fall and is sometimes visible on wrapper leaves. Speckling and leaf shape can be variable, but Giorgione is reliably early and holds well in the field. Unlike the milder Bel Fiore, Giorgione balances classic chicory bitterness with pleasant sweetness, especially in fall. Avg. 14,175 seeds/oz.

PKT (100 seeds) \$8.20; 1,000 Seeds \$17.20; 5M @ \$14.46/M; 25M @ \$12.47/M.

Bel Fiore 3113 52 days.

Spotted, round heads for year-round **harvest**. This Variegato di Lusia strain shows improved heading and consistent external and internal speckling in our trials. Although some heads will form very early, others will continue maturing over a long, 2–3 week period. Harvest when full but loose, like butterhead lettuce. Bel fiore. or "beautiful flower" in Italian, refers to how the heads can be displayed with centers opened to resemble a flower. Mild radicchio flavor in all seasons. Avg. 19,250 seeds/oz. PKT (200 seeds) \$11.80; 1,000 Seeds \$39.75; 5M @ \$33.76/M; 25M @ \$30.23/M.

Treviso Precoce

Fiero (F1) 66 days.

Attractive, upright heads. Fiero's deep maroon heads with contrasting, white ribs are 7-81/2" tall and impressively early. Good uniformity and sureheading ability offer superior yield potential. Best for fall production.

2278G Organic OG Avg. 24,631 seeds/oz. PKT (50 seeds) \$8.45; 250 Seeds \$26.35; 1,000 Seeds \$69.10; 5M @ \$59.66/M; 25M @ \$52.56/M.

2278 Conventional Avg. 26,700 seeds/oz. PKT (100 seeds) \$8.25; 250 Seeds \$17.30; 1,000 Seeds \$43.05; 5M @ \$36.16/M; 25M @ \$31.18/M.

Sugarloaf

Virtus (F1) 2462G 68 days.

Light green, romaine-like heads. Uniform, avg. 10" tall heads with soft-green exterior leaves and a crisp, blanched interior. More sure-heading than all other Sugarloaf varieties in our trials. Can be grown right through the season but does best in spring and fall. Good field-holding ability. Mildly bitter flavor adds a nice touch to mixed salads. Early, tall, and resistant to bottom rot. Avg. 15,350 seeds/oz. 06

PKT (50 seeds) \$8.45; 250 Seeds \$27.95; 1,000 Seeds \$75.75; 5M @ \$66.38/M; 25M @ \$61.39/M.

Chioggia

Perseo 3099 55 days.

Extra-early Chioggia type. Smaller heads, 3-4", allow for planting at higher densities. Uniform size and maturity. Avg. 18,200 seeds/oz. PKT (200 seeds) \$11.80; 1,000 Seeds \$39.75; 5M @ \$33.76/M; 25M @ \$30.23/M.

Leonardo (F1) 65 days.

Uniform and slow-bolting. Chioggia-type chicory with dense, 4-5" diameter heads. The flavor and bright purple color are both enhanced in the cooler fall weather. High bolt tolerance. **2555G Organic A**vg. 19,000 seeds/oz. PKT (50 seeds) \$8.45: 250 Seeds \$26.35: 1.000 Seeds \$69.10: 5M @ \$59.66/M: 25M @ \$52.56/M.

2555 Conventional Avg. 18,300 seeds/oz. PKT (100 seeds) \$8.20; 250 Seeds \$17.30; 1,000 Seeds \$43.05; 5M @ \$36.16/M; 25M @ \$31.18/M.

Find our new Belgian endive, Bingo, at Johnnyseeds.com



Radicchio Planting Program

Days	Variety	Part #	Cool/Spring	Warm/Summer	Cool/Fall	Cold/Winter
50	Giorgione	4582	_			
52	Bel Fiore	3113				
55	Perseo	3099				
65	Leonardo	2555G CG or 2555				
66	Fiero	2278G CG or 2278		_		
68	Virtus	2462G CG				













Growing Radicchio — Cichorium intybus

CULTURE: Refer to "Lettuce," as culture is similar. For North American production, these are vast improvements over older types, but are still not perfectly uniform or completely predictable. Although bred for specific seasons, it is still best to trial more than one variety, using succession plantings to determine which one suits your conditions.

NOTE: Radicchio grows best in cool or mild weather, i.e., fall, winter, and spring. Summer crops can be successful if nights are cool (below 60°F/16°C). DAYS TO MATURITY: From date of cool-weather, spring transplanting. Subtract 10–14 days for late spring or early summer, warm-weather transplanting. Add about 14 days for direct seeding. AVG. DIRECT SEEDING RATE: 1M/220', 5M/1,100', 10M/2,200', 131M/acre at 3 seeds every 8" in rows 18"

apart. TRANSPLANTS: Avg. 500 plants/M (2 seeds per cell thinned to one seedling). **SEED SPECS:** SEEDS/OZ.: See individual varieties. **PACKET:** See individual varieties.





COLLARDS

Top Bunch 2.0 (F1) 4032 50 days. Georgia-type hybrid. Early to harvest. Tall, productive plant produces medium-green. slightly savoyed leaves. Attractive appearance for fresh market sales.

PKT \$5.80; 1/4 Oz. \$11.85; 1/2 Oz. \$22.30; Oz. \$39.65; 1/4 Lb. \$126.90; Lb. \$391.00; 5 Lbs. @ \$381.70/Lb.

Cash Crop (F1) 4434 50 days. Georgia-type hybrid. An early collard that makes attractive bunches. Similar productivity and appearance to Top Bunch, with medium-green, slightly savoyed leaves on a tall, productive plant.

PKT \$5.80: 1/4 Oz. \$11.85: 1/2 Oz. \$19.80: Oz. \$35.05; 1/4 Lb. \$112.35; Lb. \$388.90; 5 Lbs. @ \$377.77/Lb.

Flash (F1) 2116 55 days.

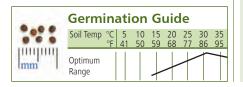
Vates-type hybrid. Very slow to bolt. Flash offers repeated harvests of smooth, dark green leaves. Very high yielding.

PKT \$5.80; 1/4 Oz. \$11.85; 1/2 Oz. \$19.80; Oz. \$35.05; 1/4 Lb. \$112.35; Lb. \$388.90; 5 Lbs. @ \$377.77/Lb.

Growing Collards

Brassica oleracea

CULTURE: See "Kale." In the South, collards are best for fall, winter, and early spring harvests, to avoid the temperature extremes of midsummer—even though they will tolerate some measure of heat. Because collards are very cold tolerant, they also do well in the North, where their flavor is enhanced by frost and cold weather. PESTS AND DISEASE: The best insect control is achieved with the use of fabric row covers applied at planting, to exclude insects from the plants. Prevent diseases with crop rotation and sanitation. **DAYS TO MATURITY:** From direct seeding; subtract about 14 days if transplanting. AVG. DIRECT SEEDING RATE: For bunching: 1,000 seeds/220', 1 oz./1,110', 1 lb./24,000'. **SEED SPECS:** SEEDS/LB.: Avg. 92,400. PACKET: 100 seeds, sows 22'.



SWEET CORN

SWEET CORN TYPES — What's the difference?

Normal Sugary (su). Sugars convert to starch rapidly after picking. Old-fashioned corn flavor. Shrunken 2 (sh2). Also known as super sweet. This gene results in heightened sweetness. The abbreviation "sh2" refers to "shrunken," the appearance of the seeds (dry kernels). Isolate from all other corn types.

Sugary Enhanced (se) and (se+). A four-gene trait that modifies the (su) or (sh2) gene. The result is increased tenderness and sweetness. Isolate from (sh2) and dry/pop corn.

Synergistic (syn). Each synergistic ear has 75% (se) kernels and 25% (sh2) kernels. The sweet taste blends (se) tenderness with (sh2) crispness. Isolate from (sh2) and dry/pop corn.

Old-Fashioned

Corn varieties which reproduce true-to-type from seeds year after year are referred to as "open pollinated" (OP) or "standard." These varieties do not have the uniformity or tenderness of today's hybrids. While many people enjoy their old-fashioned chewiness and taste, we suggest trying OPs on a smaller scale if you're unfamiliar with them.

Double Standard 289G 73 days. (su)

Open-pollinated bicolor sweet corn. Early maturing, with strong germination in cool soil. We developed this hardy corn for northern home gardeners, especially seedsaving enthusiasts. It is based on a nice yellow corn called Burnell that was grown in Maine in the early 1900s, and an early white heirloom from New York's St. Lawrence Valley. Nicely sized ears with yellow and white kernels, some ears with yellow kernels only. Unlike the seeds of hybrid bicolor corn, which are all yellow, these are yellow and white. If desired, you can have early, all-white corn simply by planting only white kernels. Excellent traditional corn taste. Vigorous plants. 000

PKT \$6.15; 1,000 Seeds \$20.00; 5M @ \$15.50/M; 25M @ \$14.20/M; 100M @ \$13.50/M.



Growing Sweet Corn — Zea mays

CULTURE: Planting in cold soil risks poor germination. Plant untreated seeds when soil is warm, at least 65°F (18°C). Plant treated seed when soil temperature is at least 60°F (16°C). Only treated seeds of good coldgerminating varieties may be sown in 55°F (13°C) soil and only if warmer weather is anticipated. Floating row covers may be used on early plantings to help moderate soil temperature. ISOLATION REQUIREMENTS: Extensive crossing of super sweet varieties with non-super sweet varieties will cause tough, starchy kernels in both types. If you plan to grow both super sweet and non-super sweet varieties, avoid cross-pollination using any one of the following three options: 1) Plant super sweet varieties at least 300 feet from non-super sweet varieties, or 2) Stagger plantings by a 12-day planting date difference and separate each planting by 25 feet, or 3) Plant varieties that will mature at least 12 days apart and separate each planting by 25 feet. **PLANTING:** Sow ³/₄–1" deep, 6–7" apart (or 2 seeds every 9", thinning to 1 plant), rows 30–36" apart. Increase this rate for untreated seeds. Arrange in blocks of at least 4 rows for proper pollination, which is needed for well-filled ears. Successive plantings can be made through early summer; most growers prefer to extend the sweet corn season by planting a few varieties of different maturities. INSECT PESTS: Consult your local Extension office for Integrated Pest Management

information. Reduce insect pests in the next corn crop by prompt plowing-in or removal and composting of cornstalks after harvest. HARVEST: When kernels are full and sweet, generally indicated by a drying and browning of the ear silks. Record the date on which about half the plants show silk. Corn is ready to eat 18-24 days after ear silks first show; the warmer the weather, the sooner you can pick it. DAYS TO MATURITY: Varies widely with weather conditions and planting dates. Use these figures to compare one variety to another, not to accurately predict maturity on a given day. AVG. SEEDING RATE: 1M/500', 5M/2,500', 25M/12,500', 30M/acre at 2 seeds/ft. in rows 36" apart. SEED SPECS: SEEDS/LB.: Avg. 2,700, su/se/synergistic type; Avg. 2,900 super sweet. PACKET: 150 seeds, sows 75' at 2 seeds/ft.



Sweet Corn Resistance Codes

HP — High Posistance IP — Intermediate Posistance

Tilk Tilgi	Thesistance in intermediate nesistance
MDMV	Maize Dwarf Mosaic Virus
NCLB	Northern Corn Leaf Blight
R	Common Rust
SCLB	Southern Corn Leaf Blight
SW	Stewart's Wilt







Super Sweet

Bicolor

NEW Bolt XR (F1) 5253

67 days. HR: R. IR: NCLB. (sh2)

First-early with improved vigor. Dependable and tasty, Bolt XR comes in early yet has excellent husk protection. Large kernels provide a satisfyingly deep bite and excellent sweetness. Its early vigor may rival that of synergistic varieties which are often the choice for first planting dates. PKT \$5.80; 1,000 Seeds \$24.00; 5M @ \$17.60/M; 25M @ \$17.00/M; 100M @ \$15.50/M.

Solstice (F1) 4355

68 days. IR: NCLB. (sh2)

Extra-early with high quality. Solstice comes in just ahead of Kickoff XR. It offers excellent eating quality and ear size, as well as the strong emergence and seedling vigor required of early varieties. PKT \$5.80; 1,000 Seeds \$25.25; 5M @ \$17.24/M; 25M @ \$15.37/M; 100M @ \$14.18/M.

Kickoff XR (F1)

69 days. HR: R. (sh2)

Flavorful early super sweet. The benchmark for quality in the second-early slot, though Kickoff can also be planted later in the season. Large, attractive ears with high sugars. Excellent husk protection and tip fill.

3345T Treated or 3345 Untreated PKT \$5.80; 1,000 Seeds \$20.45; 5M @ \$17.93/M; 25M @ \$15.54/M; 100M @ \$13.50/M.

Signature XR (F1)

72 days. HR: R. (sh2)

Early-midseason bicolor with excellent eating quality. Deep, tender bite with great flavor. Good tip fill and husk cover, snaps cleanly, and has a long shelf life. The highest eating quality available in a super sweet. 4117T Treated or 4117 Untreated PKT \$5.80; 1,000 Seeds \$24.50; 5M @ \$18.60/M; 25M @ \$15.91/M; 100M @ \$14.85/M.

Superb MXR (F1)

74 days. HR: MDMV, R. IR: NCLB. (sh2)

Main-season workhorse. Improved seed quality for reliable stands and great yields. Thrives in difficult growing conditions. Rust resistance and excellent husk protection for big ears with great flavor.

4459T Treated or 4459 Untreated PKT \$5.80; 1,000 Seeds \$22.00; 5M @ \$18.60/M; 25M @ \$16.20/M; 100M @ \$13.50/M.

Natural Sweet (F1) 3590G

74 days. HR: R. (sh2)

Organic, main-season super sweet. Natural Sweet raises the bar for organic sweet corn quality with delicious, plump ears that taste as good as they look. Positioned high on the plant, the 8" long ears snap with ease. Superior husk protection, good tip fill, and attractive flags. The main-season standard for organic growers. CG PKT \$8.45: 1.000 Seeds \$36.60: 5M @ \$30.28/M: 25M @ \$28.84/M; 100M @ \$26.10/M.

Tempo XR (F1)

76 days. HR: R. IR: MDMV. (sh2)

Tasty main-season super sweet. Tempo's plump ears have a high row count, excellent tip fill, and are very sweet and tender. Strong husk protection and long field-holding. Makes for a nice presentation on the roadside stand. Rust resistant. 4457T Treated or 4457 Untreated PKT \$5.80: 1.000 Seeds \$22.50: 5M @ \$18.80/M: 25M @ \$17.00/M; 100M @ \$14.50/M.

Inspiration (F1) 4766

78 days. HR: NCLB, R. IR: MDMV, SW. (sh2)

Adapted to the South. A full-season variety with a tall plant and strong disease resistance. An excellent choice for growers in the southernmost latitudes of the US. Big ears look great on the farmstand, and pack plenty of sweetness. PKT \$5.80; 1,000 Seeds \$18.20; 5M @ \$16.39/M; 25M @ \$14.31/M; 100M @ \$11.96/M.

White

NEW Eden RMN (F1) 5090

75 days, HR; MDMV, NCLB, R, (sh2)

Reliable white variety with superior eating quality. A midseason option that yields delicious ears even in challenging conditions. Tenderness and flavor are similar to that of Xtra-Tender 3473, which it replaces. Dark green, attractive husks protect tender kernels. A good all-around performer.

PKT \$5.80; 1,000 Seeds \$26.00; 5M @ \$21.40/M; 25M @ \$16.60/M; 100M @ \$13.50/M.

Yellow

Vision MXR (F1)

75 days. IR: MDMV, NCLB, R. (sh2)

Yellow super sweet with reputation for **flavor.** Same fantastic flavor as the original Vision, but with the addition of intermediate resistance to Maize Dwarf Mosaic Virus. Long ears with tender, bright yellow kernels. Excellent husk protection and good cool-soil vigor. 6073T Treated or 6036 Untreated PKT \$5.80: 1.000 Seeds \$26.00: 5M @ \$21.40/M: 25M @ \$16.60/M; 100M @ \$13.50/M.



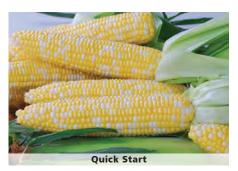
Find our Super Sweet Corn Production Guide at

Johnnyseeds.com/super-sweet-corn

Organic 1r Treated Seed

Organic 1r is a humic acid-based treatment formulated to improve nutrient uptake, provide better root growth, and reduce stress in the early stages of plant development. Our trials have shown striking results in stand establishment and seedling vigor of sweet corn and other direct-seeded crops in a variety of climates and soil types. As with any seed treatment, results may vary depending on soil type, weather, and other environmental conditions. Seed treated with Organic 1r should be stored in a cool, dry place, and planted within 3 months of receipt. Organic 1r is OMRI-approved and NOP-compliant for use on USDA certified-organic crops. NOTE: Seed treated with Organic 1r may appear darker in color.

Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M	100M @/M	
Organic Seed/NOP-Compliant Treatment							
Natural Sweet	3590RG CG	\$9.05	\$37.80	\$32.60	\$29.73	\$27.26	
Conventional S	eed/NOP-Comp	liant Trea	atment				
Inspiration	4766R	\$6.05	\$18.75	\$16.80	\$14.98	\$12.74	
Kickoff XR	3345R	\$6.90	\$21.60	\$19.22	\$17.24	\$13.55	
Latte	4456R	\$6.90	\$19.30	\$16.74	\$14.31	\$13.34	
Quick Start	4772R	\$6.05	\$18.75	\$16.80	\$14.98	\$12.74	
Solstice	4355R	\$6.90	\$26.35	\$18.11	\$16.02	\$14.78	
Vision MXR	6036R	\$6.90	\$28.00	\$22.00	\$18.20	\$15.49	
M=1,000 seeds					,		







Normal, Sugary Enhanced, and Synergistic

Bicolor

Quick Start (F1) 4772

68 days. IR: NCLB, SW. (syn)

First-early with large ears. Get to market earlier with a full-sized ear and great flavor. Compared to Sweetness, which it replaced, Quick Start has improved husk protection and about 2 more rows per ear. Larger ears than Latte.

PKT \$5.80; 1,000 Seeds \$18.20; 5M @ \$16.39/M; 25M @ \$14.31/M; 100M @ \$11.96/M.

Latte (F1)

68 days. IR: R, SW. (syn)

Reliable first-early producer. Sweet and tender with plenty of traditional corn flavor. Excellent cool-soil emergence and seedling vigor. Improved husk protection—to prevent bird damage—and seedling vigor compared to Sweetness, which it replaced.

4456T Treated or 4456 Untreated PKT \$5.80; 1,000 Seeds \$18.30; 5M @ \$15.97/M; 25M @ \$13.50/M; 100M @ \$12.64/M.

Temptress (F1)

70 days. HR: MDMV, R. IR: NCLB. (syn) A new standard for the second-early slot.

Follow Latte with this exceptional synergistic. Temptress combines premium eating quality and reliable field performance, thanks to strong seedling vigor, good husk protection, and a broad disease package. Also a good "rain gap" option, Temptress works well for a quicker crop at later planting dates. Attractive 8" ears meet our highest flavor standards.

3413T Treated or 3413 Untreated PKT \$5.80; 1,000 Seeds \$15.80; 5M @ \$12.83/M; 25M @ \$11.54/M; 100M @ \$11.40/M.

Allure (F1) 3894

75 days. HR: R. (syn)

Highly adaptable main-season bicolor. A tasty synergistic bred for low-input systems. The 8" ears are refined and have both great tip fill and excellent flavor. Plenty of flags and tight, dark green husks create an attractive package. Good cool-soil vigor for a synergistic type. PKT \$5.80; 1,000 Seeds \$18.30; 5M @ \$15.97/M; 25M @ \$13.50/M; 100M @ \$12.64/M.

🕇 Containers | 🔀 Cut Flower | 🜢 Hydroponic | 🗹 Edible Flower | 🌞 Dried Flower | 🏋 Attracts Beneficial Insects

Essence (F1) 79 days. IR: NCLB, R, SW. (syn) Performance and flavor for the full-season slot. A long, beautiful ear wrapped in a protected package, Essence receives excellent scores in our trials every year. Ears are well-placed on the tall, sturdy plants. Tips fill out nicely. 4128T Treated or 4128 Untreated PKT \$5.80; 1,000 Seeds \$15.75; 5M @ \$13.31/M; 25M @ \$12.10/M; 100M @ \$11.08/M.

Montauk (F1) 81 days. IR: NCLB, SW. (syn) Big, delicious ears. Jumbo ears with small, fancy kernels. Long renowned for its looks, flavor, and reliability. Easy to harvest. Widely adapted. Good cool-soil vigor. 2761T Treated or 2761 Untreated

PKT \$5.80; 1,000 Seeds \$18.65; 5M @ \$16.11/M; 25M @ \$13.50/M; 100M @ \$12.76/M.



Yellow

Sugar Buns (F1)

70 days. IR: NCLB, SW. (se+)

Longest harvest period of all early corn varieties. Remains tender for up to two weeks in the field. The ears have relatively narrow, deep kernels. Best at latitude 38° and higher. 267T Treated or 267 Untreated PKT \$5.80; 1,000 Seeds \$11.85; 5M @ \$9.87/M; 25M @ \$8.36/M; 100M @ \$7.31/M.

White

Illusion (F1)

72 days. HR: R, SW. (syn)

Early white with great flavor. Excellent coolsoil vigor and tip fill. Strong disease resistance package. Dark green husks. Good snapping ease. We plant extra Illusion in our trial each year because we love the flavor so much. 3363T Treated or 3363 Untreated PKT \$5.80; 1,000 Seeds \$13.85; 5M @ \$11.98/M; 25M @ \$10.25/M; 100M @ \$9.76/M.



Hand-plant corn using our Easy-Plant Jab Planter, available at Johnnyseeds.com



Days	Variety	Isolation Group [†]	Color	Ear Length	Plant Height	Kernel Row Count	Disease Resistance	
Super Sweet								
67	NEW Bolt XR	sh2	Bicolor	71/2"	5–6′	14–18	HR: R. IR: NCLB.	
68	Solstice	sh2	Bicolor	71/2"	6'	16	IR: NCLB.	
69	Kickoff XR	sh2	Bicolor	8-81/2"	6 ¹ /2'	16-18	HR: R.	
72	Signature XR	sh2	Bicolor	71/2-8"	71/2'	16–18	HR: R.	
74	Natural Sweet	sh2	Bicolor	8"	7'	16-18	HR: R.	
74	Superb MXR	sh2	Bicolor	71/2-8"	6'	16–18	HR: MDMV, R. IR: NCLB.	
75	NEW Eden RMN	sh2	White	71/2-8"	6 ¹ /2′	16-18	HR: MDMV, NCLB, R.	
75	Vision MXR	sh2	Yellow	8"	6 ¹ /2'	16–18	IR: MDMV, NCLB, R.	
76	Tempo XR	sh2	Bicolor	7–8"	6′	16-20	HR: R. IR: MDMV.	
78	Inspiration	sh2	Bicolor	8"	6 ¹ /2-7'	16–18	HR: NCLB, R. IR: MDMV, SW.	
Norm	al, Sugary Enhan	ced, and Sy	nergistic					
68	Latte	syn	Bicolor	71/2-8"	6′	14	IR: R, SW.	
68	Quick Start	syn	Bicolor	71/2"	6′	16–18	IR: NCLB, SW.	
70	Sugar Buns	se+	Yellow	7"	5-6'	14	IR: NCLB, SW.	
70	Temptress	syn	Bicolor	8"	6 ¹ /2'	16	HR: MDMV, R. IR: NCLB.	
72	Illusion	syn	White	71/2-8"	6 ¹ /2′	14–16	HR: R, SW.	
75	Allure	syn	Bicolor	8"	6 ¹ /2-7′	18	HR: R.	
79	Essence	syn	Bicolor	8-81/2"	6 ¹ /2′	14–16	IR: NCLB, R, SW.	
81	Montauk	syn	Bicolor	8"	6 ¹ /2′	16–20	IR: NCLB, SW.	
† For c	definitions of swee	t corn isolati	on groups,	see page	25.			



ORNAMENTAL & DRY FIELD CORN

Flour & Cornmeal

Montana Morado Maize 4381G 85 days. The color of midnight. Purple, almost-black kernels from an early, drought-resistant corn adapted to harsh northern climates. Breeder Dave Christensen has worked over 30 years to create this variety for its high antioxidant content. Selected from his previous variety, Painted Mountain. Plants avg. 5-6' tall and yield 8–10" long ears. Avg. 1,600 seeds/lb. **CG** PKT \$6.15; 1/4 Lb. \$17.45; Lb. \$33.55; 5 Lbs. @ \$29.53/Lb.; 25 Lbs. @ \$28.14/Lb.

Painted Mountain 2161G 85 days. Ultra-early with vibrant colors. Developed for its hardiness, earliness, drought tolerance, and nutritional density in the mountains of Montana. Avg. 6–7" multicolor ears make for easy roasting or use in hominy grits. Also makes a high-nutrition flour. Avg. 4' plants. Avg. 1,600 seeds/lb. CG PKT \$6.15; 1/4 Lb. \$18.70; Lb. \$35.90; 5 Lbs. @ \$31.60/Lb.; 25 Lbs. @ \$30.20/Lb.

Oaxacan Green 307 95 days. Emerald green kernels for cornmeal. Originally from Southern Mexico, this dent corn (pronounced wä hä' kän) produces ears that avg. 6-10" long. Can also be used for decoration. Sturdy, 7' plants. Avg. 1,600 seeds/lb. PKT \$5.75; 1/4 Lb. \$13.55; Lb. \$33.80; 5 Lbs. @ \$30.33/Lb.; 25 Lbs. @ \$26.75/Lb.

Nothstine Dent 311G 100 days.

A favorite for yellow cornmeal. Early maturing, 7-8", medium-sized ears. Glossy, yellow kernels with white caps. Dries early in the field for success in short seasons. Not high-yielding, but worth growing for its sweet flavor. An excellent variety for cornmeal and flour. 7' single-stalk plants. Avg. 1,200 seeds/lb. 💢 🖫 PKT \$5.90; 1/4 Lb. \$13.50; Lb. \$33.50; 5 Lbs. @ \$30.00/Lb.; 25 Lbs. @ \$26.20/Lb.

Jerry Petersen Blue 2535G 105 days. Reliable blue corn for blue flour. The 7–8" ears have good kernel configuration and excellent tip fill. Also suitable for adding color to fall ornamental displays. 7' plants. Avg. 1,600 seeds/lb. CG

PKT \$5.90; Lb. \$27.60; 5 Lbs. @ \$25.07/Lb.; 25 Lbs. @ \$23.27/Lb.

Bloody Butcher 4469 110 days. It's all in the name. The perfect dry corn to scare you, your children, and all your friends come Halloween. Imposing 11' tall plants produce 8-10", medium-to-dark, blood red ears. Great for making red flour, cornmeal, and for roasting when fresh. Popular as a base for sour mash whiskey. Avg. 1–2 ears/stalk. Avg. 1.500 seeds/lb. PKT \$5.75; 250 Seeds \$11.40; 1,000 Seeds \$18.70; 5M @ \$15.54/M; 25M @ \$13.93/M.

Combine dry corn with ornamental gourds and broom corn (both sold online) for attractive autumnal displays. Visit Johnnyseeds.com for our curated selection.

Ornamental

Miniature Colored Popcorn 2519 105 days.

Appeal to the young and young-at-heart. 6-7' plants yield 2-3 multicolored ears averaging 3–4" each. Space seeds 4–5" apart for denser stands and smaller ears. NOTE: Also suitable for popping, but only expect about 50% of the kernels to pop. Avg. 7,750 seeds/lb. PKT \$5.75; 1/4 Lb. \$9.80; Lb. \$23.80; 5 Lbs. @ \$21.79/Lb.; 25 Lbs. @ \$20.38/Lb.

Glass Gem 3765 120 days.

Translucent kernels in a rainbow of colors. Bred by the late Carl Barnes, who dedicated his career to reclaiming and preserving the seed of traditional Native American corns. Kernels can be popped, but results may vary. Sturdy plants can reach 10' tall. Avg. ear size 6-8". Requires a fairly long growing season for favorable yields. Avg. 2,700 seeds/lb.

PKT \$6.35; 1/4 Lb. \$33.70; Lb. \$68.20; 5 Lbs. @ \$58.65/Lb.; 25 Lbs. @ \$57.29/Lb.

Popcorn

Robust 997 (F1) 93 112 days. **High-yielding yellow popcorn.** 7–8" ears with glossy, deep yellow kernels. A high percentage of kernels pop, producing tender popcorn. 8-9' plants. Avg. 3,600 seeds/lb. PKT \$5.80; 1/4 Lb. \$6.10; Lb. \$15.45; 5 Lbs. @ \$13.76/Lb.; 25 Lbs. @ \$12.14/Lb.

Growing Ornamental & Dry Field Corn — Zea mays

CULTURE: Grow like sweet corn, planting early to ensure maturity of kernels for a good, dry ripeness. HARVEST: Ears can be picked when the kernels are hard and glossy, and the husk has mostly dried down. If necessary, bring husked ears under cover to complete drying. Popcorn should be harvested when kernels are fully mature (hard and glossy) or they won't pop well. After husking, spread out the ears in a dry, airy place and allow to "cure" for several weeks. The ideal moisture content for popcorn is 13–14.5%. Periodic test-popping will tell you when the kernels are dry enough to store, either on the cob or shelled. DAYS TO MATURITY: Maturity was recorded at our farm in Maine (Lat. 44.5°N). Corn will generally mature earlier farther south, later farther north, all environmental conditions being equal. AVG. SEEDING RATE: Popcorn: 3/4 lb./1,800′, 1 lb./2,400 ft., 6 lb. (or 28,800 seeds)/acre at 2 seeds/ft. in rows 36" apart. Ornamental, Flour and Cornmeal: 3/4 lb./600', 1 lb./800 ft., 181/4 lb. (or 29,200 seeds)/acre at 2 seeds/ft. in rows 36" apart. SEED SPECS: See individual varieties. PACKET: 100 seeds, sows 50'.







CUCUMBERS

Specialty Field Varieties

Suyo Long 333G

61 days.

Traditional long-fruited variety from China.

Sweet-flavored, ribbed fruits grow up to 15" long. Widely adapted, it grows well in hot weather, and sets early. Try using this unusual-looking cucumber in salads or for bread-and-butter or mixed, vegetable pickles. Excellent eating quality. Bitter-

free. Trellis for straight fruits. CG PKT \$6.15; 250 Seeds \$7.80;

1,000 Seeds \$18.05; 5M @ \$11.11/M; 25M @ \$8.18/M.

Striped Armenian 2317

63 days. C. melo

Unique appearance and excellent flavor.

Unusual, slightly fuzzy, serpentine fruits are slightly ridged with alternating dark- and light-green stripes. Has crisp melon-like flavor. Harvest from 8-18". Delicious and different. Also known as Painted Serpent.

PKT \$5.75: 250 Seeds \$6.55: 1,000 Seeds \$21.05; 5M @ \$13.08/M; 25M @ \$11.41/M.

Mexican Sour Gherkin 3174

67 days. Melothria scabra

A unique specialty cucumber. Cute, 1" long fruits look like miniature watermelons and taste like cucumbers with tangy citrus overtones. Can be eaten fresh or pickled. Not particularly high yielding. Slow-growing vines can reach 10' long and require trellising. NOTE: Harvest promptly, as they can get seedy if allowed to grow longer than 1".

PKT \$5.75; 250 Seeds \$10.85; 1,000 Seeds \$27.75; 5M @ \$24.48/M; 25M @ \$23.47/M.



GROWING DEFINITIONS

Parthenocarpic: Does not require pollination to set fruit. When successfully isolated from pollen, their fruits will be seedless. Can be either monoecious or gynoecious and are recommended for use in protected culture.

Monoecious: Male and female flowers grow on the same plant.

Gynoecious: Plants produce only female flowers. Varieties that are gynoecious but not parthenocarpic require a pollenizer to produce fruit, and so are sold blended with 10-15% seed of monoecious cucumbers in order to ensure pollination.



For more information on cucumber types and terms visit

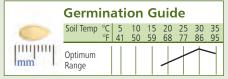
Johnnyseeds.com/cucumber-terms

Growing Cucumbers — *Cucumis sativus* (unless otherwise indicated)

CULTURE: Requires warm, well-drained soil high in fertility, with a pH of 6–6.8. Consistent, adequate irrigation is needed to produce an abundant crop. Cucumbers are very sensitive to cold. Make sure both soil and air temperatures have warmed prior to planting. Using poly mulch and row covers will greatly enhance the vigor and potential yields by providing warmth and insect protection. We highly recommend using gynoecious and parthenocarpic varieties for greenhouse or tunnel production. DAYS TO MATURITY:

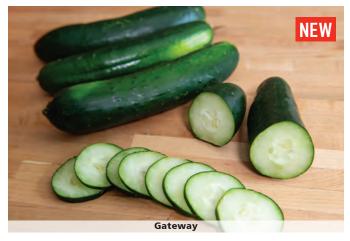
From direct seeding; subtract about 10 days for days to maturity from transplanting. TRANSPLANTING: Sow indoors in 50-cell plug trays, 1-2 seeds/cell, 3-4 weeks before transplanting. Keep temperature above 70°F (21°C) day and 60°F (16°C) night. Transplant 12" apart in rows 5–6' apart. Do not disturb roots when transplanting. **DIRECT SEEDING:** Wait until soil is warm, at least 70°F (21°C). Cucumber seeds will not germinate at a soil temperature below 50°F (10°C). Sow 2 seeds/ft., 1/2" deep, in rows 6' apart. Thin to 12" apart. AVG. DIRECT SEEDING RATE: 30 seeds/15', 100 seeds/50', 250 seeds/125', 500 seeds/250', 1,000 seeds/500', 15M/acre at 2 seeds/ft. in rows 6' apart. INSECT PESTS: Exclude cucumber beetles with row covers at planting, or control with pyrethrin or azadirachtin. DISEASE: Practice crop rotation, residue sanitation, and choose disease-resistant varieties Control insect pests to help prevent bacterial wilt. HARVEST: Once fruit bearing begins, pick daily. STORAGE: Hold cucumbers at 45-50°F (7-10°C) and 90% relative

humidity for up to 2 weeks. **NOTE:** If parthenocarpic cucumbers cross-pollinate with other cucumbers, they will yield seeded fruits. TRANSPLANTS: Avg. 85 plants/100 seeds. SEED SPECS: SEEDS/LB.: Avg. 20,200. PACKET: 30 seeds, unless otherwise noted.



Cucumbers Resistance Codes

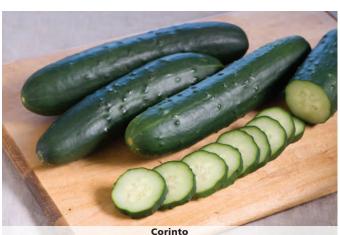
	nn — nigii	resistance in — intermediate resistance					
	A	Anthracnose					
	ALS	Angular Leaf Spot					
	В	Bacterial Wilt					
	CMV	Cucumber Mosaic Virus					
	CVYV	Cucumber Vein Yellowing Virus					
	DM	Downy Mildew					
	PM	Powdery Mildew					
	PRSV	Papaya Ringspot Virus					
	S	Scab					
	TSP	Target Spot					
	WMV	Watermelon Mosaic Virus					
	ZYMV	Zucchini Yellow Mosaic Virus					







Dimensions may vary significantly due to culture and environmental conditions.





Slicing

NEW Gateway (F1) 4777

56 days. HR: A, ALS, S, TSP, ZYMV. IR: DM, PM, PRSV. Improved downy mildew resistance.

Significantly more DM-resistant than Bristol, which it replaces. Vigorous monoecious vines provide high yields, resilience, and extended production later into the season. Fruits avg. 8-9" long. An excellent option for outdoor trellis production or when a more sustained harvest is desired.

PKT \$5.70; 100 Seeds \$12.50; 250 Seeds \$20.30; 1,000 Seeds \$57.20; 5M @ \$52.00/M; 25M @ \$46.80/M.

The General (F1) 2417

52 days. HR: S. IR: CMV, PM.

Our best-tasting slicer. Widely adapted from North to South, The General delivers our best combination of quality and production. Dark, 8" fruits with white spines are uniform, attractive, and superior in flavor to most modern slicer varieties. Plants have a high yield potential. Gynoecious with 10% pollenizer added. PKT \$5.80; 1,000 Seeds \$19.55; 5M @ \$12.91/M; 25M @ \$12.13/M.

Corinto (F1) 2562G

48 days. IR: CMV, CVYV, PM.

EXCLUSIVE! Our earliest, most productive

slicer. This organic hybrid produces very dark green, uniform, 7–8" slicing cucumbers despite cool weather or heat. Small seed cavity. Skin is thick enough to endure harvesting and handling, but thinner than the average slicing cucumber. Remarkable vigor in both the field and greenhouse. Gynoecious and parthenocarpic. Qq 📥

MINI (10 seeds) \$8.45; PKT \$20.50; 100 Seeds \$61.05: 250 Seeds \$134.85: 1.000 Seeds \$449.40.

Diva

58 days. HR: S. IR: CVYV, PM.

Especially flavorful when harvested small. Diva's seedless, thin-skinned cukes are distinctly crisp, sweet, and bitter-free. Adapted to open-field production and protected cropping. A fantastic variety for the home garden. Harvest at 5–7". Parthenocarpic. AAS winner. 2198T Treated or 2198 Untreated PKT \$5.75; 250 Seeds \$10.20; 1,000 Seeds \$32.25; 5M @ \$20.46/M;

Marketmore 76

58 days. HR: S. IR: CMV, PM.

Popular OP variety. The long, slender "Marketmore look" has long been the standard for slicers in the North. 8-9" fruits stay uniformly dark green even under weather stress. Begins bearing late, but picks for a relatively long time.

336G Organic CG

PKT \$6.15; 1,000 Seeds \$7.95;

5M @ \$4.61/M; 25M @ \$3.35/M.

336 Conventional

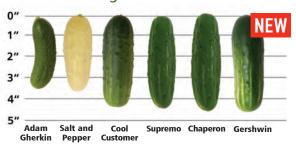
PKT \$4.55; 500 Seeds \$4.95; 1,000 Seeds \$5.75; 5M @ \$2.06/M; 25M @ \$2.01/M.

DISEASE TESTING

Cucumber Green Mottle Mosaic Virus is a pathogen host-specific to members of the cucurbit family. CGMMV can be seedborne. We only stock seed lots that have been tested free of CGMMV in a sample of 2,000 seeds. NOTE: A disease-free test result does not guarantee a seed lot to be disease-free, only that in the sample tested, the pathogen was not found.

25M @ \$16.81/M.

Pickling Field Varieties



Dimensions may vary significantly due to culture & environmental

For Gorilla Tubs $^{\scriptscriptstyle\mathsf{TM}}$ and other containers and baskets, visit Johnnyseeds.com











Pickling

NEW Gershwin (F1) 5133

49 days. HR: S. IR: PM.

Parthenocarpic field pickler. Great for growers looking for an extra-early flush of uniform pickling cukes. Very high yields of dark green, 4-4¹/2" fruit. If isolated from other cucumbers, Gershwin will remain seedless and hold its size for several days. Good for hand or machine harvest. Determinate fruit set. Gynoecious and parthenocarpic. PKT \$6.25; 250 Seeds \$14.90; 1,000 Seeds \$39.00; 5M @ \$34.00/M; 25M @ \$29.00/M.

Chaperon (F1) 4670

52 days. HR: S. IR: A, ALS, CMV, DM, PM. Improved downy mildew resistance. High yields of picklers with the classic blocky shape. Moderately concentrated fruit set. Avg. 4¹/₂" long. Compared to Citadel, which it replaced, Chaperon demonstrates stronger DM resistance and a more attractive shape. Monoecious but predominantly female flowering.

PKT \$5.80; 250 Seeds \$10.15; 1,000 Seeds \$21.80; 5M @ \$16.64/M; 25M @ \$14.56/M.

Cool Customer 3449G

55 davs.

A rugged organic pickler. Beautiful, uniform, blocky fruits with small seed cavities and exceptional crunch and flavor. Vigorous plants produce 4–5" fruits over a long harvest period and are tough enough to withstand the pressures of organic growing conditions. Resilient vines hold up to late-season stress and disease much longer than many similar varieties. Bred by Dr. John Navazio at Johnny's. 100 PKT \$5.90; 250 Seeds \$8.35; 1,000 Seeds \$16.65; 5M @ \$11.45/M; 25M @ \$9.99/M.

Supremo (F1) 4436

55 days. IR: A, ALS, CMV, PM, PRSV, S, WMV, ZYMV. Very broad disease resistance. This highyielding pickler produces 3–4¹/₂", dark green fruits with the classic blocky shape. Consistent in quality, the fruits have good flavor and the firm texture needed to make great pickles. Our recommended substitute for Max Pack, which is unavailable this season.

PKT \$5.80; 250 Seeds \$11.75; 1,000 Seeds \$21.60; 5M @ \$19.50/M; 25M @ \$17.71/M.

Adam Gherkin (F1) 2563G

47 days. IR: CMV, PM, S.

Gershwin

High-quality European pickler. Adam Gherkin produces high yields in a broad range of climates. Fruits are covered in tiny spines for a true "cornichon" look. Nicely proportioned even at 2–3". Suitable for field or greenhouse. Gynoecious and parthenocarpic. CG PKT \$6.15; 250 Seeds \$23.05; 1,000 Seeds \$74.45; 5M @ \$71.33/M; 25M @ \$65.64/M.

Salt and Pepper 2524G

49 days. IR: ALS, PM.

25M @ \$9.02/M.

Organic, white-skinned pickling cucumber with powdery mildew resistance. Compared to Boothby's Blonde, the 3–5" fruits are similar in size, with improved flavor and disease resistance. Black spines. Bred by Jason Cavatorta and Molly Jahn, Cornell University. 2011 Green Thumb Award Winner. 06 PKT \$5.85; 250 Seeds \$8.05; 1,000 Seeds \$19.75; 5M @ \$12.13/M;









Greenhouse

NEW Qwerty (F1) 5129

50 days. HR: S. IR: CMV, CVYV, PM.

Premium cocktail cucumber. Among the very best in quality. Exceptionally high yields of uniform, 31/2-4" long fruits with glossy, thin skins and attractive dark coloration. Generative, multi-fruiting plants. Gynoecious and parthenocarpic. MINI (10 seeds) \$15.25; PKT \$44.80; 50 Seeds \$71.25; 100 Seeds \$138.55; 250 Seeds \$342.95; 500 Seeds \$677.40; 1,000 Seeds \$1323.05.



Ouirk (F1) 3408

52 days. HR: PM. IR: CMV.

Unique mini for snacking and pickling. Striking contrast between bright green and gleaming white. Compact plants produce heavy yields of tasty 2–3" fruits. Performs well in the greenhouse or field. Gynoecious and parthenocarpic. NOTE: We recommend trellising multiple leaders with Hortonova when growing indoors as the vines are short. MINI (10 seeds) \$15.25; PKT \$44.80; 50 Seeds \$71.25; 100 Seeds \$138.55; 250 Seeds \$342.95; 500 Seeds \$677.40; 1,000 Seeds \$1323.05.



Excelsior (F1) 3082G

50 days. HR: S, TSP. IR: CMV, CVYV, PM.

Attractive, high-yielding pickler for the greenhouse. Excelsior produces dark green, blocky, nicely proportioned 4–5" cucumbers with American-style spines. Vigorous, balanced plant with consistent fruit setting. Excellent flavor. Also does well in screen houses, in the field under row cover, or wherever else pollinators are absent. Gynoecious and parthenocarpic. Qq 📥 PKT \$9.95; 50 Seeds \$16.25; 100 Seeds \$26.90; 250 Seeds \$59.50: 500 Seeds \$110.00: 1.000 Seeds \$200.00.

Find trellis netting and clips to support your cucumbers on page 195.

Picolino (F1) 3542G

50 days. HR: S, TSP. IR: CMV, CVYV, PM. Prolific and tasty snacking cucumber. Attractive snacking cucumbers with glossy, thin, dark green skin. Best harvested at 4-5". Plants produce few suckers for easier pruning. Gynoecious and parthenocarpic. CG 📥 MINI (10 seeds) \$9.85; PKT \$23.60; 50 Seeds \$29.55; 100 Seeds \$50.60; 250 Seeds \$119.60; 500 Seeds \$222.85; 1,000 Seeds \$396.50.

Katrina (F1)

49 days. HR: S. IR: CMV, CVYV, PM.

Popular size for snacking or slicing. A tasty snack at around 6" long. Seedless, thin-skinned, and a reliable producer over a long season indoors. Renowned for setting fruit under heat stress in high tunnels. A strong hydroponic performer. Gynoecious and parthenocarpic.

47G Organic CG

MINI (10 seeds) \$11.15; PKT \$29.80; 50 Seeds \$47.45; 100 Seeds \$65.00; 250 Seeds \$120.00; 500 Seeds \$205.00; 1,000 Seeds \$375.00.

47 Conventional

MINI (10 seeds) \$8.25; PKT \$20.10; 50 Seeds \$32.50; 100 Seeds \$58.95; 250 Seeds \$123.60; 500 Seeds \$224.70; 1,000 Seeds \$398.45.

Socrates (F1)

52 days. HR: S, TSP. IR: PM.

Beit Alpha with a reputation for flavor. Dark green 7-8" fruits. Well-known for sweet,

refreshing flavor. Suitable for growing indoors with temperatures ranging from 50-82°F (10-28°C). Gynoecious and parthenocarpic.

2989G Organic CG

MINI (10 seeds) \$11.70; PKT \$31.30; 50 Seeds \$44.10; 100 Seeds \$83.15; 250 Seeds \$170.05; 500 Seeds \$309.30; 1,000 Seeds \$498.95. 2989 Conventional MINI (10 seeds) \$9.65; PKT \$25.20; 50 Seeds \$36.10; 100 Seeds \$65.55; 250 Seeds \$137.55; 500 Seeds \$250.10; 1,000 Seeds \$443.05.











Unagi (F1) 4552

55 days. HR: CMV, PM, TSP.

Unique Beit Alpha x long Asian cross.

Glossy, spineless cukes with tiny seed cavities and unparalleled eating quality. A prolific yielder of remarkably straight fruits. Harvest at 9–11" long (or smaller, if you prefer). Stays crisp and delicious up to 14". Strong disease package. Gynoecious and parthenocarpic. PKT \$6.10; 100 Seeds \$15.55; 250 Seeds \$33.85; 500 Seeds \$52.80; 1,000 Seeds \$84.30; 5M @ \$77.53/M; 25M @ \$63.58/M.

Itachi (F1) 3436

54 days.

Unique white Asian type. Great-tasting, attractive, and highly productive. Uniform yields of sweet, crispy, bitter-free cucumbers with small seed cavities. Avg. 9-11" long. Trellising produces straighter fruit. Performs well in the greenhouse and field. Parthenocarpic. NOTE: Exposure to direct sunlight may cause light greening of the fruit. Allow the plant canopy to shield the fruits from sun.

PKT \$7.55; 100 Seeds \$23.05; 250 Seeds \$52.95; 1,000 Seeds \$181.90; 5M @ \$173.33/M; 25M @ \$164.25/M.

Sashimi (F1) 4728 50 days. IR: PM, TSP. EXCLUSIVE! Excellent PMR for a long

Asian type. Dark, glossy, and very attractive. Maintains crispness and a uniform shape over a wide range of sizes, so you can harvest anywhere from 8-12" long. Small seed cavities and delightful sweetness. Powdery mildew resistance is significantly improved over Tasty Jade and Nokya. Fully gynoecious and parthenocarpic, which is unique for its type. Earlier than Tasty Jade, which is available online.

PKT \$6.05; 100 Seeds \$15.10; 250 Seeds \$32.25: 1.000 Seeds \$102.95: 5M @ \$91.52/M.

Poniente (F1) 4379G

56 days. HR: S. IR: CMV, CVYV, PM.

Long European cucumber with improved disease resistance. Poniente offers the same vigor, productivity, and premium fruit quality as Tyria, with the addition of CMV and CVYV resistance. Bitter-free fruits average 12-13" long and fill out evenly. Trellis for straight fruits. Gynoecious and parthenocarpic. CG MINI (10 seeds) \$14.30; PKT \$40.35; 50 Seeds \$63.40; 100 Seeds \$120.30; 250 Seeds \$297.45; 500 Seeds \$540.90; 1,000 Seeds \$891.05.

Rootstock

Tetsukabuto Rootstock (F1) 3578A

Rootstock for thin-skinned cukes. Excellent for grafting to Beit Alpha types such as Katrina, Socrates, and Poniente. Improves cold soil tolerance to enable earlier tunnel plantings. Also increases vigor and yield over a long season and has helped deter spider mites in our trials. NOTE: Flavor of some varieties may be affected by the graft. This effect is minimal with thin-skinned types, but more pronounced in others.

100 Seeds \$18.10; 250 Seeds \$43.75; 500 Seeds \$81.10; 1,000 Seeds \$149.90; 5M @ \$143.68/M.



SCAN THIS CODE for an in-depth look at cucumber grafting—the advantages, required materials, and proper technique.







EGGPLANT

Asian

NEW Summer Emerald (F1) 5087 65 days.

Delicious. Lives up to its reputation as one of the best-tasting egaplants—firm texture, few seeds, sweet and tasty flesh—perfect for broiling or grilling. Thin-skinned and never bitter. Cooks very quickly. Lime-green skin is colorful at market. PKT \$5.80; 250 Seeds \$15.15; 1,000 Seeds \$45.05; 5M @ \$39.61/M.

NEW E-Tender (F1) 5156 65 days. A culinary experience. Specialty "water eggplant" from Japan intended to be eaten raw, though it can also be cooked. Perfect for salads, pickling, and many other uses. Soft, slightly sweet flesh with apple-like flavor that melts in your mouth. Open plants produce high yields of attractive, bell-shaped fruit. Spines on calyx. PKT \$5.80; 250 Seeds \$15.15; 1,000 Seeds \$45.05; 5M @ \$39.61/M.

Orient Express (F1) 354 58 days. The most dependable Asian eggplant. High-yielding plants produce armloads of attractive, slender, glossy fruits 8-10" long by $1^{1/2}-2^{1/2}$ " diameter. Ready up to 2 weeks before other early varieties. Sets fruit in cool weather and under heat stress. Tender. delicately flavored, and quick-cooking. NOTE: Has a tendency towards slow emergence, and may need more time to germinate than other eggplant varieties. Purple calyx. PKT \$5.80; 250 Seeds \$15.15; 1,000 Seeds \$45.05; 5M @ \$39.61/M.



Asian Delite (F1) 4413 60 days. Slender, bright purple fruits. High-yielding, upright plants produce beautiful fruits. Avg. 8–10" long. Earlier and higher yielding than Orient Charm, which it replaced. Green calyx. PKT \$5.80; 250 Seeds \$19.85; 1.000 Seeds \$51.85: 5M @ \$45.62/M.

Turkish Delight (F1) 4755 60 days. **Easy to grow.** A wonder in the kitchen. Elongated shape and minimal seeds for quick cooking. Prolific yields of highly uniform, straight fruit with rich flavor. Suitable for both open-field and greenhouse production. Parthenocarpic. Spineless. Green calyx. PKT \$6.85; 100 Seeds \$13.25; 250 Seeds \$19.00; 1,000 Seeds \$65.50; 5M @ \$55.12/M.

Petch Siam (F1) 2117X 62 days. Our recommended substitute for Kermit. Flattened, round, Kermit-type with a more distinct veining pattern. Uniform fruits with good flavor and some ribbing. Well-branched plants are high-yielding. Green calyx. PKT \$5.20; 250 Seeds \$8.85; 1,000 Seeds \$13.40; 5M @ \$6.24/M; 25M @ \$4.99/M.

Calliope (F1) 2433 64 days. Small white-and-purple variegated fruits. Suitable for baby (2" long x $1^{1/2}$ " diameter) or mature $(3-4" long x 2^{1}/4-2^{3}/4" diameter)$ harvest. Calliope is an Indian eggplant with a beautiful oval shape. High-yielding, even in the North. The plants and calyxes are spineless, unlike many varieties of this type. Green calyx. PKT \$5.80; 250 Seeds \$15.80; 1,000 Seeds \$36.40; 5M @ \$32.13/M.







Turkish Delight



E-Tender



Calliope





Barbarella



Watch a video about our new E-Tender eggplant and its many culinary uses at

Johnnyseeds.com/etender

Paloma



Rosa Bianca

Growing Eggplant — Solanum melongena

CULTURE: Eggplants require fertile, well-drained soil with a pH range of 6.2–6.8. Sow seed in flats indoors during early spring, or 6–8 weeks prior to planting outdoors. Sow 4 seeds/in., 1/4" deep, and maintain soil temperature at 80–90°F (27–32°C) until emergence and 70°F (21°C) thereafter. Seed will not germinate in cool soil. After true leaves form, thin to 2-3" apart in flats or transplant into 2-3" pots or plug trays. To harden plants, reduce water and temperature to about 60°F (16°C) for about a week before planting out. Transplant outdoors late spring or early summer once the weather has thoroughly settled. Eggplants are tender, and cold weather may weaken them. Use row covers (see Index)

Summer

Italian

NEW Thanos (F1) 5131 65 days. Prolific, spineless Black Bell type. Strong plants produce high early yields of fruit with the classic blocky bell shape. Spineless calvx for easier harvesting. Higher vields, better uniformity. darker colors, and smoother calyx than Galine, which it replaces. Spineless. Green calyx. PKT \$6.50; 250 Seeds \$16.00; 1,000 Seeds \$51.00; 5M @ \$42.00/M; 25M @ \$39.80/M.

Barbarella (F1) 2558 65 days.

Dark purple Italian type with white halo. Tender fruits are nearly round with some small spines. Good yields with excellent flavor. Uniform with a medium gloss. Purple calyx. PKT \$5.80; 100 Seeds \$11.10; 250 Seeds \$17.45; 1,000 Seeds \$51.85; 5M @ \$45.62/M.

Paloma (F1) 3370 65 days.

Vivid white skin with a clean look. Mildly sweet flavor, creamy texture. Short healthy plants. A perfect farmers' market treat, since thin skin and easy bruising precludes shipping. More productive than Clara, which it replaced. Green calyx. PKT \$5.80: 250 Seeds \$13.25: 1,000 Seeds \$39.00; 5M @ \$34.38/M.

Rosa Bianca 2605G 73 days. Pink-and-white Italian heirloom. Round fruit streaked with white and violet. Plump and variably ribbed. Mild, creamy flavor. Best adapted to regions with warm nights. Expect low yields in cool areas. Green calyx. 🂢 🖫

PKT \$6.15; 250 Seeds \$10.05; 1,000 Seeds \$29.75; 5M @ \$26.24/M.

Gaudi (F1) 4657G 65 days.

Cookie-cutter uniformity. Prolific yielder of glossy fruits with attractive teardrop shape. Spineless, widely adapted, and stress tolerant. Compared to Traviata, which it replaced, Gaudi produces higher yields on stronger, more upright plants that are less prone to lodging. Green calyx. 💢

PKT \$8.45; 100 Seeds \$24.25; 250 Seeds \$42.20; 1,000 Seeds \$124.50; 5M @ \$110.78/M.







Dancer (F1) 2820 65 days.

Deep pink Italian type. Semi-cylindrical fruits are mid-size, mild, and nonbitter. Plants are strong and high-yielding. Popular in Puerto Rico. Green calyx.

PKT \$5.80; 100 Seeds \$14.45; 250 Seeds \$22.75; 1,000 Seeds \$67.40; 5M @ \$59.30/M.

Annina (F1) 4134G 65 days.

Spineless, purple-striped Italian type. Glossy, variegated eggplant with attractive teardrop shape. Earlier and higher yielding than Nubia, which it replaced. Spineless. Bright green calyx. GG PKT \$13.95; 100 Seeds \$54.00; 250 Seeds \$93.00; 500 Seeds \$151.00; 1,000 Seeds \$277.00; 5M @ \$246.00/M; 25M @ \$227.20/M.

Nigral (F1) 4454 65 days. Improved Black Italian type. Traditional appearance with modern advantages.

Spineless plant reliably sets fruit under variable conditions. Heavy yields. An earlier, improved eggplant over Nadia. Green calyx. PKT \$6.40; 250 Seeds \$18.15;

1,000 Seeds \$59.95; 5M @ \$50.45/M.

Aretussa (F1) 3759 60 days.

High-yielding white eggplant. An ideal fresh-market specialty item. Attractive, uniform, cylindrical fruit borne on well-branched, sturdy plants. Suitable for indoor or outdoor production. Spineless. Green calyx.

PKT \$9.65: 100 Seeds \$27.85: 250 Seeds \$43.05; 1,000 Seeds \$127.75; 5M @ \$112.44/M.



Annina







Mini

Patio Baby (F1) 3747 50 days. Best container variety. Attractive edible ornamental for balconies, patios, and gardens. True mini with 18–24" tall plants and bright purple flowers. Great for pack sales and urban farming operations. Continuous set of 2-3" fruits. Spineless. AAS Regional (Northeast) Winner. Purple calyx. ¥

PKT \$5.80; 100 Seeds \$19.35; 250 Seeds \$32.25; 1,000 Seeds \$95.50; 5M @ \$84.10/M.

Gretel (F1) 241 55 days.

Solid white specialty mini. Loads of tender, bitter-free 3-4" fruits on a compact, 24-36" plant. A perfect companion to both Hansel and Fairy Tale. Green calyx. AAS winner. \(\forall^2\) PKT \$7.00; 100 Seeds \$22.15; 250 Seeds \$37.90; 1,000 Seeds \$112.40; 5M @ \$98.92/M.

Hansel (F1) 240 55 days.

Solid purple specialty mini. The compact, 24–36" plants produce tender, dark purple, 3-4" fruit in clusters for easy harvesting. Nonbitter and perfect for grilling or slicing thinly onto pizza. Green calyx. AAS winner. \(\forall^{\sigma}\) PKT \$7.00: 100 Seeds \$22.15: 250 Seeds \$37.90; 1,000 Seeds \$112.40; 5M @ \$98.92/M.

Fairy Tale (F1) 2260 65 days. Purple-and-white mini. Attractive 2–4" fruits are borne abundantly on compact, 18-24" plants. Wonderful flavor with no bitterness and very few seeds. Some fruits may be harvested in clusters. Green calyx. AAS winner. \(\forall^2\) PKT \$5.80; 100 Seeds \$15.75; 250 Seeds \$29.90; 1,000 Seeds \$88.40; 5M @ \$77.83/M.

to boost performance and control insects. Remove when plants reach the covers or when blossoms first appear. Space transplants 18" apart in rows 30–36" apart, or 2 rows on poly mulch, 18–24" between plants. Be mindful of over-fertility; too much nitrogen can result in large, bushy plants that produce only one small fruit set. STAKING: Eggplants may be pruned and staked like tomatoes to keep the fruits straight. **DISEASE:** Practice lengthy crop rotation to avoid *Verticillium* wilt. A 4–5 year rotation for all Solanaceae crops is recommended. INSECT PESTS: Use fabric row covers (see Index) to control flea beetles and Colorado potato beetles (CPB) on newly set transplants. Once covers are removed, regularly check undersides of leaves and crush any orange egg masses of the CPB. HARVEST: Clip fruit stem with shears. Pick fruits of desired size regularly to encourage further production. DAYS TO MATURITY: From transplants. TRANSPLANTS: Avg. 800 plants/1000 seeds. SEED SPECS: SEEDS/OZ.: 6,500-8,400 (avg. 7,300). PACKET: 25 seeds.







GARLIC

Hardneck/Stiffneck

The most cold-hardy garlic type with large, easy to peel cloves. Develops scapes, or hard flower stalks, which can be removed to maximize production (see growing information).

German Extra Hardy

Approx. 290 days from fall planting.

The most reliable garlic to grow. This exceptionally cold-hardy, porcelain type produces large heads with 5–8 large cloves each. White outer skin conceals the skin of the cloves, which has a hint of purple. Classic garlic flavor works well in a wide range of recipes and cuisines. Cures well for long storage. *

3535G Organic CG

Lb. \$29.95; 3 Lbs. \$79.25; 5 Lbs. @ \$25.00/Lb.; 25 Lbs. @ \$23.00/Lb. 3535 Certified Naturally Grown Lb. \$29.95; 3 Lbs. \$79.25;

5 Lbs. @ \$25.00/Lb.; 25 Lbs. @ \$23.00/Lb.

Chesnok Red 3536

Approx. 290 days from fall planting.

Great for roasting. Chesnok Red is a cold-hardy, purple-striped variety known for its fine flavor and smooth texture when roasted. Produces large bulbs with 8-12 medium-size cloves per head. Stores 6 months when cured. (NG **

Lb. \$29.95; 3 Lbs. \$79.25;

5 Lbs. @ \$25.00/Lb.; 25 Lbs. @ \$23.00/Lb.

Music

Approx. 290 days from fall planting.

Selected for larger cloves. A very popular selection derived from German Extra Hardy prized for its jumbo cloves, long storage potential, and strong field performance in cold climates. Skins are very thick and tightly wrapped, with creamy white color. Avg. yield: 4-5 cloves per head. 촿

3498G Organic CG

Lb. \$29.95; 3 Lbs. \$79.25;

5 Lbs. @ \$25.00/Lb.; 25 Lbs. @ \$23.00/Lb. 3498 Certified Naturally Grown CNG

Lb. \$29.95; 3 Lbs. \$79.25; 5 Lbs. @ \$25.00/Lb.; 25 Lbs. @ \$23.00/Lb.

German Red 3537

Approx. 290 days from fall planting.

Bold garlic flavor. For true garlic lovers, this light purple-skinned rocambole type is known for its robust, spicy flavor. German Red is well adapted to northern climates, and stores well. Mediumsize cloves, 8-9 per head. 攀

Lb. \$29.95; 3 Lbs. \$79.25;

5 Lbs. @ \$25.00/Lb.; 25 Lbs. @ \$23.00/Lb.



GARLIC SHIPPING INFORMATION

Garlic bulbs ship in late September to mid October. We are unable to ship garlic to Idaho, Hawaii, outside of the U.S., or to U.S. territories. Orders may ship either FedEx or USPS. Please provide a physical address for delivery.



Growing Garlic — Allium sativum

CULTURE: Grow in fertile, well-drained soil and full sun. Plant from the first fall frost date until November. Space individual cloves 6" apart in rows 24" apart or 3-4 rows per bed with 6" spacing in and between rows. Push cloves, root end (rounded end) down, 2-3" into the soil, or place cloves in a furrow and cover with 2-3" of soil. Cover with 3-4" of mulch. Stiffneck garlic requires exposure to cold temperatures. Southern growers who do not experience winter temperatures consistently below 40–50°F (4–10°C) may need to apply a cold treatment: place garlic in a paper bag and refrigerate for 10–12 weeks prior to planting. DISEASE AND PESTS: Plant only seed-stock quality garlic, practice a 3–5 year crop rotation out of *Alliums*, ensure good drainage, and scout for disease regularly. **TOPPING STIFFNECK GARLIC:** Stiffneck garlic will form edible flower stalks (called scapes) 1–2 months after the first leaves. "Top" the plants by cutting the scape from the plant when the scape reaches 1/2 to full curl. Scapes have a delicious, mild garlic flavor and can be used in recipes in place of garlic. HARVEST: Harvest in summer, when the bottom 3-4 lower leaves turn brown. Dig garlic with a spading fork or undercutter, being careful not to bruise the bulbs. Brush off the soil from the bulb before curing. **CURING & STORAGE**: Cure in a warm, shady place with good air circulation. Avoid high heat and direct sun. Hang in bundles or spread as a single layer on screens or drying racks for approximately 2-3 weeks. Store in a cool, dry, well-ventilated place at 45-55°F (7-13°C) and 50-60% relative humidity. SEED SPECS: Stiffneck varieties average 5-8 cloves per head and 40 cloves per pound. Softneck varieties average 7 large cloves per head and 45 cloves per pound. (Please note that these numbers are averages and the actual number of cloves per pound can vary each year depending upon weather and growing conditions during seed production.)



Black Magic





FENNEL

Dragon (F1) 60 days baby; 90 days full size. Later maturing, uniform, organic fennel. Yields heavy, fat, juicy bulbs with attractive, upright fronds. Small-cored with sweet, aromatic flavor. Matures later than our other varieties, allowing for a long harvest window.

4613G Organic CG

PKT \$7.65; 1,000 Seeds \$31.10; 5M @ \$26.54/M; 25M @ \$22.87/M.

NEW 4613 Conventional

PKT \$5.80; 1,000 Seeds \$19.30; 5M @ \$16.70/M; 25M @ \$14.44/M.

Fino 3384G 80 days full size.

OP fennel with nice bulbs. Reliable and high-yielding. Crisp, with a strong licorice flavor. Best suited for summer planting for fall harvest. Heavier bulb than the old classic Zefa Fino, but with the same bolt tolerance. CG PKT \$5.90; 1,000 Seeds \$11.15; 5M @ \$8.93/M; 25M @ \$6.25/M.

Preludio (F1) 3272G

50 days baby; 80 days full size.

Big, rounded bulbs from organic seeds. Uniform, high-yielding bulbs offer the traditional anise flavor. Suitable for late summer and early fall harvest in most areas, and for early spring harvest in areas with mild winters. PKT \$7.65; 1,000 Seeds \$27.05; 5M @ \$23.08/M; 25M @ \$19.89/M.

Pelleted Fennel Seed

Organic Seed/NOP-Compliant Pellet

Dragon 4613GP 06

PKT \$7.65; 1,000 Seeds \$31.10; 5M @ \$26.54/M; : 25M @ \$22.87/M.

Preludio 3272GP 0

PKT \$8.50; 1,000 Seeds \$32.30; 5M @ \$27.59/M; 25M @ \$23.77/M; 100M @ \$18.29/M.

Conventional Seed/NOP-Compliant Pellet

NEW Dragon 4613JP

PKT \$6.60; 1,000 Seeds \$26.35; 5M @ \$22.57/M; 25M @ \$19.46/M; 100M @ \$16.33/M.

Find key growing information for fennel at Johnnyseeds.com/fennel-kgi

KALE

Lacinato

Black Magic 65 days.

Highly uniform for full-size production.

A well-maintained selection of Toscano kale with long, narrow leaves for attractive, tall, straight bunches. Dark blue-green leaves with beautiful savoy.

NEW 3531G Organic OG

PKT \$5.85; 1,000 Seeds \$10.40; 5M @ \$7.38/M; 25M @ \$6.26/M. 3531 Conventional 1,000 Seeds \$5.20; 5M @ \$2.98/M; 25M @ \$2.05/M.

Mamba (F1) 4159 65 days.

Vigorous, hybrid Lacinato type. Mamba is a robust variety with high yields of upright, exceptionally uniform plants. The attractive, dark green leaves are deeply savoyed and have good flavor. Strong seedling emergence for vigorous, productive plants.

PKT \$5.80; 1,000 Seeds \$14.40; 5M @ \$12.89/M; 25M @ \$9.00/M: 100M @ \$7.87/M.

Siberian

Red Russian

29 days baby; 50 days full size. B. napus

Smooth, green, purple-veined leaves for baby leaf and bunching. Stems are purple and leaves are flat and toothed with purple veins. Mature plants are medium-tall and leaves are tender compared to other kales. For salads and light cooking. 攀�

363G Organic CG

PKT \$6.15; Oz. \$8.50; 1/4 Lb. \$15.50; Lb. \$46.00; 5 Lbs. @ \$42.54/Lb.; 25 Lbs. @ \$39.45/Lb. 363 Conventional PKT \$5.75; Oz. \$7.35; 1/4 Lb. \$9.60; Lb. \$26.35; 5 Lbs. @ \$21.40/Lb.;

Transplant kale with maximum efficiency using Johnny's new Hand Transplanter. See page 190.

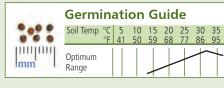
25 Lbs. @ \$18.50/Lb.

Growing Kale — *Brassica oleracea* (unless otherwise indicated)

CULTURE: Kale prefers a fertile, well-drained soil high in organic matter with a pH range of 6.0-7.5. Consistent moisture will produce the best quality leaves. Plant from early spring to approximately 3 months before expected fall frost. For bunching, sow 3–4 seeds every 12–18", 1/2" deep, in rows 18–36" apart. Thin to 1 plant/group. For baby-leaf production, sow 60 seeds/ft. in a 2–4" wide band 1/4–1/2" deep. You can also grow kale from transplants, like cabbage. PESTS AND DISEASE: Apply row covers (see index) at the time of planting to exclude pests from the crop. Control cabbage worms and loopers with Bacillus thuringiensis (Bt). DAYS TO MATURITY: From direct seeding; subtract about 14 days for days to maturity from transplant. **HARVEST:** Beginning about 2 months after planting, harvest by clipping individual leaves. Kale is very hardy, and the eating quality will improve into the late fall and will be

harvestable through the winter in most areas. Protecting with row covers can extend the harvest period. AVG. DIRECT SEEDING RATE: For bunching: 1,000 seeds/220',

1 oz./1,110', 1 lb./24,000'. For baby leaf: 1,000 seeds/16', 1 oz./115', 1 lb./1,840'. TRANSPLANTS: Avg. 1 oz./6,100 plants. SIZED SEEDS: "Sized" seeds have been sorted so they are roughly the same size. This consistency allows for more accurate spacing with mechanical seeders and more even germination. Kale seeds are sized, except when noted in the product description. SEED SPECS: SEEDS/LB.: Avg. 124,000. PACKET: 100 seeds, sows 22'.



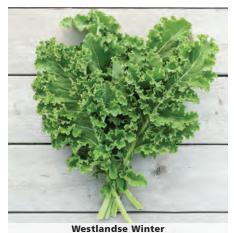
Kale Resistance Codes

HR = High Resistance IR = Intermediate Resistance

FY	Fusarium Yellows	
BR	Black Rot	



Redbor





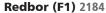




NEW Frisé Rouge 4909G

Curly red OP in organic seed. Dark, somewhat glossy leaves with dark purple stems and veins. 2–3' tall plants are more uniform than Scarlet, which it replaces. Relatively large leaf size and long petioles make for handsome bunches. QG

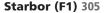
PKT \$2.95; 1,000 Seeds \$5.30; 5M @ \$3.03/M; 25M @ \$2.08/M.



55 days.

Frilly, deep purple-red leaves. Extremely uniform plants. Similar to Winterbor in everything but color. For garnishing and eating. Flavor, color, and curling are enhanced by cold weather. *

PKT \$7.25; 250 Seeds \$15.85; 1,000 Seeds \$39.10; 5M @ \$33.66/M; 25M @ \$29.03/M.



For one-cut harvest. The finely curled, dark blue-green leaves can be harvested with one cut. The compact plants produce leaves that are very uniform, resist yellowing, and have good flavor. Perfect for harvesting the whole plant at 12-18". 攀

PKT \$5.80; 250 Seeds \$7.45; 1,000 Seeds \$18.65; 5M @ \$16.76/M; 25M @ \$12.22/M.



60 days. HR: FY. IR: BR.

Strong disease resistance. Standard green curly kale with attractive, tight leaf curl and resistance to Fusarium yellows and black rot. Beautiful medium-green color, but not as dark as Winterbor. Uniform plant growth in our

PKT \$5.80; 1,000 Seeds \$18.65; 5M @ \$16.76/M; 25M @ \$12.22/M. Westlandse Winter 3566G

60 days.

Organic green curly OP. A vigorous producer with attractive blue-green leaves. In our trials, the tall plants have large frames and good bulk. **OG**攀

PKT \$6.15; 1,000 Seeds \$15.95; 5M @ \$13.73/M; 25M @ \$9.53/M.

Winterbor (F1) 365

60 days.

Standard green curly kale. Plants are tall, with excellent yield and good cold hardiness. The ruffled, blue-green leaves have an attractive curl. Vigorous, productive plants. 貅 PKT \$5.80; 250 Seeds \$7.45; 1,000 Seeds \$18.65; 5M @ \$16.76/M; 25M @ \$12.22/M.

Darkibor (F1) 3658G

Organic green curly kale. Similar to Winterbor, but somewhat later to mature and slightly less curled. The color is a darker green versus the blue-green colors of Winterbor and Starbor. A sturdy kale, with tight curl and close internodes. **G**攀

PKT \$7.65; 250 Seeds \$13.60; 1,000 Seeds \$33.55; 5M @ \$27.37/M; 25M @ \$25.14/M.







KOHLRABI

Fresh Market

Quickstar (F1) 3048

37 days.

Extra early. Green kohlrabi with very uniform maturity, exceptional earliness, and good flavor. Excellent yields.

PKT \$5.80; 250 Seeds \$8.75; 1,000 Seeds \$10.35; 5M @ \$9.32/M; 25M @ \$8.60/M.

Terek (F1) 3302

40 days.

Early, uniform, and great tasting. Maintains quality in the field for a long harvest window. Compact plant allows higher-density plantings. Very small leaf attachment for easy stripping and peeling. Superior flavor and texture. High quality up to 6" in diameter.

PKT \$5.80; 250 Seeds \$8.95; 1,000 Seeds \$23.85; 5M @ \$19.89/M; 25M @ \$18.43/M.

Beas (F1) 3527

100M @ \$14.28/M.

42 days.

Pure white. The first white kohlrabi. Early and incredibly uniform. A real beauty with sweet, mild flavor and creamy internal color. Named for the Beas River in Northern India, where it was bred. PKT \$5.80; 250 Seeds \$10.70; 1,000 Seeds \$25.90; 5M @ \$21.80/M; 25M @ \$18.96/M; 50M @ \$15.73/M;

Konan (F1) 4431G

43 days.

Premium organic kohlrabi. A uniform and attractive variety. Excellent flavor, with a nice, crisp texture. Harvest when 2–3" in diameter. AAS winner.

PKT \$8.45; 250 Seeds \$15.40; 1,000 Seeds \$44.35; 5M @ \$41.90/M; 25M @ \$38.21/M.

Kolibri (F1)

45 days.

Prettiest, most uniform purple variety.

3" bulbs with uniform, deep purple skin and nearly fiberless, crisp, white flesh.

320G Organic CG

PKT \$7.65; 250 Seeds \$15.30; 1,000 Seeds \$48.85; 5M @ \$47.42/M; 25M @ \$42.24/M. **320 Conventional** PKT \$5.80; 250 Seeds \$8.85; 1,000 Seeds \$21.55; 5M @ \$18.17/M; 25M @ \$15.82/M.

Azur Star 3642G

48 days.

Our best purple OP. Attractive, flat-round bulbs with purple skin and crisp, white flesh. Slow bolting. Similar in flavor and quality to Kolibri, but 3–5 days later and slightly less uniform. **CG**

PKT \$7.40; 250 Seeds \$10.05; 1,000 Seeds \$27.40; 5M @ \$26.21/M; 25M @ \$23.20/M.

Storage

Kossak (F1)

80 days.

Giant kohlrabi for storage. Harvest when round and about 8" diameter, before it begins to elongate. At this size, the roots will store well and the flesh will be sweet, tender, and delicious. Kossak will keep in cold storage for up to 4 months.

237G Organic CG

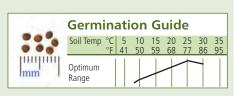
PKT \$9.85; 250 Seeds \$19.55; 1,000 Seeds \$63.35; 5M @ \$55.42/M; 25M @ \$48.64/M. **237 Conventional** PKT \$5.80; 250 Seeds \$12.60; 1,000 Seeds \$39.80; 5M @ \$34.12/M; 25M @ \$29.53/M.



Growing Kohlrabi — Brassica oleracea var. gongylodes

CULTURE: Kohlrabi prefers mild or cool weather. It is grown throughout the season in the North, and during fall and winter in the South. Sow 15 seeds/ft., \(^1/4-^1/2''\) deep, in rows 12–18" apart. Thin fresh-market varieties to 4" between plants. Thin storage varieties to 10" between plants. For earliest crops, start in flats or plug trays and transplant. Fertile, well-irrigated soil promotes rapid growth, which makes for a sweeter flavored crop. Harvest when roots are about 2–3" diameter; 8" diameter for storage varieties. **DAYS TO MATURITY:** From direct seeding; for days to maturity from transplanting, subtract about 14 days. **AVG. DIRECT SEEDING RATE:** 250 seeds/16', 1,000 seeds/66', 436M/acre at 15 seeds/ft with rows 18" apart. **TRANSPLANTS:** Avg. 4,500 plants/oz., 800 plants/1,000 seeds.

SIZED SEEDS: Standard except where noted. SEED SPECS: SEEDS/OZ.: Avg. 6,200. PACKET: 100 seeds, sows 8'.













GREENS MIXES

Cheap Frills Mix 4087 21 days.

EXCLUSIVE! Our frilliest greens mix. A colorful kaleidoscope of highly textured leaves that provides visual interest and excellent loft. An exceptional combination of textures, flavors, and colors. Includes red and green mustard, mizuna, and tatsoi. Varieties are subject to change depending upon availability.

Elegance Greens Mix 653 21 days.

EXCLUSIVE! Stunning colors. Colors range from dark- and bronze-red to shades of green. The combination of flavors and textures makes this a beautiful salad. Includes pac choi, red mustard, and mizuna. Varieties are subject to change depending upon availability.

Ovation Greens Mix 2697G 21 days.

EXCLUSIVE! Organic greens mix. A great combination of both mild and spicy ingredients. Includes red mustard, mizuna, tatsoi, kale, and arugula. NOTE: To increase the expression of red coloration, sow seed more sparsely. Varieties are subject to change depending upon availability. GG

Premium Greens Mix 650 21 days.

EXCLUSIVE! Dynamic range of leaf shapes and colors. An amazing palette of greens and reds in an array of leaf shapes and textures. The flavors are equally diverse—spicy to mild to slightly sweet. Includes red mustard, red mizuna, green mustard, Chinese cabbage, and tatsoi. Varieties are subject to change depending upon availability.

Kalebration Kale Mix 29 days.

EXCLUSIVE! Gorgeous baby kale mix. A brilliant blend of rich greens and reds that shows deep color contrast in all growing slots. Striking the right balance of colors and textures, this mix can be marketed on its own or added to baby leaf lettuce. Strong regrowth allows for cut-and-comeagain harvesting. Selected for baby-leaf production. Varieties are subject to change depending upon availability.

NEW 4091G Organic OG 4091 Conventional

Variety	Part #	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.
Cheap Frills Mix	4087	\$5.75	\$12.55	\$31.85	\$102.70	\$92.71
Elegance Greens Mix	653	\$5.75	\$12.55	\$31.85	\$102.70	\$92.71
Ovation Greens Mix	2697G CG	\$6.15	\$12.85	\$32.60	\$105.15	\$94.93
Premium Greens Mix	650	\$5.75	\$14.60	\$36.15	\$122.00	\$110.17
Kalebration Kale Mix	NEW 4091G CG	\$6.15	\$14.20	\$36.00	\$122.00	\$116.00
Kalebiation Kale IVIIX	4091	\$5.75	\$12.55	\$31.85	\$102.70	\$92.71

Growing Greens Mixes

CULTURE: For cultural information, see the Brassicas culture in the Baby Leaf Greens section. **DIRECT SEEDING:** Sow ¹/4" deep at 3–5 seeds/inch, in rows at least 2" apart from early spring to midsummer. For a continuous supply, sow about every 2 weeks. AVG. DIRECT SEEDING RATE: 1000 seeds/16', 1 oz./200', 1 lb./3,200' at 60 seeds per foot. SEED SPECS: SEEDS/OZ.: Avg. 13,750 PACKET: 1,000 seeds, sows 16'.

JANG SEEDER ROLLERS

We recommend the following rollers by baby-leaf crop:

Arugula (Salad Type): Y-24 Arugula (Wild Type): YYX-12 Beets: LJ-24 or LV-24 or R-24 Chard: LJ-24 or LV-24 or R-24 Chicory: XY-24 or XY-36 Chinese Cabbage: X-24 or F-24 Greens Mixes: X-24 or F-24

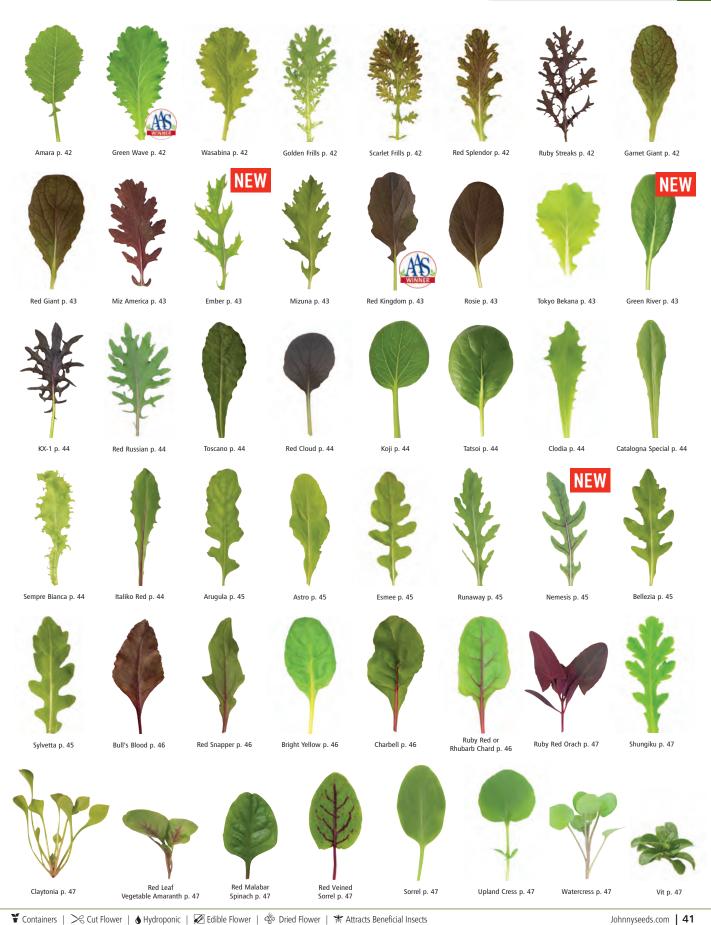
Kale: X-24 or F-24 Komatsuna: Y-24 or X-24 **Mizuna:** Y-24 or X-24 Mustard: Y-24 or X-24 Pac Choi/Bok Choy: Y-24 or X-24 Spinach: L-24 or LJ-24[†] Tatsoi: Y-24 or X-24

[†] Specific to our listed baby-leaf variety. For other spinach varieties, MJ-24 is

also suitable.



Find all of our Jang Seeder rollers at Johnnyseeds.com





BRASSICAS

Mustard

Green

Amara 3147 21 days. B. carinata

Flavorful dark green mustard. The attractive, dark green leaves are gently savoyed with a scalloped margin; tender and succulent; and have a rich, savory flavor. Good in salads or as a cooked green. While technically a mustard, Amara is known as Ethiopian kale, Highland kale, Abyssinian mustard, and Texsel greens. Plant Variety Protected.

Green Wave 377G 21 days. B. juncea

Our spiciest green mustard. Bright green, broad leaves with a tightly scalloped margin, and hot, mustardy flavor. Plant densely so leaves remain a proper size for baby leaf and petioles elongate for easy harvest.

Wasabina 4396 21 days. B. juncea

Tender and lofty with mild flavor. Broad, bright green leaves with deeply scalloped margins are soft and tender with great loft. Slowbolting. Sweet and mildly spicy flavor. Plant densely so leaves remain a proper size for baby leaf and petioles elongate for easy harvest.

Golden Frills 21 days. B. juncea

Spicy, bright green, intricately lobed leaves. The finely lobed, ruffled leaves offer a unique look for adding loft and flavor to salads. Delicious, pungently sweet and spicy flavor.

2738G Organic CG 2738 Conventional

Red

Scarlet Frills 2530 21 days. B. juncea

Red, ruffled leaves for beautiful color and texture. Spicy green and red, intricately lobed and ruffled leaves add flavor and loft to your salad mix. Slow-bolting. Darker red in cooler weather.

Red Splendor 3051 21 days. B. juncea

EXCLUSIVE! Dark red and green, deeply lobed leaves. Very slowbolting plants hold their color in hot weather, making this variety a good choice for summer production. Hot, mustardy flavor. Plant at high density to keep from becoming oversized.

Ruby Streaks 21 days. B. juncea

Dark, intricately lobed leaves. Fine, deeply incised leaves range from dark green with red veins to dark maroon. Darker red when grown without row cover and in cooler weather. Mild, slightly pungent flavor. 2740G Organic CG

2740 Conventional

Garnet Giant 21 days. B. juncea

Darkest broadleaf mustard. Broad, purple leaves with gently scalloped margins. Color appears early on young leaves, especially in spring and fall. Mild flavor. Somewhat quick to bolt. Plant densely so leaves remain a proper size for baby leaf and petioles elongate for easy harvest.

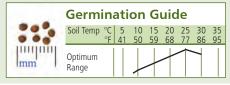
2797G Organic CG

2797 Conventional

Growing Brassicas — Chinese Cabbage, Kale, Komatsuna, Mizuna, Mustard, Pac Choi/Bok Choy, Tatsoi

CULTURE: Brassicas prefer soil with a pH of 6–7.5 and can be grown all season in the field. Most varieties are hardy enough to grow in cool greenhouses and high tunnels during winter from late summer and early fall sowings. DAYS TO MATURITY: From emergence after direct seeding. DIRECT SEEDING: Sow 1/4" deep at 3–5 seeds/inch, in rows at least 2" apart from early spring into midsummer. Can be sown into late fall if overwintering in a high tunnel or other protected structure. SUCCESSION PLANTING: For a continuous supply, sow about every 2 weeks until 2-3 weeks before the first frost. DISEASES & PESTS: Control flea beetles by applying fabric row cover at time of sowing and/or applying insecticides such as azadirachtin or pyrethrin. Cabbage worms and loopers can be controlled with Bacillus thuringiensis (Bt). Prevent disease with crop rotation

and sanitation. **HARVEST:** Harvest with a knife when leaves reach desired size, about 3–6". Make sure to cut above the basal plate for cut-and-come-again harvests. Cut again when plants are at desired size, 5-14 days depending on variety and season. AVG. SEEDING RATE: For Mizuna, Tatsoi, Komatsuna, and Pac Choi: 1 oz./210', 1 lb./3.300'. For Kale: 1,000 seeds/16', 1 oz/115', 1 lb./1,840'. For Mustard: 1 oz./260', 1 lb./4,160'. SEED SPECS: Mustard: Avg. 16,200/oz.; Mizuna, Tatsoi, Komatsuna: Avg. 12,650/oz.; Pac Choi: Avg. 10,300/oz.; Kale: Avg. 7,750/oz. SIZED SEEDS: Kale seeds are sized except where noted. PACKET: 250 seeds, sows 4'. For Kale: 100 seeds, sows 1¹/₂'.





Red Giant 21 days. B. juncea

Very slow-bolting, broadleaf mustard. Purple-tinted leaves with gently scalloped margins. Plant densely so leaves remain a proper size for baby leaf and petioles elongate for easy harvest. Somewhat spicy mustard flavor. .

2884 Organic CG 378 Conventional

Miz America (F1) 3749 28 days. B. juncea

Exceptionally dark red, deeply lobed leaves. Delicate, toothed leaves are dark red on both sides for a striking addition to salad mixes. Uniform leaf size and shape, with a mild flavor.

Mizuna

NEW Ember 5514 21 days. B. rapa

Bright green leaves with purple rib and stem. More refined, but otherwise very similar to Central Red, which it replaces. When grown under row cover or in protected culture, the colors are more muted.

Mizuna 2883 18 days. B. rapa var. japonica

Fast-growing classic mizuna with mild flavor. Traditional brassica green of Japanese origin prized for its quick growth, productivity, mild flavor, and recognizable, serrated leaf shape. 🈘

Red Kingdom (F1) 3748 21 days. B. rapa

Dark purple leaf with bright green stem. Gently scalloped margin on a broad, deeply colored leaf. Mild flavor. Underside of leaf is light green with striking, dark purple veining. AAS winner.

Pac Choi/Bok Choy

Rosie (F1) 3159 21 days. B. rapa var. chinensis

EXCLUSIVE! Bright strawberry-red pac choi. Oval-shaped, cupped leaf with contrasting green petiole and green back. Also excellent at fullsize for bunching. Mild brassica flavor.

GROWING TIP

We recommend planting a variety of colors, textures, and flavors every 10-14 days for a continuous supply; coordinating your planting times to allow for different growth rates; and choosing your greens based on color, texture, taste, and weight.

Chinese Cabbage

Tokyo Bekana (F1) 18 days. B. rapa var. chinensis

Fast-growing with great color contrast for mixes. This one-of-akind blonde leaf with ruffled texture adds loft and a pop of color to salad mixes. A non-heading Chinese cabbage that has buttery leaves with a crunchy rib and mild flavor. At full size, softly curled leaves on narrow, white petioles can be sold as bunched greens. Thin to 4–8" for full-size heads for bunching.

2251G Organic CG 2251 Conventional

Komatsuna

NEW Green River (F1) 5542 21 days. B. rapa var. perviridis Refined dark green leaves. Upright, long, narrow petioles with leaves that hold at baby-leaf stage for a long harvest window. Very similar to Carlton, which it replaces. Komatsuna is similar to tatsoi, but has a denser, less juicy texture.

Variety	Part #	PKT	1 Oz.	1/4 Lb.	1 lh	5 Lbs. @/Lb.	25 Lbs. @/Lb.
-			1 02.	1/7 ED.	I LIV.	ω/LD.	€/LD.
Very Fast Grow	ing (18–28	days)					
Amara	3147	\$4.85	\$8.85	\$16.15	\$44.80	\$40.66	\$36.45
NEW Ember	5514	\$5.75	\$8.15	\$13.20	\$38.75	\$36.50	\$33.80
Garnet Giant	2797G 😘	\$6.15	\$11.15	\$25.60	\$79.70	\$72.06	\$66.78
Gamet Glant	2797	\$5.75	\$9.35	\$21.15	\$67.40	\$61.15	\$57.30
Golden Frills	2738G 😘	\$6.15	\$12.30	\$32.00	\$101.00	\$97.06	\$89.41
Golden Fills	2738	\$5.75	\$11.35	\$28.70	\$94.95	\$85.96	\$79.25
NEW Green River	5542	\$5.80	\$15.10	\$35.00	\$118.65	\$109.18	\$101.32
Green Wave	377G CG	\$6.15	\$9.25	\$19.75	\$55.00	\$50.01	\$43.89
Miz America	3749	\$5.80	\$15.05	\$34.90	\$118.65	\$109.98	\$102.09
Mizuna	2883 CG	\$6.15	\$8.95	\$16.35	\$48.65	\$45.36	\$41.62
Red Giant	2884 CG	\$6.15	\$9.60	\$19.75	\$58.25	\$54.97	\$51.06
Neu Giarri	378	\$5.75	\$7.65	\$10.85	\$28.85	\$24.96	\$24.08
Red Kingdom	3748	\$5.80	\$15.05	\$34.90	\$118.65	\$109.20	\$101.09
Red Splendor	3051	\$5.75	\$12.40	\$30.25	\$96.90	\$87.65	\$81.15
Rosie	3159	\$5.80	\$12.00	\$30.65	\$97.40	\$93.86	\$86.53
Ruby Streaks	2740G CG	\$6.15	\$11.15	\$28.40	\$82.55	\$75.96	\$70.26
Ruby Streaks	2740	\$5.75	\$9.35	\$22.90	\$69.85	\$63.70	\$58.45
Scarlet Frills	2530	\$5.75	\$12.00	\$30.65	\$97.40	\$89.08	\$82.68
Tokyo Bekana	2251G CG	\$5.90	\$11.60	\$29.50	\$97.25	\$88.09	\$81.13
IONYO DEKATIA	2251	\$5.75	\$8.15	\$13.20	\$38.75	\$36.50	\$33.80
Wasabina	4396	\$5.75	\$8.80	\$16.60	\$49.55	\$45.34	\$42.02



Kale

KX-1 29 days. *B. napus*

Striking, uniform red kale for baby leaf. The attractive, deeply toothed leaves are a glossy, dark red with a red blush on the back and bright green petioles for contrast. A vigorous and fast-growing selection, KX-1 matures at a rate similar to Red Russian.

4009G Organic CG 4009 Conventional

Red Russian 29 days. B. napus

Smooth, green, purple-veined leaves for baby leaf and bunching. Stems are purple and leaves are flat and toothed with purple veins. Mature plants are medium-tall and leaves are tender compared to other kales. For salads and light cooking. **¾**♦

363G Organic CG 363 Conventional

Toscano 32 days. B. oleracea

Economical strain for baby leaf. An Italian heirloom. Dark blue-green strap leaves with a gently scalloped margin. Rich and tender with a mild kale flavor. Tolerant of hot and cold weather. Recommended for baby leaf only. Unsized seed. 416

2123G Organic CG 2123 Conventional

Tatsoi

Red Cloud (F1) 3341 25 days. B. rapa EXCLUSIVE! Rich burgundy, hybrid tatsoi for bunching or baby leaf. Very uniform and upright with beautifully cupped and rounded leaves. Mild flavor, deep color, and a juicy, crunchy texture. Maintains baby-leaf size for extended harvest window. Can also be grown to full size where it pairs with Koji for striking bunches. Thin to 8-12" apart for full-size heads.

Koji (F1) 3191 25 days. B. rapa Dark green, hybrid tatsoi for bunching or baby leaf. Cupped, heavy leaves are beautifully savoyed and borne on long, elegant stems. Heat and cold tolerant for allseason production. Mild flavor and crunchy texture. Striking paired with Red Cloud at full size.

Tatsoi 2897 25 days. B. rapa var. narinosa Economical, organic OP tatsoi. Round, gently cupped green leaves with bright white, crunchy, juicy stems. Mild flavor. Fastest tatsoi to bolt. 0G6

CHICORY

Clodia 111 29 days. Cichorium endivia Fast-growing with great loft. Plants are upright and leaves stay narrow for a long harvest window. Strap leaves with ruffled margins add loft and mildly bitter flavor to salad mixes. For baby leaf only.

Catalogna Special 375 35 days.

Cichorium intybus

For salad mix or bunching. Uniform strain. At baby-leaf stage, leaves are narrow with subtle spikes along the margins and a thin petiole. At full size, leaves are long, deep green, slender, and deeply cut with white midribs. 攀

Sempre Bianca 4265 35 days.

Cichorium endivia

Blonde frisée for baby leaf. Soft, mildly flavored leaves provide excellent loft and color contrast to mixes. Narrow petioles for a long harvest window. Faster growing and more upright than Bianca Riccia, which it replaced.

Italiko Red 3358 40 days. Cichorium intybus Adds beautiful red color to salad mix. Bold red stems and midribs for vibrant contrast. Deeply lobed leaves with classic bitter flavor. Good cold tolerance. Shows some variation in plant habit, leaf shape, and color. 攀

Find key growing information for baby-leaf chicory at

Johnnyseeds.com/baby-leaf-chicory-kgi



Variety	Part #	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
Very Fast Growin	ıg (18–28 days)					
Koji	3191	\$5.80	\$16.20	\$38.30	\$128.95	\$118.90	\$110.34
Red Cloud	3341	\$5.80	\$16.20	\$38.30	\$128.95	\$118.90	\$110.34
Tatsoi	2897 CG	\$6.15	\$8.95	\$17.00	\$50.75	\$46.53	\$43.04
Fast Growing (29	–35 days)						
Catalogna Special	375	\$5.75	\$11.25	\$24.80	\$76.20	\$66.87	\$60.23
Clodia	111	\$5.75	\$6.80	\$14.90	\$45.75	\$39.99	\$36.13
I/V 1	4009G CG	\$6.15	\$18.50	\$41.90	\$136.85	\$127.97	\$120.48
KX-1	4009	\$5.80	\$9.35	\$21.15	\$67.40	\$61.36	\$57.20
Red Russian	363G CG	\$6.15	\$8.51	\$15.52	\$46.12	\$42.54	\$39.45
Red Russian	363	\$5.75	\$7.35	\$9.60	\$26.35	\$21.40	\$18.50
Sempre Bianca	4265	\$5.75	\$6.80	\$14.90	\$45.75	\$39.99	\$36.13
Toscano	2123G CG	\$6.15	\$10.80	\$25.60	\$76.75	\$68.84	\$61.19
IOSCATIO	2123	\$5.75	\$8.35	\$13.75	\$42.45	\$38.58	\$34.94
Slow Growing (3	6-85 days)	•					
Italiko Red	3358	\$5.75	\$10.85	\$24.95	\$75.00	\$67.24	\$60.22

ARUGULA

Salad

Arugula 21 days.

The standard salad arugula. Slightly lobed leaves with a nutty and peppery flavor. White flowers with dark pink veins make attractive, spicy additions to salad mixes.

2891 Organic CG 385 Conventional

Astro 21 days.

Heat tolerant. A selection of standard arugula. Leaves are less deeply lobed and exhibit a more strap-leaf shape.

2015G Organic CG 2015 Conventional

Esmee 3746G 21 days.

Beautiful oak-type leaves. Deeply incised and ruffled oakleaf. Increases loft in the bag or on the plate. Excellent, mild flavor. CG6

Runaway 4786 21 days.

Deeply lobed. The quick growth of salad arugula with the lobed appearance of wild arugula. Mild nutty/peppery flavor.

Wild

NEW Nemesis (F1) 5543 35 days.

Striking red-veined arugula. Refined leaves have deep, uniform lobing and fine red veins. Impressive red color expression and retention one of the best we've seen in our trials. Sparse stands will promote better color development.

Bellezia 35 days. IR: DM.

Upright plant with dark green leaves.

Leaves of Bellezia are darker green and more deeply lobed than Sylvetta, with a similar pungent flavor. In addition, the plant is more upright, allowing for easier harvest.

3213G Organic CG 3213 Conventional

Sylvetta 398 35 days.

Classic wild arugula. More compact than Bellezia, with deeply lobed leaves and a pungent flavor. Popular with chefs.

Quickly harvest greens with our Baby Leaf Harvester. See page 196.













Bellezia

Sylvetta

Part #	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.	
wing (18–28 d	lays)						
2891 CG	\$6.15	\$8.35	\$11.50	\$34.55	\$30.70	\$28.27	
385	\$5.75	\$6.50	\$7.85	\$19.75	\$16.38	\$14.04	
2015G CG	\$6.15	\$11.75	\$21.55	\$78.90	\$75.00	\$71.00	
2015	\$5.55	\$8.40	\$13.50	\$38.70	\$34.83	\$32.13	
3746G CG	\$5.70	\$8.45	\$13.60	\$40.60	\$31.49	\$28.35	
4786	\$5.75	\$6.90	\$8.15	\$20.95	\$17.48	\$15.01	
(29-35 days)							
3213G CG	\$6.15	\$21.10	\$77.80	\$277.75	\$250.12	\$199.92	_
3213	\$5.75	\$19.30	\$71.65	\$258.15	\$232.32	\$185.78	
398	\$5.75	\$12.85	\$47.00	\$135.75	\$121.93	\$112.68	
	wing (18–28 c 2891 C 385 2015G CG 2015 3746G CG 4786 (29–35 days) 3213G CG 3213	wing (18–28 days) 2891					

Variety	Part #	PKT	10M @/M	50M @/M	100M @/M	500M @/M
Fast Growing (29-	-35 days)					
NEW Nemesis	5543	\$4.50	\$0.65	\$0.46	\$0.40	\$0.36

Growing Arugula — Salad: Eruca sativa Wild: Diplotaxis tenuifolia

CULTURE: Arugula prefers a fertile, well-drained soil, with a pH range of 6.0–6.8 in full sun to part shade. Can be grown all season in the field. Most varieties are hardy enough to grow in cool greenhouses and high tunnels during winter from late summer and early fall sowings. DAYS TO MATURITY: From emergence after direct seeding. Typically germinates within 5-7 days. DIRECT SEEDING: Sow 1/8" deep at 5 seeds/inch in rows at least 2" apart from early spring onward. SUCCESSION PLANTING: For a continual supply, sow about every 2 weeks until 2-3 weeks before the first frost. **DISEASES & PESTS:** Flea beetles can be controlled by covering the crop with floating row covers from the day of sowing. Prevent diseases with crop rotation and sanitation. HARVEST: Harvest with a knife when

leaves reach desired size, about 3-6". Cut about an inch above the soil to allow for clean regrowth, making sure to cut above the basal plate. Cut again when plants are at desired size, 5-14 days depending on variety. After plants flower, the leaves can still be used, but taste is sharper. Flowers are also edible. AVG. SEEDING RATE: Salad types: 500'/oz., 8,000'/lb. Wild types: 2,100'/oz., 34,240'/lb. **SEED SPECS:** Salad types: Avg. 15,400 seeds/oz., sows avg. 500'. Wild types: Avg. 100,700 seeds/oz, sows avg. 2,100'. PACKET: 500 seeds. Wild type sows 10'. Salad type sows 16'.



Arugula Resistance Codes

HR = High Resistance IR = Intermediate Resistance

(DM) Downy Mildew



Bull's Blood



Red Snapper



Bright Yellow





Ruby Red or Rhubarb Chard

BEETS

Bull's Blood 2912

35 davs.

Deep burgundy leaves for salad greens. Heirloom variety produces beautiful, dark red leaves even under low-light conditions. The foliage color intensifies as the plant matures. Provides color and interest to salad mixes. Roots show attractive candy-striped zoning when sliced. The

SPINACH

Red Snapper (F1) 4569

28 days. HR: DM (1-7, 9, 11-17). Spinacia oleracea Red-veined spinach with novel leaf shape. Baby leaf spinach with deeply lobed, dark green leaves and red petioles and veins. Resembles arugula or Italian dandelion. Sow densely for upright growth and ease of harvest. Cold tolerant for winter tunnel production, where it maintains baby size while putting on dense growth. Single harvest in spring and summer due to bolting pressure, and potential for cutand-come-again harvest in fall and winter.

CULTURE: See "Growing Spinach" on page 99.

Spinach Resistance Codes

HR = High Resistance IR = Intermediate Resistance

(DM) Downy Mildew

CHARD

Bright Yellow 2205D

28 days.

Yellow stems and veins for bunching or baby leaf. A diverse range of yellows contrast beautifully with the deep green, glossy leaves. Vigorous and fast growth make it an excellent selection for baby-leaf production. Long, thick stems for bunching. Plant Variety Protected. Decorticated (rubbed), sized seeds.

Charbell (F1) 4551

Vibrant color and clean, uniform leaves.

Fastest-growing and most uniform baby leaf chard, with strong Cercospora resistance. Dark green, glossy leaves on brilliant, deep magenta stems and veins. More savoyed than Fresh Pak, which it replaced, with more tender eating quality and sweeter flavor.

Ruby Red or Rhubarb Chard

32 days.

Standard red chard for bunching or baby leaf. Candy-apple red stems and bronze to dark green, red-veined leaves. Moderate bolt tolerance. NOTE: Young Ruby Red plants may go to seed if exposed to sustained night

temperatures in the low 50s; time sowings to avoid these conditions. Decorticated (rubbed), sized seeds.

702G Organic CG 702 Conventional

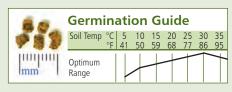
Variety	Part #	PKT	1,000 Seeds	5M @/M	10M @/M	25M @/M	50M @/M	100M @/M	500M @/M	1,000M @/M	
Very Fast Growing (18–29 days)											
Bright Yellow	2205D	\$5.75	\$7.15	\$3.27	_	\$2.74	_	\$2.00	_	_	
Charbell	4551	\$5.80	_	\$1.62	_	\$0.69	_	\$0.66	\$0.58	_	
Red Snapper	4569	\$5.80	_	\$2.12	\$1.75	\$1.35	\$1.35	\$1.18	\$1.09	\$1.03	

Variety	Part #	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
Fast Growing (29–35 days)							
Bull's Blood	2912	\$4.60	\$6.95	\$9.30	\$26.55	\$23.87	\$21.46
Dubu Dad as Dhubash Chard	702G CG	\$6.15	\$8.40	\$13.45	\$37.45	\$33.26	_
Ruby Red or Rhubarb Chard	702	\$3.75	\$6.00	\$8.00	\$15.30	\$13.75	_

Growing Beets & Chard — Beta vulgaris

CULTURE: Beets and chard prefer light or loamy soils with a pH over 6.0. Can be grown throughout the season, though cool and mild weather is preferred. DAYS TO MATURITY: From emergence after direct seeding. DIRECT SEEDING: Sow 1/4-1/2" deep at 2-4 seeds/inch in rows at least 2" apart from midspring into late summer (fall where winter is mild). SUCCESSION PLANTING: For a continuous supply, sow about every 2 weeks until 4 weeks before the first hard frost. DISEASES & PESTS: Rotate crops to prevent Cercospora leaf spot and other diseases/pests. HARVEST: Harvest with a knife when leaves reach desired size, about 3–6". Cut about an inch above the soil to allow for clean regrowth, making sure to cut above the basal plate. Cut again when plants are at desired size, 5-14 days depending on variety. AVG. SEEDING RATE: 4,000 seeds/100', 1 oz/45'.

SEED SPECS: SEEDS/LB. Varies, depending on seed size. SIZED SEEDS: Beet and chard seeds are sized, except where noted **DECORTICATED SEED**: Seed has been processed by rubbing to remove angular, corky edges that prevent seed from flowing evenly through mechanical seeders. PACKET: Beets: 350 seeds, sows 10'; Chard: 200 seeds, sows 5-6'.





SPECIALTY GREENS

Ruby Red Orach 3999G

28 days. Atriplex hortensis

Colorful, heat-tolerant spinach alternative.
Fast-growing plants with a similar flavor to spinach. Excellent heat tolerance. CG.

Shungiku 514

30 days. Glebionis coronaria

Aromatic, deeply lobed chrysanthemum greens. Cut greens when about 4–8" tall for a flavorful addition to salads, vegetables, pickles, and sushi. Edible, small, orange and yellow chrysanthemum flowers appear later on unharvested plants. This is the preferred "fine" or "small" leaf strain.

Claytonia 388

40 days. Claytonia perfoliata

Succulent, cold-hardy salad green.

Quantities of heart-shaped leaf pairs "wrap" around a white-flowered stem. Can tolerate moderate frost and can be grown all winter in mild regions or in cold greenhouses. The taste of the young leaves is wild and fresh. Suitable for multiple cuttings.

Red Leaf Vegetable Amaranth 516

50 days. Amaranthus tricolor

Known as "red callaloo" in the Caribbean. Round to heart-shaped leaves are mediumgreen overlaid with burgundy red. Striking color on the undersides of the leaves. Cutting the top of the plant yields beautiful, multicolored rosettes that can be added to mixes.

Comparable to spinach in flavor. Often used in soups.

Red Malabar Spinach 2437

50 days. Basella rubra

Heat-loving salad and stir-fry green.

Vigorous climbing vines grow through summer into fall. Glossy, thick, savoyed leaves resemble spinach. Mild Swiss chard taste. Use leaves and young stems sparingly in salads or stir-fries.

Red Veined Sorrel

50 days. Rumex sanguineus

Flashy sorrel for salads. Bright green leaves with contrasting, dark maroon stems and veins. Same sharp, tangy flavor as regular sorrel. Best when harvested young for salad mix as large leaves are tough.

2827G Organic CG 2827 Conventional

Sorrel

40 days. Rumex acetosa

Bright lemon flavor. Produces some of the earliest greens of spring and the latest of fall. The tender, fresh green leaves can grow to about 8" long and have an intense lemony flavor. Use sparingly in salads or generously in cocktails, soups and sauces, and especially with fish. French type. Perennial in Zones 4–9.

383G Organic CG 383 Conventional

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Find key growing information for specialty greens at **Johnnyseeds.com/greens-kgi**

Upland Cress 381 50 days. *Barbarea verna*Similar to watercress, but easier to grow in the field. Slow to start but, once established, easy to grow. Long standing and slow bolting. 6−8" rosettes of dark green, glossy, rounded leaves. Sometimes called "creasy greens" in the South. ♠

Watercress 384 60 days. *Nasturtium officinale* **Gourmet salad and sandwich vegetable.**

Traditional watercress, known for excellent flavor and nutrition. Watercress requires more attention when growing than other cresses due to its need for frequent watering and fertile soil. Grows most easily in pots or protected culture. Perennial in Zones 6–9.

Vit 419 50 days. *Valerianella locusta* **Mâche for winter salads.** This versatile, vigorous, mildew-resistant variety is excellent at a time of year when greens become scarce. Long, oval, glossy green leaves form tight rosettes. Mild, slightly nutty flavor also

reminiscent of roses. Unsized seeds. *

Variety	Part #	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.				
Very Fast Growing (18-28 d	ays)										
Ruby Red Orach	3999G CG	\$6.15	\$22.40	\$57.55	\$195.75	\$181.46	\$175.13				
Fast Growing (29-35 days)											
Shungiku	514	\$6.00	\$8.80	\$16.60	\$49.55	\$45.45	\$42.02				
Slow Growing (36–85 days)											
Claytonia	388	\$5.75	\$68.00	\$179.00	\$596.75	\$542.93	\$169.73				
Red Leaf Vegetable Amaranth	516	\$5.75	\$20.60	\$51.20	\$170.70	\$155.36	\$148.71				
Red Malabar Spinach	2437	\$5.75	\$10.35	\$25.40	\$84.75	\$77.25	\$72.74				
Red Veined Sorrel	2827G CG	\$6.15	\$32.00	\$93.35	\$317.25	\$265.86	\$230.20				
Red Veined Sorrei	2827	\$5.75	\$24.95	\$72.70	\$245.25	\$206.54	\$176.80				
CI	383G CG	\$6.15	\$18.40	\$48.75	\$155.35	\$147.71	\$140.67				
Sorrel	383	\$5.75	\$9.35	\$20.00	\$67.60	\$62.40	\$58.24				
Upland Cress	381	\$5.70	\$7.20	\$9.65	\$23.50	\$20.47	\$14.25				
Watercress	384	\$5.75	\$29.40	\$78.20	\$267.50	\$232.96	\$197.96				

Variety	Part #	PKT	5M @/M	25M @/M	100M @/M
Slow Growin	g (36–85 days	5)			
Vit	419	\$5.75	\$1.77	\$1.41	\$0.94



Green 70 D Improved





ASIAN GREENS

Komatsuna

NEW Green River (F1) 5542

21 days baby; 35 days full size. Brassica rapa var. perviridis Upright, refined komatsuna. Slow-bolting plant with dark green leaves and long, narrow petioles. Very similar to Carlton, which it replaces. Traditionally used in Japan either steamed and seasoned with soy sauce or in stirfries and soups. It is also excellent braised or, at the baby-leaf stage, used in salads.

Chinese Cabbage

Tokyo Bekana (F1)

18 days baby; 45 full size. Brassica rapa var. chinensis Fast-growing with great color contrast for mixes. This one-of-a-kind blonde leaf with ruffled texture adds loft and a pop of color to salad mixes. A non-heading Chinese cabbage that has buttery leaves with a crunchy rib and mild flavor. At full size, softly curled leaves on narrow, white petioles can be sold as bunched greens. Thin to 4–8" for full-size heads for bunching.

2251G Organic CG 2251 Conventional



Variety	Part #	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.
Green 70 D Improved	4031	\$6.00	\$8.70	\$16.55	\$49.60	\$45.74
NEW Green River	5542	\$5.80	\$15.10	\$35.00	\$118.65	\$109.18
Hon Tsai Tai	138	\$5.75	\$12.05	\$29.15	\$93.90	\$86.65
Spring Tower	3887	\$5.75	\$25.45	\$62.45	\$201.30	\$185.58
Tokyo Bekana	2251G CG	\$5.90	\$11.60	\$29.50	\$97.25	\$88.09
токуо векапа	2251	\$5.75	\$8.15	\$13.20	\$38.75	\$36.50

\$36.50

Growing Asian Greens — See individual varieties

CULTURE: Sow from early spring through midsummer. In the South, greens are well adapted to fall plantings. For full-sized bunching, sow 15 seeds/ft., 1/4" deep in rows 4-12" apart. Most varieties do not require thinning. See

individual product descriptions for varieties that do. Harvest before flowering. PESTS: Flea beetles are best controlled by covering with floating row covers from day of sowing. AVG. DIRECT SEEDING RATE: For bunching: 1 oz./830', 1 lb./13,000' at above spacing. SEED SPECS: SEEDS/OZ.: Avg. 12,650. PACKET: 250 seeds unless otherwise noted, sows 16' full-size.

Choi Sum

Green 70 D Improved 4031

21 days baby; 42 days full size. Brassica rapa var. chinensis Heat-tolerant choi sum. Very similar to Gunsho, just a few days later to mature. Choi sums are among the most popular vegetables in Hong Kong, Taiwan, and China. The stems are a vibrant bright green, very sweet and tender, and are usually harvested just before, or as the first few buds open. The stems regrow for cutand-come-again harvest. Excellent in stir-fries, steamed, or in soups. $\stackrel{\text{\tiny def}}{=}$

Celtuce

Spring Tower 3887

55 days. Lactuca sativa var. asparagina

Chinese celtuce. Originating in Southern China, celtuce is botanically a lettuce. Harvest when the edible stem thickens and reaches a length of 8-10". The tender stems have a flavor that is mild to slightly bitter, and are typically sliced and used in stir-fries and soups. Crops grown in cool weather will be milder. The young leaves may also be used in salads. Grow just like head lettuce. See lettuce growing information for details. MT0-30.

Kailaan/Gailon/Chinese Kale

Hon Tsai Tai 138

37 days. Brassica rapa

Purple flower stems and buds. Long, pencilthin budded flower stems for cut-and-comeagain harvesting. Mild mustard flavor suitable for raw salads, stir-fries, and soups. Best when sown June through October for mid summer through winter harvest (in mild areas). Harvest 8–10" long shoots by snapping them. Shoots that do not easily snap are overmature.

25 Lbs. @/Lb.

\$42.48

\$101 32

\$80.34

\$177.81

\$81.13

\$33.80

0.00	Germination Guide									
• • •	Soil Temp	°C °F	5 41	10 50	15 59	20 68	25 77	30 86	35 95	
mm	Optimum Range			_	1	+	$\overline{\uparrow}$	7	Ī	

PAC CHOI/BOK CHOY

Green Stem/Shanghai

Li Ren Choi (F1) 3624 37 days.

Best baby pac choi. Unlike most green-stemmed pac chois, heads are proportional and filled out at the true baby size. This smaller size results in quicker kitchen prep—simply cut in halves or quarters and cook. For mini-head production only, as heads will not become large.

Black Summer (F1) 2460 45 days. EXCLUSIVE! Beautiful dark green pac choi. Broad, flat, light green petioles are topped with oval, dark green leaves. Best full size, but also suitable for mini heads. Slightly smaller in size and a complement to the white-stemmed Joi Choi. Very slow-bolting. 6.4.

Mei Qing Choi (F1) 509 45 days. For full or medium-size heads. Flat, pale, misty-green stems form a thick, heavy base with broad, oval, rich green leaves. The compact, vase-shaped plant at full size is about 8-10" tall, but well-formed at mini size when young. Tolerant to heat and cold.

Rosie (F1) 3159 21 days baby; 45 days full size. EXCLUSIVE! Bright strawberry-red pac choi. 12" tall plants are vase-shaped with bright red leaves and greenish-red stems. Good for mixed packs with green- or white-stemmed pac chois. Also excellent as a baby leaf.

White Stem/Canton

Asian Delight (F1) 3533 37 days. Slow-bolting, white-stem pac choi. Nice and dense, fully formed mini heads. Longer harvest window than most white-stem types. Suitable for spring, summer, and fall production. Winter cropping possible in mild areas. AAS winner.

Joi Choi (F1) 507 50 days.

Heavy, vigorous white-stem pac choi. Joi Choi forms a tall, broad, heavy plant with dark green leaves and thick, flattened white petioles. Tolerant to heat and cold.

Bopak (F1) 4206G 50 days.

Organic white-stemmed pac choi. Bopak produces tall, heavy, fancy, full-size heads. Flavor is mild, succulent, and very good. Heads are more uniform and attractive than those of Joi Choi. AAS Regional (Northeast, Great Lakes, Mountain/Southwest) winner. CG

Seed greens efficiently with our re-engineered Six-Row Seeder. See page 186.



Asian Delight and Li Ren Choi (L to R)

Black Summe







Pac Choi/Bok Choy Comparison Chart

Variety	Part #	Days	Leaf Color	Stem Color	Plant Height	Plant Spacing for Mini Size	Plant Spacing for Full Size
Asian Delight	3533	37	Green	White	4-6"	4-6"	-
Black Summer	2460	45	Dk. Green	Green	10-12"	4"	10-12"
Bopak	4206G CG	50	Green	White	12-15"	_	10-12"
Joi Choi	507	50	Green	White	12-15"	_	10-12"
Li Ren Choi	3624	37	Green	Green	3-4"	2-4"	_
Mei Qing Choi	509	45	Green	Green	8-10"	4"	6-8"
Rosie	3159	45	Red	Green	12"	_	8–10"

Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M	100M @/M
Asian Delight	3533	\$5.75	\$9.05	\$4.80	\$3.94	\$3.26
Black Summer	2460	\$5.80	\$9.05	\$4.80	\$3.94	\$3.26
Bopak	4206G CG	\$6.15	\$13.40	\$7.10	\$6.80	\$5.95
Joi Choi	507	\$5.80	\$9.90	\$5.25	\$4.33	\$3.80
Li Ren Choi	3624	\$5.80	\$9.90	\$5.25	\$4.33	\$3.80
Mei Qing Choi	509	\$5.80	\$9.90	\$5.25	\$4.33	\$3.80

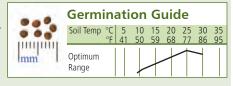
Variety	Part #	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lb. @/Lb.	25 Lb. @/Lb.
Rosie	3159	\$5.80	\$12.00	\$30.65	\$97.40	\$93.86	\$86.53

Growing Pac Choi/Bok Choy — Brassica rapa var. chinensis

CULTURE: Sow from early spring through midsummer. In the South, pac choi is well adapted for fall plantings. Sow 15 seeds/ft., 1/4" deep in rows 4-12" apart, depending on the variety. Thin plants as recommended in our Pac Choi Comparison Chart. Harvest before flowering. TRANSPLANTING: Start seeds in 128 or 72-cell trays, 2-4 weeks before transplanting. Plant out before plants become rootbound or stressed to prevent premature bolting.

PESTS: Flea beetles can be controlled by covering with floating row covers from day of sowing.

AVG DIRECT SEEDING RATE: For bunching: 830'/oz., 13,000'/lb. at above spacing. SEED SPECS: SEEDS/OZ.: Avg. 10,300. PACKET: 250 seeds, sows 16' full-size.













MICROGREENS

Microgreen Mixes

Spicy Micro Mix 10-15 days. Brassica spp. **EXCLUSIVE!** Great for beginners. A colorful blend of red and green mustards with various textures. Spicy flavor pairs well with the Mild Micro Mix. Varieties are subject to change depending upon availability.

2567G Organic CG

Oz. \$8.10; 1/4 Lb. \$26.40; Lb. \$75.95; 5 Lbs. @ \$68.58/Lb.; 25 Lbs. @ \$63.30/Lb. 2567 Conventional Oz. \$7.80; 1/4 Lb. \$18.70; Lb. \$60.30;

5 Lbs. @ \$56.16/Lb.; 25 Lbs. @ \$50.96/Lb.

Mild Micro Mix 10-15 days. Brassica spp. **EXCLUSIVE!** Easy to grow. This mix of mildly flavored brassicas contains mizuna, cabbage, kale, and kohlrabi. Mostly green with a touch of red. Varieties are subject to change depending upon availability.

2566G Organic CG

Oz. \$8.10; 1/4 Lb. \$26.40; Lb. \$75.95; 5 Lbs. @ \$68.58/Lb.; 25 Lbs. @ \$63.30/Lb. 2566 Conventional

Oz. \$7.80; 1/4 Lb. \$18.70; Lb. \$60.30; 5 Lbs. @ \$56.16/Lb.; 25 Lbs. @ \$48.05/Lb. Confetti Mix 10-15 days. Raphanus sativus EXCLUSIVE! Easy, fast, and colorful. A vibrant, mildly spicy blend of purple and

green radish leaves with red, purple, and pink stems. Micro radish greens are lofty and add weight to a mix, resulting in a heavier bagged product. A visually stunning, flavorful mix for ultimate plate appeal. Varieties are subject to change depending upon availability.

4119MG Organic CG

Oz. \$7.80; 1/4 Lb. \$11.80; Lb. \$33.70; 5 Lbs. @ \$29.75/Lb.; 25 Lbs. @ \$27.64/Lb. 4119M Conventional Oz. \$7.50; 1/4 Lb. \$10.25; Lb. \$27.25; 5 Lbs. @ \$23.50/Lb.; 25 Lbs. @ \$20.59/Lb.

Kalefetti Mix 10-15 days. Brassica spp. EXCLUSIVE! Vivid kale colors. An easy way for kale-lovers to get a daily dose. Colorful and nutritious mixture formulated for appearance and overall performance in microgreen production. Includes a variety of leaf types in bright green, dark green, and purple with green, pink, and purple stems. Mild kale flavor. Varieties are subject to change depending upon availability.

NEW 4175MG Organic CG

Oz. \$11.70; 1/4 Lb. \$29.20; Lb. \$98.00; 5 Lbs. @ \$95.00/Lb.; 25 Lbs. @ \$90.50/Lb. 4175M Conventional Oz. \$10.85; 1/4 Lb. \$28.00; Lb. \$80.65; 5 Lbs. @ \$74.67/Lb.; 25 Lbs. @ \$68.64/Lb.

Rainbow Sprinkles Mix

16-25 days. Beta vulgaris

EXCLUSIVE! The best of beets and chard.

A bright and cheerful mix that offers maximum color at the micro stage. Includes lofty red and green leaves as well as a rainbow of stem and vein colors: bright and light pink. orange, red, and yellow. Varieties are selected for similar maturity dates and seed sizes, so trays germinate evenly. Varieties are subject to change depending upon availability.

4106MG Organic OG

Oz. \$8.10; 1/4 Lb. \$25.60; Lb. \$76.75; 5 Lbs. @ \$69.00/Lb.; 25 Lbs. @ \$61.61/Lb. 4106M Conventional

Oz. \$8.15; 1/4 Lb. \$13.20; Lb. \$38.75; 5 Lbs. @ \$34.94/Lb.; 25 Lbs. @ \$32.45/Lb.



Growing Microgreens

CULTURE: Grow in a greenhouse or protected area. Follow the germination guidelines for the specific variety being grown. However, you can generally be successful by following the guidelines for brassica family members: Grow in shallow trays or 20-row flats. Broadcast seed thickly on the media surface with seeds 1/8–1/4" apart, press seeds firmly into media for maximum soil contact, and cover lightly with sowing mix, vermiculite, etc. Ideal soil temperature is 75°F (24°C) until germination, then reduced to 60°F (16°C). Optimal ambient temperatures are variety-specific, but 65–75°F (18–24°C) is generally a favorable range. Temperatures above 75°F can increase disease pressure and inhibit germination. Bottom water or mist to prevent sowing mix from splashing on the seedlings. Maintain even moisture and do not allow sowing medium to dry out. If fertilizing, incorporate fertilizer into the sowing mix before sowing, or use a bottom-watering system for liquid applications to avoid residue on the leaves. HARVEST: Harvest once cotyledons have fully developed, or once the first true leaves begin to emerge, depending upon your market. Typically, micros range from 1/2-2" in height. For most items this will be 2-4 weeks after sowing, depending on the variety, growing conditions, and final product size desired. Cut with scissors or a sharp knife and minimize handling to reduce damage. Microgreens must be washed before serving. Shelf life ranges from 5–10 days under proper storage conditions.



Vegetables — Fast-Growing Microgreen Varieties (10–15 days)

Variety	Part #	Description	Flavor	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
,	2891MG (G	•		\$8.35	\$11.50	\$34.55	\$30.70	\$28.27
Arugula	385M	Purple stems.	Spicy, nutty	\$6.50	\$7.85	\$19.75	\$16.38	\$14.04
	2290MG CG			\$7.85		\$24.95	\$21.73	\$18.46
Broccoli	2290M	Dark green leaves. Long stems.	Mild	\$4.50	\$7.80	\$14.05	\$12.27	\$10.40
	2230MG 0			\$8.60		\$43.45	\$39.46	\$35.76
Cabbage, Red	2230M	Glossy, dark green leaves, purple stems.	Mild	\$7.50	\$9.65	\$22.45	\$20.18	\$17.26
a: all =1 al	2251MG CG			\$11.60	\$29.50	\$97.25	\$88.09	\$81.13
Chinese Cabbage, Tokyo Bekana	2251M	Large, bright green leaves.	Mild	\$8.15	\$13.20	\$38.75	\$36.50	\$33.80
Connection Connection	382MG CG	Face with the desired larger	C	\$8.35	\$13.45	\$37.40	\$33.34	\$30.70
Cress, Cressida	382M	Fancy three-lobed leaves.	Spicy, peppery	\$8.15	\$11.25	\$33.75	\$29.95	\$27.54
Kale, Bright Green Curly	4085MG CG	Vibrant, bright green leaves and stems.	Mild	\$10.15	\$23.55	\$71.70	\$64.20	\$58.85
Kale, KX-1	4112MG CG	Glossy, serrated red leaves.	Mild	\$18.50	\$41.90	\$136.85	\$127.97	\$120.48
Kale, KA-1	4112M	Glossy, serrated red leaves.	IVIIIG	\$9.35	\$21.15	\$67.40	\$61.36	\$57.20
Kale, Purple Reign	4610M	Dark purple, serrated leaves and purple stems.	Mild	\$10.25	\$26.40	\$76.10	\$70.72	\$66.56
Kale, Red Russian	363MG CG	Medium-green leaves, bright purple stems and leaf margins.	Mild	\$8.95	\$16.35	\$48.65	\$44.89	\$41.62
Kale, Ned Kussiaii	363M	iviedium-green leaves, bright purple stems and lear margins.	IVIIIU	\$7.65	\$10.00	\$27.40	\$22.26	\$19.24
Kale, Toscano	2123MG CG	Dark blue-green leaves, light green stems.	Mild	\$10.80	\$25.60	\$76.75	\$68.84	\$61.19
Kale, loscario	2123M	Dark blue-green leaves, light green stems.	IVIIIG	\$7.10	\$11.65	\$36.05	\$32.86	\$29.70
Kohlrabi, Purple	2237MG CG	Dark green leaves, purple stems.	Mild	\$8.35		\$38.20	\$34.41	\$32.07
Konirabi, i di pie	2237M	Dark green leaves, purple sterns.	IVIIIG	\$5.20	\$7.85	\$15.65	\$13.00	\$11.44
Mizuna	2883MG CG	Serrated green leaves, white stems.	Mild	\$8.95		\$48.65	\$45.36	\$41.62
	4546M	3 '		\$8.10		\$33.75	\$29.95	\$27.56
Mizuna, Red Kingdom	3748M	Red leaves, green stems.	Mild			\$118.65	-	
Mustard, Garnet Giant	2797MG CG	Contrasting, bright green and red leaves.	Spicy			\$79.70	\$72.06	\$66.78
<u>'</u>	2797M	3, 3 3	' '	\$9.35		\$67.40	\$61.15	\$57.30
Mustard, Miz America	3749M	Dark red leaves, light green stems.	Mild mustard			\$118.65	-	
Mustard, Red Giant		Green leaves, red veins.	Spicy	\$9.60		\$58.25	\$54.97	\$51.06
Mustard, Ruby Streaks	2740MG CG	Deeply serrated green and maroon leaves.	Spicy		\$28.40		\$75.96	\$70.26
	2740M	., .	. ,	\$9.35		\$69.85	\$63.70	\$58.45
Mustard, Scarlet Frills	2530M	Intricately lobed, contrasting green-red leaves.	Very spicy		4	\$97.40	\$89.08	\$82.68
Mustard, Wasabina	4396M	Heavily frilled green leaves.	Spicy	\$8.80		\$49.55	\$45.34	\$42.02
Pac Choi, Red Choi		Red, spoon-shaped leaves.	Mild			\$73.85	\$68.58	\$58.02
Pac Choi, Red Pac	3168M	Spoon-shaped dark red leaves, green stems.	Mild	\$8.44		\$59.08	\$50.00	\$46.42
Radish, Daikon Radish, Hong Vit		Lofty. White stems, green leaves. Lofty. Purple stems, green leaves.	Spicy	\$4.65	\$7.60	\$13.35	\$12.03	\$10.13
, ,	2461M	Lofty. Purple stems, green leaves.	Spicy	\$7.50		\$28.85	\$26.88	\$24.34 \$10.55
Radish, Purple Stem	2539MG G	, , , , , , , , , , , , , , , , , , , ,	Spicy	\$4.75 \$7.50	\$7.90	\$14.25 \$39.30	\$12.45 \$37.00	\$10.55
Radish, Red Rambo	2539MG W	Lofty. Purple leaves and stems, small percentage green plants.	Spicy	\$7.50		-	\$37.00	\$35.00
	4105MG CG			\$4.75	\$7.90	\$31.95 \$14.25	\$28.20	\$26.20
Radish, Red Stem	4105MG W	Lofty. Brilliant red stems and green leaves.	Spicy	\$4.75	\$7.80	\$14.25	\$12.44	\$10.55
Tatsoi		Dark green, spoon-shaped leaves.	Mild	\$4.70		\$14.05	\$46.53	\$43.04
Tatsoi			iviilu	\$0.93	00./اد	J⊅30.73	⊅40.03	p43.04



Vegetables — Slow-Growing Microgreen Varieties (16–25 days)

Variety	Part #	Description	Flavor	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
Alfalfa	2150MG CG	Delicate appearance.	Nutty, pea-like	\$4.65	\$8.00	\$13.35	\$12.45	\$11.82
Amaranth, Bicolor	4426M	Coppery leaves, magenta centers, backs, and stems.	Mild, earthy	\$8.85	\$18.20	\$53.05	\$49.50	\$44.10
Amaranth, Garnet Red	2247MG CG	Fuchsia-colored leaves and stems.	Mild, earthy	\$8.65	\$17.35	\$60.00	\$54.00	\$50.00
Amarantii, Gamet Neu	2247M	ruchisia-colored leaves and stems.	ivilia, eartify	\$7.30	\$10.85	\$28.85	\$26.88	\$24.44
Beet, Bull's Blood	2912M	Lofty. Red leaves, red stems.	Earthy	\$7.70	\$10.95	\$30.65	\$27.04	\$23.92
Beet, Early Wonder Tall Top	123M	Lofty. Bright green leaves, red stems.	Earthy	\$6.20	\$8.10	\$17.40	\$13.73	\$13.00
Beet, Red Beet	4544MG CG	Lofty. Bright green leaves, red stems.	Earthy	\$7.70	\$10.20	\$23.05	\$20.78	\$17.94
Beet, Red Leaf	4609MG CG	Lofty. Blend of red and dark green leaves with a red blush. Red stems.	Earthy	\$8.30	\$11.25	\$31.40	\$27.54	\$25.85
Beet, Yellow	2965M	Lofty. Bright green leaves, yellow stems.	Earthy	\$5.75	\$7.60	\$20.55	\$17.66	\$15.52
Carrot	2468MG CG	Feathery leaves.	Mild carrot	\$9.60	\$19.75	\$57.55	\$53.59	\$47.69
Carrot	2468M	reathery leaves.	IVIIId Carrot	\$7.65	\$10.15	\$27.40	\$23.56	\$20.90
Chard and Beet,	4106MG CG	Lofty. Red and green leaves, yellow, pink, red, and orange	Earthy	\$8.10	\$25.60	\$76.75	\$69.00	\$61.61
Rainbow Sprinkles Mix	4106M	stems.	Earthy	\$8.15	\$13.20	\$38.75	\$34.94	\$32.45
Dandelion, Red	3357M	Narrow green leaf with pink vein.	Mild, bitter	\$10.85	\$24.95	\$75.00	\$67.24	\$60.22
Orach, Ruby Red	3999MG CG	Lofty. Purple-red leaves and stems.	Earthy	\$22.40	\$57.55	\$195.75	\$181.46	\$175.13
Purslane, Red Gruner	2257M	Succulent leaves, white-pink stems.	Earthy	\$9.35	\$20.00	\$65.00	\$58.86	\$54.39
Scallion, Evergreen Hardy White	502M	Green, thread-like leaves.	Onion	\$9.35	\$19.30	\$56.40	\$52.00	\$46.59
Shungiku	514M	Serrated leaves.	Floral, earthy	\$8.80	\$16.60	\$49.55	\$45.45	\$42.02
Watercress	4427MG CG	Round, glossy, green leaves.	Spicy popposy	\$39.05	\$103.40	\$353.40	\$305.95	\$263.75
vvaterciess	4427M	nouriu, giossy, green leaves.	Spicy, peppery	\$29.40	\$78.20	\$267.50	\$232.96	\$197.96

[♦]— all microgreens are suitable for hydroponic growing



Grow microgreens indoors year-round. Includes: (5) 5x5 Insert Flats; (5) Leakproof Trays; (1) 2" Clear Acrylic Dome; (1) Johnny's Germination Mix 20-qt. bag; 1 oz. Confetti Mix radish seed; 1 oz. Mild Micro Mix seed; (1) Chapin 48 oz. Hand Sprayer; and growing instructions. Find our Deluxe Microgreens Starter Kit on page 181. \$44.00.*

Basic Microgreens Starter Kit

Find more microgreens supplies on page 181.



Terrafibre Hemp Grow Mat





Herbs and Flowers — Microgreen Varieties

Variety	Part #	Description	Flavor	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
Fast Growing (10–15		Description.	110701	. 52.	1/1 2.5.	1 20.	Θ/EB.	€/ES.
Borage	912MG G 912M	Broad, thick green leaves.	Mild cucumber	\$9.60 \$8.25	\$20.45 \$15.10	\$63.95 \$44.80	\$59.08 \$41.29	\$55.92 \$37.65
Celosia	3369M	Bright green leaves. Pink, orange, yellow veins and stems.	Mild, earthy	\$9.05	\$19.30	\$54.35	\$49.45	\$44.72
Sorrel	383M	Bright green leaves.	Lemon	\$9.35	\$20.00	\$67.60	\$62.40	\$58.24
Slow Growing (16-25	days)							
Basil, Bicolor	3374MG CG	Contrasting purple and green leaves.	Sweet-spicy	\$18.50	\$41.90	\$136.85	\$128.29	\$120.48
Basil, Cinnamon	906M	Light green leaves.	Sweet cinnamon	\$7.70	\$16.40	\$46.70	\$42.64	\$39.31
Basil, Dark Opal	902M	Mostly purple with some green leaves.	Sweet-spicy	\$9.35	\$19.30	\$56.90	\$53.72	\$49.92
Basil, Genovese	3303MG CG 3303M	Shiny green leaves.	Traditional basil	\$9.60 \$7.65	\$19.75 \$10.00	\$60.15 \$27.05	\$58.02 \$23.92	\$53.80 \$21.84
Basil, Italian Large Leaf	944MG CG 944M	Shiny green leaves.	Sweet-spicy	\$9.25 \$8.50	\$23.40 \$13.80	\$71.55 \$43.15	\$66.57 \$39.00	\$61.19 \$35.36
Basil, Lemon	774M	Green leaves.	Spicy, citrus	\$7.70	\$16.40	\$46.70	\$35.71	\$35.36
Basil, Red Rubin	924M	All purple leaves.	Sweet-spicy	\$11.35	\$28.30	\$90.25	\$83.20	\$82.00
Cilantro, Monogerm	3446MG CG 3446M	Preferred for microgreens. Germinates faster and sheds seed coat more readily than whole seeds.	Cilantro	\$7.05 \$5.20	\$8.40 \$7.85	\$21.85 \$15.65	\$19.20 \$13.00	\$16.88 \$11.44
Dill	4111MG CG 920M	Feathery leaves.	Mild dill	\$7.85 \$7.05	\$11.15 \$9.10	\$29.60 \$21.20	\$25.58 \$18.72	\$23.21 \$16.33
Fennel, Bronze	784MG CG	Feathery bronze leaves.	Mild fennel	\$23.60	\$60.45	\$207.25	\$195.70	\$176.18
Fennel, Green	3152MG CG 3152M	Feathery light green leaves.	Mild fennel	\$8.95 \$7.50	\$16.35 \$9.65	\$48.65 \$22.45	\$44.88 \$20.28	\$40.93 \$17.32
Marigold, Gem	6023M	Intricate, fern-like leaves.	Spicy, citrus	\$32.45	\$127.15		\$435.76	_
Shiso, Britton	2943M	Green and purple ruffled leaves.	Clove, mint	\$16.65	\$40.05		\$131.04	\$124.80
Slow Growing (26–30) days)							
Anise Hyssop	3123M	Light green leaves, tinged with pink.	Licorice-mint	\$21.90	\$56.20	\$191.15	\$176.80	\$166.40
Chervil	2441M	Intricate green leaves.	Anise	\$7.65	\$10.15	\$27.40	\$23.56	\$20.70
Cutting Celery	922M	Intricate green leaves.	Mild celery	\$8.85	\$18.20	\$53.65	\$50.44	\$43.89
Lemon Balm	766M	Small green leaves.	Distinct lemon	\$18.40	\$44.60	\$156.00	\$138.32	\$122.72
Parsley	3770M	Intricate green leaves.	Mild parsley	\$4.50	\$7.00	\$12.25	\$11.13	\$8.94
Sorrel, Red Veined	2827MG CG 2827M	Bright green leaves with red veins.	Lemon	\$32.00 \$24.95	\$93.35 \$72.70	\$317.25 \$245.25	\$265.86 \$206.54	\$230.20 \$176.80

♦— all microgreens are suitable for hydroponic growing



Sunflower

Buckwheat



Dwarf Grey Sugar Pea

Field Pea

Winter Wheat

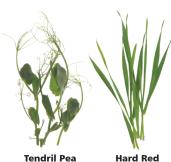
SHOOTS

Find key growing information for shoots at Johnnyseeds.com/shoots-kgi

Shoots are easy to grow in flats in a greenhouse, indoors under grow lights, or outside when the weather is warm enough (65°F/18°C). Harvest the shoots when they reach the desired size. This should take 7–21 days, depending upon light, temperature, and the specific crop.

Variety	Part #	Flavor	Harvest Size	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
Black Oil Sunflower	2160SG 💢	Mild, nutty	3–4"	\$5.30	\$11.90	\$10.34	\$9.23
Black Oil Sullilowel	2160S	ivilia, flutty	3-4	\$4.80	\$9.20	\$7.80	\$6.80
Buckwheat	2151SG 💢	Mild lettuce	3-4"	\$4.85	\$9.15	\$6.28	\$5.70
Dwarf Grey Sugar Pea	2206S	Mild pea	3–5"	\$3.70	\$6.45	\$4.06	\$2.81
Field Dee	3161SG 💢	Milding	3–5"	\$4.10	\$7.90	\$5.01	\$3.48
Field Pea	31615	Mild pea	3-3	\$3.70	\$6.95	\$4.11	\$3.22
Tendril Pea	3165SG CG	Mild pea flavor, lots of tendrils	3–5"	\$4.15	\$7.90	\$5.17	\$3.59
Hard Red Winter Wheat	2162SG CG	Fresh, pleasantly bitter, mildly sweet juice	3–5"	\$4.85	\$8.55	\$5.91	\$5.06
Nasturtium	1905S	Sweet, spicy	Leaves 1" diameter	\$8.40	\$24.80	\$21.58	\$19.24
Shades of Green Nasturtium	3389S	Sweet, spicy	Leaves 1" diameter	\$11.25	\$33.55	\$29.22	\$25.79
NEW Popcorn	3164SG 💢	Connect	3–4"	\$5.20	\$16.75	\$14.25	\$12.22
Popcorn	3164S	Sweet	3-4	\$5.00	\$8.55	\$5.17	\$3.69

[♦]— all shoots are suitable for hydroponic growing





Find key growing information for sprouts at Johnnyseeds.com/sprouts-kgi

Our seeds for sprouting are untreated and have tested negative for the presence of E. coli 0157 and Salmonella.

Variety	Part #	Flavor	Days to Sprout		Approx. Yield	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
Alfalfa	2150 CG	Nutty, mild	4-6	1 tbsp.	2-3 c.	\$3.95	\$6.55	\$11.40	\$10.55	\$10.02
Bean, Mung	2156 CG	Mild bean	4-6	¹ /4 C.	2-3 c.	\$3.95	\$6.55	\$11.40	\$10.34	\$8.65
Broccoli	2290 CG	Mild broccoli	F 7	1 #10.000	1 11/2 4	\$6.70	\$8.75	\$21.35	\$19.60	\$18.46
BIOCCOII	2108	IVIIIG DIOCCOII	5-/	1 tbsp.	1–1 ¹ / ₂ c.	\$3.90	\$7.80	\$14.05	\$12.27	\$10.40
Fenugreek	2870 CG	Rich, herbal, nutty, bitter	2–5	1 tbsp.	1 ¹ /2 c.	\$3.95	\$6.55	\$11.40	\$10.34	\$8.65
Kale, Red Russian	2159G 😘	Mild kale	5-7	1 tbsp.	1 c.	\$7.65	\$14.05	\$41.65	\$38.51	\$35.66
Onion	2106G CG	Mild onion	12-14	1 tbsp.	1 ¹ /2-2 c.	\$6.80	\$14.05	\$41.65	\$32.81	\$27.64
Radish, China Rose	2154 CG	Spicy radish	2-5	1 tbsp.	1–2 c.	\$3.95	\$8.30	\$15.20	\$11.39	\$10.34
Radish, Daikon	2155 CG	Mild radish	2-5	1 tbsp.	1–2 c.	\$3.95	\$6.55	\$11.40	\$10.80	\$10.13
Sprouting Mix	3064G CG	Mildly spicy	4-6	1 tbsp.	1 c.	\$6.70	\$14.05	\$39.75	\$31.97	\$27.11
Wheat, Hard Red Winter	2162 CG	Sweet, malty	2-5	¹ /2 c.	2-3 c.	\$3.70	\$4.85	\$8.55	\$5.91	\$5.06

[♦]— all sprouts are suitable for hydroponic growing



Nasturtium **Shades of Green** Nasturtium

Bioset Germinator Kit 9280K

Experience a wide range of flavors. Kit includes Bioset Germinator (#9280) and five 1-oz. bags of seed for sprouting: alfalfa, mung bean, broccoli, radish, and Hard Red Winter Wheat. Makes a great gift. All components of the Bioset Germinator are bisphenol A (BPA) free. Sprout varieties included are subject to change depending upon availability. \$37.50.



Find just the Bioset Germinator (without seeds) at Johnnyseeds.com





LEEKS

A. King Richard

75 days.

Remarkable earliness and size. Beautiful full-sized leeks. In favorable soil and culture, the white shanks are over a foot long to the first leaf. Medium-green leaves with full habit. For baby leeks, plant closely (40 seeds/ft.) and harvest at finger-size. While not hardy enough for overwintering, they will withstand medium/heavy frost (32° to 20°F/0° to -7°C) without losing their healthy appearance.

2403 Conventional Plants

EXCLUSIVE! Approximately 50 plants.

1 Bunch \$25.00; 30 Bunches \$150.00.

416G Organic Seeds OG

PKT \$5.85; 1,000 Seeds \$7.90; 5M @ \$4.06/M;

25M @ \$2.75/M; 100M @ \$2.27/M.

B. Rally (F1) 3411G

85 days. IR: R, WT.

Bulky shanks that size up quickly. Our replacement for organic Megaton, which was dropped by our supplier. Attractive, blue-green leaves. Heavy, uniform shanks. A few days earlier than Megaton, with more upright foliage and added rust tolerance. **OG**

PKT (50 seeds) \$7.40; 250 Seeds \$19.60; 1,000 Seeds \$58.95; 5M @ \$50.97/M; 25M @ \$46.92/M; 100M @ \$41.66/M.

LEEK PLANT SHIPPING

Plants arrive as dormant starts—expect them to be dry and/or pale in color due to dormancy and shipping. They are very hardy and will thrive if cared for properly. Plants are shipped weekly from mid-January through the end of April. You may choose your desired ship week or plants will be sent at the appropriate planting time for your location (visit Johnnyseeds.com/shipping-usa for more details). Plants cannot be shipped to Idaho, Malheur County in OR, outside the U.S., or to U.S. territories.



Achieve long, white shanks and optimum blanching with our Manual Leek Planter, available at **Johnnyseeds.com**

C. NEW Biker (F1) 4918

90 days. IR: PU, R, WT.

Upright habit, tidy fan. Shanks bulk up quickly by mid-early season and resist bulbing for easy stripping. Performs well across the US and maintains high quality, even at a large size. An easy replacement for Jumper, which was discontinued by our supplier. Primed seed. PKT (50 seeds) \$5.30; 250 Seeds \$9.85; 1,000 Seeds \$30.25; 5M @ \$28.70/M; 25M @ \$26.92/M; 50M @ \$26.90/M.

D. Tadorna 2092G

100 days.

The most reliable OP fall leek. A vigorous grower producing a medium-length white shank and contrasting, very dark blue-green foliage. Holds in the field for fall/winter harvest, and overwinters in moderate climates. Moderate leaf disease resistance.

WE PKT \$6.15; 1,000 Seeds \$11.30; 5M @ \$8.96/M; 25M @ \$7.54/M; 100M @ \$6.42/M.

E. **NEW Oslo (F1)** 4939G

110 days.

High-quality organic fall leek. A choice variety to close out or extend your leek season. Matures late fall to winter and can be overwintered in temperate climates. Healthy, broad, dark blue leaves. Stocky shanks with no bulb are easy to peel and clean. High-yielding. Stores well.

PKT (50 seeds) \$6.60; 250 Seeds \$18.19; 1,000 Seeds \$37.00; 5M @ \$34.25/M; 25M @ \$31.92/M; 50M @ \$31.86/M.

F. Bandit 195G

120 days.

Very winter-hardy OP leek. Beautiful, very dark blue-green, erect leaves and good uniformity. The shank grows very thick with minimal bulbing. NOTE: For ease of sowing, Bandit's seed is coated with an inert, NOP-compliant film.

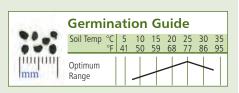
PKT \$6.15; 1,000 Seeds \$12.35; 5M @ \$9.78/M; 25M @ \$8.01/M; 100M @ \$6.88/M.





Growing Leeks — Allium porrum

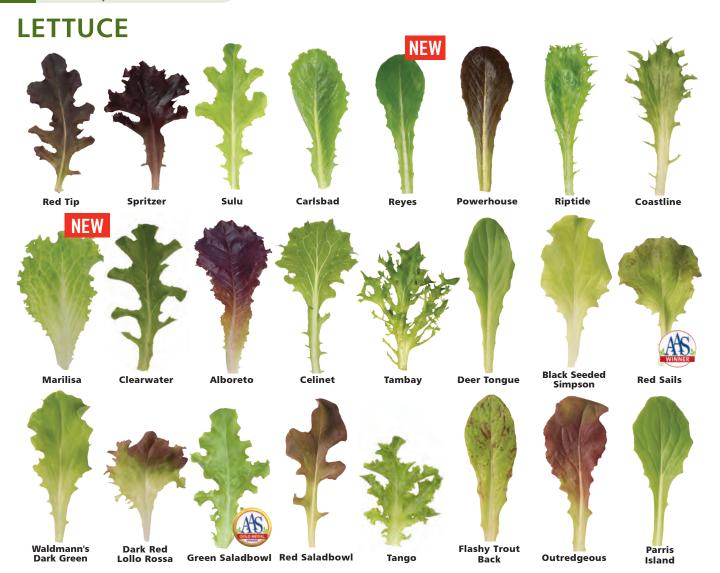
CULTURE: Leeks are heavy feeders and require fertile soil (pH of 6.2–6.8). **GROWING SEEDLINGS:** Sow in flats in Feb.—March, ¹/₄" apart, ¹/₄" deep or start in plug flats, thinning to one plant per cell. **TRANSPLANTING:** Beginning in late spring, when approx. 8" tall and pencil-thick, transplant 6" apart in rows at least 12" apart in holes dibbled 6" deep. Only 2–3" of leaves need to extend above the soil surface. Do not firm soil; allow irrigation or rain to fill in the dibble hole. **DIRECT SEEDING:** Sow in early spring, 6 seeds/ft., ¹/₄–¹/₂" deep, in rows 24" apart. Thin to 6". **BLANCHING:** During the growing period hill the plants with soil 2 or 3 times, higher with each hilling. This forces the leaves higher up the plant resulting in extra-long blanched stalks and a much longer edible portion. When using the "dibble method," hilling is reduced or eliminated. **HARVEST:** When plants reach desired size, loosen with a spading fork and lift plant. **STORAGE:** Clean leeks and store several weeks at near freezing in a humid cooler in boxes, or store in a root cellar with roots in moist soil/sand/peat mix. **DAYS TO MATURITY:** From transplanting; add 20–30 days if direct seeding. **AVG. DIRECT SEEDING RATE:** 1,000 seeds/165', 1 oz./1,650', 11 oz. or 105M/ acre at 6 seeds/ft. in rows 30" apart. **TRANSPLANTS:** Avg. 1 oz./6,000 plants, 1 lb./96,000. **SEED SPECS:** SEEDS/ OZ.: 7,700-10,700 (avg. 9,400). **PACKET:** 250 seeds, sows 38-40' or 140 transplants unless otherwise noted.



Leeks Resistance Codes

HR = High Resistance IR = Intermediate Resistance

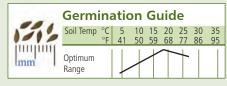
	PU	Purple Blotch
/	R	Common Rust
,	WT	White Tip



Growing Lettuce — Lactuca sativa

CULTURE: Lettuce is a hardy, cool-weather crop and can be planted with your earliest worked soil. It grows best at 60-65°F (16-18°C) and germinates best below 70°F (21°C), so careful variety selection is key for success in hotter weather. Sow every 2-3 weeks for a continuous supply of either full heads or salad mix. TRANSPLANTING for HEAD

LETTUCE: 3-4 weeks before field planting, sow in 128-cell trays barely covered with vermiculite or fine soil. If necessary, utilize shade and frequent misting to keep trays cooled below 75°F (25°C) during germination. Young plants properly hardened at least 3–5 days before planting can survive temperatures as low as 20°F (-6°C). Transplant iceberg, romaine, and butterhead lettuce 10–12" apart in rows 15–18" apart, other types 8–10" apart in rows 12–18", and mini heads as close as 6" in a grid. **DIRECT SEEDING for BABY LEAF:** Seeds can germinate well in soils as low as 40°F (4°C) but often poorly above 75°F (24°C). Sow 4–6 seeds/inch in rows at least 2" apart. Cover lightly to 1/8" and firm gently. Dry soil must be watered to ensure coolness and moisture for uniform germination, DAYS TO MATURITY: From date of cool weather, spring transplanting. Subtract 10–14 days for late spring or early summer, warm weather transplanting. Add about 14 days for direct seeding. HARVEST: Head Lettuce: Cut at base, keeping wrapper leaves for handling loss. Consider cutting alternating plants to extend harvest window, allowing remaining plants to continue to grow. Pack heads in layers facing cut ends away. Wash off sap and cool immediately to prevent staining and dehydration. Baby Leaf: Harvest about 1" above the growing point when leaves reach desired harvestable length, about 3-4" long. Remove harvest debris to improve regrowth quality. STORAGE: Keep cold at 35-40°F (1-4°C) with high humidity but free of standing water. Head Lettuce: Keep 14–20 days, less for delicate types like butterhead and oakleaf, and longer for lettuce grown slowly in cooler temperatures. For one-cut types, extend season in cold weather by holding cut heads in cooler up to two weeks to process into salad mix. MT0-30 SEEDS: A variety's description followed by "MT0-30" indicates that the seed offered for sale has been tested for the presence of Lettuce Mosaic Virus and that no LMV was found in a sample of at least 30,000 seeds. AVG. DIRECT SEEDING RATE: For baby leaf: 1,000 seeds/16', 1 oz./400', 1 lb./6,400' at 60 seeds/ft. **TRANSPLANTS:** Avg. 16,000 plants/oz. **SEED SPECS:** SEEDS/OZ: Avg. 17,800. **PACKET:** 500 seeds, unless otherwise indicated.



Lettuce Resistance Codes

HR = High Resistance IR = Intermediate Resistance

	·
DM	Downy Mildew [†]
LMV	Lettuce Mosaic Virus
Nr	Lettuce Leaf Aphid
Pb	Lettuce Root Aphid
Rs	Corky Root
TBSV	Tomato Bushy Stunt Virus (Lettuce Dieback Complex)

† Numbers indicate known resistance to lettuce downy mildew isolates from either Europe (EU), United States (US), or both. As new races of downy mildew are identified, older races become obsolete. To be concise, Johnny's no longer includes obsolete races in the product listing.

Baby Leaf Lettuce

High Performance: 28-40 days

Developed specifically for baby-leaf production. Vigorous, uniform seedling growth and thicker leaf textures help increase yield within a short growing period. Consistent leaf size even at variable plant densities. Loftiness prevents leaves sticking together post-harvest, and thinner petioles reduce cut surface area. If grown as full-size lettuce, loose, lightweight heads will result.

Туре	Variety	Part #	Speed	Description	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
	Red Tip	4804	Medium	Upright growth habit, deep rounded lobes, and narrow petioles. Dark red. DM: EU 16–37; US 5–9. MT0-30.	\$5.75	\$27.00	\$70.75	\$247.15	\$240.57	\$202.11
Oakleaf	Spritzer	3754G CG	Slow	Tango type with wavy, 3D structure. Slow growth. Very dark color. DM: EU 16–25, 27, 28, 30–32; US 5–8. MT0-30.	\$6.25	\$39.55	\$104.80	\$364.65	\$320.00	\$316.00
	Sulu	2803G CG	Medium	Lime-green leaves with heavy, 3D texture and good flavor. Very upright habit. DM: EU 17; US 5–9; LMV. MT0-30.	\$5.90	\$33.50	\$88.35	\$308.20	\$246.66	\$207.67
	Carlsbad	4617G CG	Fast	Crunchy, juicy, sweet romaine. Cupped leaf provides high loft. Upright habit; maintains quality in the field. DM: EU 16–20, 22–25, 27, 28, 30, 32; US 5, 7, 9. MTO-30.	\$6.15	\$26.25	\$69.05	\$241.30	\$233.95	\$226.77
Romaine	NEW Reyes	5152G CG	Fast	Fast-growing, upright variety with narrow petioles. Brighter green than Pensacola, which it replaces. DM: US 5–8. MT0-30.	\$6.15	\$26.25	\$69.05	\$241.00	\$233.95	\$226.77
	Powerhouse	4204G CG	Slow	Dark red and upright with very narrow petiole. Thin leaf		\$33.50	\$88.35	\$308.20	\$246.66	\$207.67
	Powernouse	4204	SIOW	with crisp texture. DM: EU 16–21, 23–26, 28–33, 35; US 5–9. MT0-30.	\$5.75	\$27.00	\$70.75	\$247.15	\$240.57	\$202.11
	Riptide	4242G CG	Medium	Crunchy rib with an iceberg look. Distinctive, saw-tooth margin and sweet flavor in all growing slots. MT0-30.	\$6.25	\$39.55	\$104.80	\$364.65	\$291.73	\$247.99
Summer Crisp	Coastline	3268G CG	Slow	Wider, medium-green leaves with fancy, serrated margins and a heavy, crunchy texture. Great flavor and excellent field-holding capacity. MTO-30.	\$6.25	\$39.55	\$104.80	\$364.65	\$291.73	\$247.99
	NEW Marilisa	4839G CG	Slow	Refined blonde Batavia with a crunchy rib and buttery frill. Stays compact for a long harvest window. DM: EU 16–25, 27, 28, 30, 31. MT0-30.	\$5.75	\$27.00	\$70.75	\$247.15	\$240.57	\$214.24

Туре	Variety	Part #	Speed	Description	PKT	5M @/M	25M @/M	100M @/M	500M @/M
Oakleaf	Clearwater	3331G CG	Medium	Dark green leaves with heavy texture and sweet flavor. Very upright for easy harvesting. DM: EU 16–35, US 5–9; Nr, LMV. MT0-30.	\$6.15	\$2.35	\$1.87	\$1.38	\$1.24
Romaine	Alboreto	4225	Slow	Bright, dark red leaf with ruffled margin and upright growth habit. DM: EU 16–37, US 5–9; Nr. MT0-30.	\$5.75	\$1.49	\$1.18	\$0.86	_
Summer	Celinet	3154G CG	Medium	Narrow petiole, spikey margins, crisp texture. Great field-holding ability. DM: EU 16–35, US 5–9; Nr, TBSV, LMV. MT0-30.	\$4.90	\$1.86	\$1.48	\$1.09	\$0.99
Crisp	Tambay	4203	Medium	Deeply incised, bright green, glossy leaves with long harvest window. One-cut attributes for baby-leaf production. DM: EU 16–37, US 5–9; Nr. MT0-30.	\$5.75	\$1.49	\$1.18	\$0.86	_

Heritage: 28-40 days

Flavorful, reliable, and widely adapted. Faster growing than our high-performance varieties (see above) with thinner, more delicate leaves. These varieties offer minimal disease resistance and lack field-holding capacity. Dual-purpose varieties will mature into nice, full-size heads.

Туре	Variety	Part #	Speed	Description	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.	25 Lbs. @/Lb.
Bibb	Deer Tongue	423G CG	Fast	Unique narrow, pointed, buttery leaves with a crunchy rib and excellent flavor. MT0-30.	\$6.15	\$19.30	\$51.80	\$178.35	\$167.69	\$161.29
	Black Seeded Simpson	425N	Medium	Bright blonde, curled leaves. Excellent flavor. MT0-30.	\$5.50	\$7.10	\$10.95	\$24.01	\$22.91	\$20.62
Leaf	Red Sails	431G CG	Fast	Wide, mottled red leaf with narrow petiole. AAS winner. MT0-30.	\$6.15	\$17.15	\$42.70	\$146.10	\$139.63	\$133.19
	Waldmann's Dark Green	428G CG	Fast	Medium-green, curled leaf with wavy margins. MT0-30.	\$6.15	\$24.95	\$67.10	\$219.55	\$206.44	\$198.61
Lollo	Dark Red Lollo Rossa	2326NG CG	Slow	Frilled, dark red leaf margin with green interior. MT0-30.	\$6.15	\$21.80	\$57.70	\$199.90	\$194.24	\$182.25
	Green Saladbowl	2235N CG	Fast	belicate, lobed lime-green leaves. AAS winner. MTO-30.		\$13.30	\$29.35	\$85.40	\$71.43	\$61.30
Oakleaf	Red Saladbowl	2233N CG	Fast	Delicate, lobed burgundy leaves. MT0-30.	\$5.75	\$12.45	\$27.45	\$79.80	\$70.00	\$68.00
	Tango	405NG CG 405N	Medium	Soft leaves with wide, deeply incised lobes for high loft. MT0-30.	+	\$11.50 \$10.95	7	\$98.50 \$75.35	\$95.00 \$66.76	\$88.00 \$53.61
	Flashy Trout Back	2716NG CG	Very Fast	Attractive speckled, smooth leaves. Seed densely for narrower petioles and leaves. Developed by Frank Morton of Wild Garden Seed. MT0-30.	\$4.65	\$10.80	\$26.65	\$91.35	\$87.08	\$82.63
	0	2208G CG		Ruffled bright red leaves with very fast early	\$6.15	\$23.25	\$62.55	\$215.20	\$202.36	\$194.64
komaine	Outredgeous	2208N	very Fast	growth. Developed by Frank Morton of Wild Garden Seed. MT0-30.	\$5.70	\$10.95	\$24.65	\$75.35	\$66.76	\$53.61
	Parris Island	2234N G	Very Fast	Upright, medium-green oval leaf. Good flavor/ texture. Seed densely for narrower petioles and leaves. MT0-30.	\$5.80	\$10.05	\$23.95	\$79.66	\$71.54	\$67.40

Salad Mixes

We offer mixes of lettuces that can be harvested at 3-6 weeks for use as salad mix. Our mixes are balanced for color, texture, and flavor. You may wish to create a unique mix. Call us for details and suggestions on production, varieties, handling methods, and marketing possibilities. See page 40 for greens mixes to create a customized blend.











Starstruck Lettuce Mix 4462

38 davs.

EXCLUSIVE! Crunchy, juicy blend. Everyone wants crunch in their mixes, but crunchy baby leaf varieties can be hard to find. We selected crunchy and crispy types—including new varieties from independent breeders—and formulated this mix to strike the right balance of color, leaf shape, and growth rate. For maximum crunch, grow from early spring to late fall. Includes red romaine, green romaine, green oakleaf, and red oakleaf lettuces. MT0-30. Varieties are subject to change depending upon availability.

PKT (1,000 seeds) \$6.00; Oz. \$30.05; 1/4 Lb. \$80.35; Lb. \$260.40; 5 Lbs. @ \$214.62/Lb.

Allstar Gourmet Lettuce Mix 2301

28 days

EXCLUSIVE! Our most popular mix. This specially designed blend combines a variety of colors with ruffled edges and unique leaf shapes for a balanced mix with high loft, interesting texture, good shelf life, and gourmet appearance. Includes green oakleaf, red oakleaf, green romaine, red romaine, Iollo rossa, and red leaf lettuces. MT0-30. Varieties are subject to change depending upon availability.

PKT (1,000 seeds) \$5.75; Oz. \$22.50; 1/4 Lb. \$54.80; Lb. \$192.40; 5 Lbs. @ \$180.90/Lb.

FOR SALAD MIX GROWERS

Greens Mixes: Add gourmet greens to your mix. See page 40. Prismatic Mini Head Mix: Exceptional quality for whole-head or salad mix. See page 62.

Five Star Greenhouse Lettuce Mix 192

35 days. HR: DM.

EXCLUSIVE! Strong downy mildew resistance. The components were selected for their uniform growth rates, ability to hold their color (especially red leaf varieties) and resistance to downy mildew. Includes green oakleaf, red oakleaf, red romaine, green leaf, and red leaf lettuces. Ideal for fall and winter production under protected cover. MT0-30. Varieties are subject to change depending upon availability and are updated regularly for improved downy mildew resistance. PKT (1,000 seeds) \$8.20; Oz. \$40.05; 1/4 Lb. \$106.40; Lb. \$368.45; 5 Lbs. @ \$358.20/Lb.

Encore Lettuce Mix 2366G

28 days.

EXCLUSIVE! An all-organic lettuce mix. A stunning mix of different colors, shapes, and textures. Similar to our popular Allstar Gourmet Lettuce Mix, but organic. Includes green oakleaf, red oakleaf, green romaine, red romaine, red leaf, and bibb lettuces. MT0-30. Varieties are subject to change depending upon availability. GG

PKT (1,000 seeds) \$7.40; Oz. \$30.75; 1/4 Lb. \$82.30; Lb. \$266.65; 5 Lbs. @ \$219.78/Lb.

Wildfire Lettuce Mix 2850

28 days

EXCLUSIVE! High percentage of red leaves. This blend was created for high color contrast of the darkest red varieties paired with vibrant green varieties. Includes green oakleaf, red oakleaf, green romaine, red romaine, and red leaf lettuces. MT0-30. Varieties are subject to change depending upon availability.

PKT (1,000 seeds) \$5.70; Oz. \$33.45; 1/4 Lb. \$86.30; Lb. \$244.25; 5 Lbs. @ \$231.95/Lb.



Head Lettuce Planting Program

Full-sized heads of lettuce are an essential product to have at market and on the farm stand. Variety selection is key in providing your customers with a continuous supply of lettuce throughout the season. We help take the guesswork out of your lettuce succession plantings by providing the following recommended planting program. NOTE: Even heat-tolerant varieties have upper limits of temperatures they can withstand. In areas such as the South and Midwest, we recommend avoiding planting lettuce during the warmest part of the season.



DISEASE PREVENTION TIPS

Lettuce Downy Mildew (Bremia lactucae) is an ever-evolving pathogen most common where lettuce is grown intensively year-round and during cool, damp weather. It infects outer leaves first, but can spread rapidly in the field and post harvest. For best success:

- 1. Look for varieties with the highest, most comprehensive list of isolate resistances across the following ranges: EU 16-37 and US 5-9.
- 2. Focus on your riskiest planting slots (fall, early winter) and locations (tunnels, under row cover).
- 3. Trial new varieties, as not all regions have similar isolate pressures.

For more information see the IBEB website: https://www.worldseed.org/our-work/planthealth/other-initiatives/ibeb/

Bottom rot of head lettuce is caused by a fungus called Rhizoctonia solani. Follow these tips to help prevent this disease.

- 1. Create a firm seedbed to make planting depth more accurate and easier to control.
- 2. Transplant seedlings with approximately 1/4" of the root ball above the soil line.
- 3. Avoid cultivation methods that move soil toward the base of the plants.
- 4. Avoid irrigation near harvest time.
- 5. Use plastic mulch if your system allows.

EARLY SEASON

Planting in cool weather (early spring) for warm weather (late spring and early summer) harvest. Varieties are selected for quick growth so they make full heads and are first to market.

Туре	Varieties	Page
Green Leaf	Bergam's Green, Tropicana	66
Red Leaf	New Red Fire	66
Green Romaine	Green Forest	64
Romaine Hearts	Sparx, Sunland	64
Red Romaine	Pomegranate Crunch	65
Green Butterhead	Nancy	68
Red Butterhead	Red Cross	68

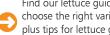
	Type	Varieties	Page
	Green Leaf	Starfighter	66
	Red Leaf	New Red Fire, Ruby Sky	66
MID SEASON	Summer Crisp/Batavia	Muir, Magenta, Cherokee	67
Planting in warm weather (late spring and early summer) for hot weather (mid	Green Romaine	Salvius, Monte Carlo, Chalupa, Sunland	64
and late summer) harvest. Varieties are selected for heat tolerance – i.e.,	Romaine Hearts	Sparx, Sunland	64
resistance to bolting and tipburn.	Red Romaine	Thurinus	65
	Green Butterhead	Adriana	68
	Red Butterhead	Skynhos	68

	Туре	Varieties	Page
	Green Leaf	Starfighter	66
LATE SEASON Planting in hot weather (late summer)	Red Leaf	Shirane Sky	66
	Green Romaine	Salvius	64
up to 60 days before first frost for cool weather (fall) harvest. Varieties are	Romaine Hearts	Bluerock	64
selected for disease resistance and cold	Red Romaine	Thurinus	65
tolerance.	Green Butterhead	Milagro	68
	Red Butterhead	Marciano Skyphos	68

	Туре	Varieties	Page
ALL SEASON	True Mini	All True Minis	63
Planting in any season with best chances of success and consistency.	One-Cut	All Salanova	60–61
Varieties are selected for their adaptability under varying conditions.	Summer Crisp/Batavia	Muir, Magenta	67

PELLETED LETTUCE SEEDS

Reduce time-consuming thinning with pelleted seeds. See page 70.



Find our lettuce guide online to learn how to choose the right varieties for your operation, plus tips for lettuce growing success.

Johnnyseeds.com/lettuce-guide



Salanova® Incised

53 days.

EXCLUSIVE! Open heads with narrow stems on deeply incised leaves. High-loft, uniformly sized leaves with curled structure and Lollo-like frill. Crispy yet flexible leaf and ribs. Vigorous habit is great for multiple cuts and both hand and mechanical harvesting. Plant Variety Protected. MT0-30. ♦

PKT (25 seeds) \$6.90; 250 Seeds \$20.50; 1,000 Seeds \$47.95; 5M @ \$41.01/M; 10M @ \$38.90/M; 25M @ \$36.76/M.

Green 3052JP

HR: DM (EU 16-30, 32, 33; US 5-9), Nr. IR: LMV.

Red 3053JP

HR: DM (EU 16-33; US 5-9), Nr. IR: LMV.

Salanova® Sweet Crisp

50 days

EXCLUSIVE! Open heads with narrow stems on deeply incised leaves. Fancy, jagged margin all the way down the ribs creates an attractive leaflet on the plate. Heavy texture and excellent yield potential. Sweet, romaine-like flavor with crisp, juicy ribs. Vigorous habit is great for multiple cuts and both hand and mechanical harvesting. Plant Variety Protected. MT0-30. ♠ PKT (25 seeds) \$6.90; 1,000 Seeds \$47.95; 5M @ \$41.01/M; 10M @ \$38.90/M; 25M @ \$36.76/M.

Green 3054JP

HR: DM (EU 16–32, 34, 36; US 5–9), Nr. IR: LMV. **Red 3055JP**

HR: DM (EU 16-30, 32, 33; US 5-9), Nr.

Salanova[®] Red Gem 4823JP

58 days. HR: DM (EU 16–37; US 5–9), Nr. *EXCLUSIVE!* Attractive, deep red leaves in an exceptional mini head. Excellent performance in hydroponic systems. Compared to Salanova Red Butter (#3057JP and #4449JP), Salanova Red Gem plants are more upright with sturdier leaves that are easier to handle and have a longer shelf life. Heads stay open for slightly longer than other red Salanova options, leading to more red pigmentation nearer the core. **♦** PKT (25 seeds) \$7.50; 250 Seeds \$21.00;

1,000 Seeds \$59.95; 5M @ \$51.48/M; 10M @ \$48.47/M; 25M @ \$46.12/M.

Salanova® Red Tango 4764JP

55 days. HR: DM (EU 16–37; US 5–9), Nr, Pb. *EXCLUSIVE!* Open heads with narrow stems on deeply lobed leaves. High-loft, tango-type leaves. Soft texture with crisp midribs. Excellent performance in both summer and winter. Strong yields in a slower to mature plant. Great for multiple cuts and both hand and mechanical harvest. Slowest bolting of all our Salanova and one-cut lettuces. Plant Variety Protected. MTO-30.

PKT (25 seeds) \$6.90; 250 Seeds \$20.50; 1,000 Seeds \$47.95; 5M @ \$41.01/M; 25M @ \$36.76/M.



The industry standard in salad mix for its high leaf count of baby-size leaves in interesting shapes and colors. All varieties tend to hold their great flavor without going bitter better than typical head lettuce, which allows for a longer harvest window. All Salanova seed is MTO-30 (tested for the presence of Lettuce Mosaic Virus) and seeds are pelleted with NOP-compliant material, for sowing ease. Plant Variety Protected.













Salanova® Butter

55 days. HR: DM (EU 16-37; US 5-9), Nr. **EXCLUSIVE!** Compact heads with a tight core and impressive number of salad-sized, uniform leaves. Attractive rosette-like habit with rounded, wrinkled leaves for a truly striking presentation. Develops characteristic butteriness at full maturity. Exceptional marketed as true mini heads, and withstands multiple cuts if cut for a mix; we recommend one circular cut around the core to separate the leaves. Plant Variety Protected. MT0-30.

PKT (25 seeds) \$6.90; 250 Seeds \$20.50; 1,000 Seeds \$47.95; 5M @ \$41.01/M; 25M @ \$36.76/M.

Green 3056JP Red 3057JP

Salanova® Oakleaf

EXCLUSIVE! Compact, densely packed heads with a tight core. Wavy, lobed leaves and an interwoven arrangement create stunning heads, even at an early stage. Excellent flavor and texture through maturity. Exceptional marketed as true mini heads, and withstands multiple cuts if cut for a mix; we recommend one circular cut around the core to separate the leaves. Plant Variety Protected. MT0-30.

PKT (25 seeds) \$6.90; 250 Seeds \$20.50; 1,000 Seeds \$47.95; 5M @ \$41.01/M; 25M @ \$36.76/M.

Green 3058JP

55 days. HR: DM (EU 16-37; US 5-9), Nr.

57 days. HR: DM (EU 16-32, 34, 36; US 5-9), Nr.

Salanova® Batavia

EXCLUSIVE! Compact, heavy heads with a tight core and numerous salad-sized, uniform leaves. Scalloped, semi-savoy leaves add crunch and juicy texture. Exceptional bolt and tipburn tolerance. Great when marketed as true mini heads, and withstands multiple cuts if cut for a mix; we recommend one circular cut around the core to separate the leaves. Plant Variety Protected. MT0-30.

PKT (25 seeds) \$7.20; 250 Seeds \$20.19; 1,000 Seeds \$57.66; 5M @ \$49.50/M; 10M @ \$46.61/M; 25M @ \$44.35/M.

Green 4185JP

55 days.HR: DM (EU 16-32, 34, 36; US 5-9), Nr. IR: LMV.

Red 4186JP

59 days.HR: DM (EU 16-32, 34, 36; US 5-9), Nr.

BENEFITS OF SALANOVA

Salanova is more than 40% higher yielding, has better flavor and texture, and double the shelf life of traditional baby-leaf lettuce, making it an excellent option for field or indoor production.



SCAN THIS CODE to watch a video of our Product Manager, Brenna Chase, explain the many benefits of growing Salanova.





One-Cut

Make salad mix production more efficient with our one-cut lettuce varieties. Like Salanova[®], grow to a full-size head and harvest individual leaflets with a single cut above the core. Regrowth suitable for multiple harvests.

Prismatic Mini Head Mix 4768JP Pelleted

55 days. HR: DM, Nr. IR: LMV.

EXCLUSIVE! Stunning selection. Well-matched head sizes and maturities make for easy mixed packs and displays. Beautiful range of complementary colors, leaf shapes, and textures. All varieties are slow bolting and disease resistant. MT0-30.

PKT (25 seeds) \$7.50; 250 Seeds \$21.00; 1,000 Seeds \$59.95; 5M @ \$51.48/M; 10M @ \$48.47/M.

Green

Intercut 4460JP Pelleted 46 days. HR: DM (EU 16–32, 34, 35), Nr. IR: LMV. Our highest yielding one-cut. Vigorous and early maturing, yet slow to bolt and become bitter. Deeply incised leaves for attractive, uniform leaflets after coring. Sweet, crisp leaves. MT0-30.

PKT (100 seeds) \$7.50; 1,000 Seeds \$27.25; 5M @ \$23.16/M; 25M @ \$20.89/M; 100M @ \$18.74/M.

Ezpark 4346GP Pelleted 50 days. HR: DM (EU 16–36; US 5–9), Nr. IR: LMV. **Deeply incised.** Tango type with strong yields of lobed leaflets. Texture is delicate yet crisp enough to hold up to handling. Retains good flavor throughout all seasons. Vibrant green leaves. MT0-30.06 PKT (250 seeds) \$7.70; 1,000 Seeds \$12.65; 5M @ \$10.11/M; 25M @ \$9.13/M; 100M @ \$7.34/M.



PKT (25 seeds) \$7.50; 250 Seeds \$23.35; 1,000 Seeds \$54.60; 5M @ \$46.73/M; 10M @ \$44.03/M; 25M @ \$41.91/M; 50M @ \$39.72/M; 100M @ \$37.43/M.

Hampton 4598GP Pelleted

55 days. HR: DM (EU 16-37; US 5-8), Nr, TBSV. IR: LMV.

Gorgeous and easy to harvest. Fast initial growth and upright plant habit. Brilliant, deep green oakleaf-type leaves are excellent in salad mix. Leaves are meaty, lofty, and yield well for a specialty type. MT0-30. CG PKT (250 seeds) \$7.70; 1,000 Seeds \$12.65; 5M @ \$10.11/M; 25M @ \$9.13/M; 100M @ \$7.34/M.

Red

Rhone 4347GP Pelleted 52 days. HR: DM (EU 16-33; US 5-9), Nr. **Spiky bronze leaves.** High-yielding plants with early vigor are fast to bulk up, but slow to become bitter. Deeply lobed for better uniformity. Leaves are green at the base with bronze-colored tips. Vigorous for multiple harvests. MT0-30. CG

PKT (250 seeds) \$7.70; 1,000 Seeds \$12.65; 5M @ \$10.11/M; 25M @ \$9.13/M; 100M @ \$7.34/M.

Brentwood 4599GP Pelleted

57 days. HR: DM (EU 16-35; US 5-9), Nr, TBSV. IR: LMV.

Holds well in the field. Contrasting colors of deep cherry-red to green add visual appeal to salad mixes. Excellent flavor and redleaf-like texture. Compared to Salanova® Red Incised, Brentwood is more flavorful but slower growing and lower yielding. MT0-30. 🔾

PKT (250 seeds) \$7.15; 1,000 Seeds \$11.80; 5M @ \$9.44/M; 25M @ \$8.52/M; 100M @ \$6.86/M.

















True Mini

True mini lettuces, often called mini romaine, bibb, or little gem, retain a compact frame through maturity that allows for tighter planting densities. They are typically quick to fill out but slow-bolting, making them versatile to grow all season long.

Bibb

NEW Kolibri 4769G

43 days.

Gorgeous speckled mini bibb. Fast-maturing Gem type with uniform speckling across head and leaves. Deep red speckling holds well on outer leaves and underneath leaves. Red blush at maturity. Impressive field-holding and tipburn resistance. Pairs nicely with other bibb lettuces, especially Cegolaine and Rosaine. MT0-30. CG

PKT \$8.05; 1,000 Seeds \$12.75; 5M @ \$12.62/M; 25M @ \$10.78/M; 100M @ \$9.55/M.

Volcana 4765

52 days. HR: DM (EU 16, 20-22, 25, 27, 29-32, 35, 37).

Red-to-the-heart mini. Very bolt-tolerant Little Gem type with savoy leaves. Marketable at a very early stage and holds exceptionally well in the field. Good color development in all seasons, but best in cooler conditions. MT0-30.

PKT (250 seeds) \$10.75; 1,000 Seeds \$41.00; 5M @ \$36.12/M; 25M @ \$33.25/M; 100M @ \$28.69/M.

Newham 3680G

52 days. HR: DM (EU 16-21, 23-26, 28-35; US 5-9), Nr, Pb. IR: LMV, Rs. Improved Little Gem type. Uniform, compact heads with an upright, vase-shaped habit. High-yielding with a greater percentage of marketable heads and better bolting tolerance than Little Gem. Suitable for spring, summer, and fall production. Utility Patent granted. MT0-30. CG PKT \$7.60; 1,000 Seeds \$12.05; 5M @ \$11.90/M; 25M @ \$10.17/M; 100M @ \$9.01/M.

Cegolaine 3634

50 days. HR: DM (EU 16-27, 30-32, 37; US 5-9), Nr, Pb. IR: LMV.

Bronze-red Little Gem type. Exceptionally slow-bolting true bibb with semi-savoy leaf and very uniform, dense heads. For spring, summer, and fall. MT0-30.

PKT \$7.90; 1,000 Seeds \$12.55; 5M @ \$12.44/M; 25M @ \$10.63/M; 100M @ \$9.41/M.

Rosaine 3635

52 days. HR: DM (EU 16-26, 31, 32; US 5-9), Nr, Pb.

Dark red Little Gem type. A true bibb with exceptional bolt tolerance. Uniform, dense heads are layered with crisp, semi-savoy leaves. Plant Variety Protected. MT0-30.

PKT \$7.40; 1,000 Seeds \$11.85; 5M @ \$11.73/M; 25M @ \$10.03/M; 100M @ \$8.88/M.

Romaine

Tendita 4595

45 days. HR: DM (EU 16-20, 22-25, 29, 30, 33-37), Nr. Crunchy, snackable, stackable mini cosberg.

The juiciness and crunch of an iceberg, with romaine sweetness, head shape, and hearts. Petite frame for easy pairing with other minis. Leaves have a beautiful "spoon" shape for small leaf wraps and hors d'oeuvres. Very high count of crunchy leaves that withstand handling very well. Forms nice hearts at full maturity. Extremely slow bolting, MT0-30.

PKT \$9.05; 1,000 Seeds \$34.15; 5M @ \$30.10/M; 25M @ \$27.71/M; 100M @ \$23.91/M.



Dragoon 3884G

43 days. HR: DM (EU 16-27, 29, 32, 34; US 5-8), Nr, TBSV. IR: LMV.

Green mini romaine. Compact and uniform. Leaves are thick and have an excellent, crisp texture. Heads are very dense and hold well in the field. Bolting and tipburn tolerant. For spring, summer, and fall. Utility Patent granted. MT0-30. QG

PKT \$7.85; 1,000 Seeds \$12.30; 5M @ \$11.45/M; 25M @ \$10.52/M; 100M @ \$9.31/M.

Breen 118G

45 days. HR: DM (EU 16-21, 23-26, 28-37; US 5-9).

Bronze-red mini romaine. Breen forms a very compact mini head early and is slow to become oversized. The short plant averages 8" tall and is a medium-bronze-red color. Though best for mini heads, it can also be used for cut-and-come-again harvest. Utility Patent granted. MT0-30. CG PKT \$7.85; 1,000 Seeds \$12.30; 5M @ \$11.45/M; 25M @ \$10.25/M; 100M @ \$9.31/M.

Truchas 3880GP Pelleted

47 days. HR: DM (EU 16-26, 28-37; US 5-9), TBSV. IR: LMV.

Dark red mini romaine. The compact heads display deep red pigmentation, even in the North. Plants avg. 6-8" tall and fill out nicely. Utility Patent granted. MT0-30. CG

PKT \$8.00; 1,000 Seeds \$18.75; 5M @ \$12.25/M; 25M @ \$9.97/M; 100M @ \$9.23/M.











Sunland

Sparx

Salvius

Monte Carlo

Chalupa



Romaine

Green

NEW Chalupa 4791G 45 days. HR: TBSV. Unique, sweet romaine with excellent **bolt tolerance**. This medium-size, compact romaine is very upright with improved summer performance. Sweet-tasting plants are harvestable starting at an earlier stage with both impressive field-holding and shelf life. Matures 1-2 weeks earlier than full-size romaines. Worth testing indoors. Sell as heads, hearts, sandwich leaves, or "taco boat" wraps. MT0-30. **CG**

PKT \$5.75; 1,000 Seeds \$11.10; 5M @ \$5.40/M; 25M @ \$4.72/M; 100M @ \$4.08/M.



PKT \$5.40; 5M @ \$3.44/M; 25M @ \$2.84/M; 100M @ \$2.26/M.



58 days. HR: DM (EU 21, 22, 26, 30, 31; US 7-9), Nr, TBSV. Classic romaine with modern disease resistance. Attractive, dark green savoy leaves on tall, upright heads that fill out nicely and remain partially open when mature. Slowbolting plants with a low core can hold their weight well and are ideal marketed as whole heads. An improvement over Coastal Star in bolt tolerance, disease resistance, weight, and color, MT0-30, CG

PKT \$5.75; 1,000 Seeds \$11.10; 5M @ \$5.40/M; 25M @ \$4.72/M; 100M @ \$4.08/M.

Green Forest 2196 56 days. IR: Rs. Our most attractive green romaine. Early, tall, and dark green. Green Forest is slow-bolting and has smooth ribs so it packs and handles with little damage. A good performer for field or greenhouse production in conventional and hydroponic systems. Tolerant to tipburn. Plant Variety Protected. MT0-30. PKT \$5.75; 5M @ \$3.65/M; 25M @ \$3.01/M;

Salvius 2543

58 days. HR: DM (EU 16-26, 32; US 5-9), Nr. IR: Rs. Bolt tolerant and widely adaptable. Medium green, upright plants. Open habit

makes it more suitable for heads. Good flavor with a crisp texture. Utility Patent granted. MT0-30.

PKT \$7.70; 1,000 Seeds \$13.90; 5M @ \$13.84/M; 25M @ \$11.88/M; 100M @ \$10.46/M.

Sparx 3156

58 days. HR: DM (EU 16, 17, 19, 21, 23; US 5-6). Heat-tolerant romaine for hearts. Highyielding, upright, dense heads produce long, uniform hearts with good flavor. Ideal for spring, summer, or fall harvests. Similar to Helvius, which it replaced, but longer hearts and more attractive plants. Utility Patent granted. MT0-30. 🚆

PKT \$5.75; 1,000 Seeds \$7.65; 5M @ \$3.65/M; 25M @ \$3.01/M; 100M @ \$2.39/M.

Coastal Star 2963G

57 days. IR: Rs.

A longtime favorite. The large, heavy heads are dark green. Suitable for marketing as full heads or romaine hearts. Good, sweet flavor. Utility Patent granted. MT0-30. 💢 🚆 PKT \$5.75; 1,000 Seeds \$11.10; 5M @ \$5.40/M; 25M @ \$4.72/M; 100M @ \$4.08/M.

Monte Carlo 3207JP Pelleted

46 days. HR: DM (EU 16, 19, 21, 23).

Dark green, compact romaine for an all-season mid-size. Unique growth habit with savoyed leaves forming in a whorl. Very attractive, uniform plants that are extra-dark green. Dense heads can be harvested at a mini size or slightly larger. Creamy centers with great flavor. MT0-30.

PKT \$6.90; 1,000 Seeds \$8.60; 5M @ \$7.09/M; 25M @ \$6.10/M; 100M @ \$5.60/M.

PELLETED LETTUCE SEEDS

Reduce time-consuming thinning with pelleted seeds. See page 70.







100M @ \$2.39/M.







Cherokee (see page 67)



Red

Pomegranate Crunch 4646G

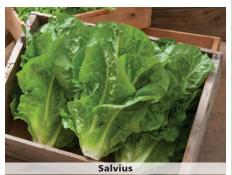
50 days. HR: DM (EU 16-27, 29, 32, 34, 36; US 5-8), TBSV. Adaptable mid-size romaine. Exceptional weight, speed, and crunch—especially for a red romaine! A great pair with Monte Carlo for size, maturity, and color. Distinctive cherry-red outer leaves and a frequently pink-colored center to its blanched heart. MT0-30. 00

PKT \$8.45; 1,000 Seeds \$13.15; 5M @ \$12.52/M; 25M @ \$11.26/M; 100M @ \$9.96/M.

Thurinus 3210

56 days. HR: DM (EU 16-27, 30-32, 37; US 5-9), Nr, Pb. IR: LMV.

Dark red romaine for full size. Attractive red romaine with great contrast between dark red and lighter green at the base of the leaf. Similar color compared to Red Cash, which it replaced. Uniform plants are well-suited for spring, summer, and fall. Utility Patent granted. MT0-30. PKT \$7.70; 1,000 Seeds \$13.90; 5M @ \$13.84/M; 25M @ \$11.88/M; 100M @ \$10.46/M.





		- "			Tipburn	Bolting		
Color	Variety	Part #	Days	Habit	Tolerance	Tolerance	Frame Size	Weight
	Bluerock	4618G CG	58	Semi-Open	Good	Very Good	Med-Large	***
	NEW Chalupa	4791G C	45	Closed	Excellent	Excellent	Small	**
	Coastal Star	2963G CG	57	Semi-Closed	Good	Average	Large	***
Green	Green Forest	2196	56	Semi-Closed	Good	Average	Med-Large	****
Green	Monte Carlo	3207JP	46	Open	Excellent	Excellent	Small	**
	Salvius	2543	58	Semi-Open	Excellent	Very Good	Large	***
	Sparx	3156	58	Closed	Excellent	Good	Very Large	****
	NEW Sunland	4788	56	Closed	Excellent	Excellent	Very Large	****
Rad	Pomegranate Crunch	4646G CG	50	Semi-Open	Very Good	Very Good	Med-Small	**

Monte Carlo and Pomegranate Crunch (L to R)

Iceberg

Crispino 444G

57 days.

Adaptable iceberg. Medium-size, glossy, green, firm heads. High percentage of dense, marketable heads, even when grown in lessthan-ideal, warm and humid conditions. White interior, juicy, and mild. MT0-30. OG PKT \$6.15; 5M @ \$2.94/M; 25M @ \$2.64/M; 100M @ \$2.07/M.

What Our Growers Are Saying...

"Salanova lettuces completely transformed our salad mix production. We saved valuable time and money by cutting out direct-seeded bands of leaf lettuce, which were extremely intensive for us to weed and harvest, plus our yields increased!

"The quality of the seeds we use is critical. From the selection of cultivars and varieties to germination rates, Johnny's delivers on all counts."

Aimee Good The Good Farm Germansville, Pennsylvania



We want to hear from you! Join the Johnny's community. #growwithjohnnys





Thurinus

3210

Med-Small *













Leaf

Green

Bergam's Green 3663G

51 days. HR: DM (EU 16-26, 28, 32; US 5-9), Nr, TBSV. IR: LMV.

Dependable, full-size green leaf. Bergam's Green has dark green savoyed leaves with a wavy leaf margin. Uniform, dense heads are highyielding with good flavor. For spring, summer, and fall harvest. Widely adapted. MT0-30. OG PKT \$6.15; 1,000 Seeds \$8.60; 5M @ \$5.59/M; 25M @ \$5.10/M; 100M @ \$4.42/M.

Grazion 4041

52 days. HR: DM (EU 16-27, 30-32; US 5-9), Nr, Pb. IR: LMV.

Strong performer with excellent disease resistance. A slow-bolting green leaf with heavy, attractive heads and dark green leaves with wavy margins. An updated disease resistance package, darker leaves, and heavier heads (that bulk up more quickly) than Starfighter. MT0-30.

PKT \$7.70; 1,000 Seeds \$12.30; 5M @ \$12.17/M; 25M @ \$10.41/M; 50M @ \$9.70/M; 100M @ \$9.22/M; 500M @ \$8.79/M.

Tropicana

52 days. IR: Rs.

Standard heat-tolerant green leaf. Plants produce full heads with heavy leaves. Tolerant to tipburn. Plant Variety Protected. MT0-30.

2485G Organic CG

PKT \$5.80; 1,000 Seeds \$8.10; 5M @ \$5.30/M; 25M @ \$4.83/M; 100M @ \$4.19/M.

2485 Conventional

PKT \$5.75; 5M @ \$3.42/M; 25M @ \$2.74/M; 100M @ \$2.20/M.

Starfighter 3203

52 days. HR: DM (EU 16-25, 27, 30-32; US 5-9), Nr, Pb. Heat-tolerant, disease-resistant green leaf. Starfighter produces high yields of uniform, medium-size heads with good flavor. The dark green leaves are shiny and slightly savoyed. Excellent bolt and tipburn tolerance combined with disease resistance. MT0-30. 🏯 PKT \$5.40; 1,000 Seeds \$8.80; 5M @ \$8.14/M; 25M @ \$7.46/M; 100M @ \$6.62/M.

Red

New Red Fire 430G

55 davs.

Red leaf with heat tolerance. New Red Fire is relatively slow, but produces uniform, heavy heads of brightly colored, frilly leaves. MT0-30. Of PKT \$5.90; 5M @ \$1.66/M; 25M @ \$1.38/M; 100M @ \$1.22/M.

Ruby Sky 2542

58 days. HR: DM (EU 16, 17, 21, 23, 32; US 5, 6), Nr.

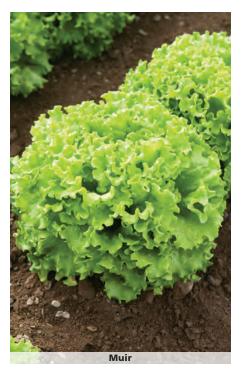
Our most productive red leaf. Dense. heavy heads and good field-holding make this all-season red leaf a reliable standard. Ruffled leaves are intense purple-red at the tips, and green at the inner base. Uniform growth. Utility Patent granted. MT0-30.

PKT \$5.75; 1,000 Seeds \$9.30; 5M @ \$8.63/M; 25M @ \$7.90/M; 100M @ \$7.02/M.

Shirane Sky 4349

58 days. HR: DM (EU 16-34, 36; US 5-9), Nr. IR: LMV. Dark red leaves for all seasons. Impressive dark color while not sacrificing speed. Openheading yet compact. Slowness to bolt and disease resistance lend well to an extended harvest window and year-round production. Heads finish a little smaller than Ruby Sky but have improved color and field-holding ability. MT0-30. PKT \$8.20; 1,000 Seeds \$13.05; 5M @ \$12.90/M; 25M @ \$11.03/M; 100M @ \$9.78/M.

Color	Variety	Part #	Days	Color Description	Tipburn Tolerance	Bolting Tolerance	Frame Size	Weight
	Bergam's Green	3663G CG	51	Medium	Good	Good	Medium	****
Green	Grazion	4041	52	Med-Dark	Excellent	Excellent	Medium	***
	Starfighter	3203	52	Med-Dark	Excellent	Excellent	Medium	***
	Tropicana	2485G CG 2485	52	Medium	Good	Average	Large	***
	New Red Fire	430G CG	55	Medium	Good	Good	Medium	**
Red	Ruby Sky	2542	58	Maroon	Excellent	Good	Medium	***
	Shirane Sky	4349	58	Med-Dark	Excellent	Excellent	Small	**







Magenta and Cherokee (L to R)





Summer Crisp/Batavia

Green

Muir 3881G

50 days. HR: DM (EU 16-26, 28, 32; US 5-9), Nr, TBSV. IR: LMV.

Our most heat tolerant lettuce. Muir is the slowest to bolt in our summer trials. Technically a Batavian type, the light green, extra-wavy leaves form dense heads at a small size and can be harvested as minis or left to bulk up into large, heavy, full-size heads. The crisp leaves have excellent flavor. Suitable for hydroponic systems. Utility Patent granted. MT0-30. CG6. PKT \$7.40; 1,000 Seeds \$11.50; 5M @ \$10.72/M; 25M @ \$9.93/M; 100M @ \$8.42/M.

Fusion 3593 55 days. HR: Rs. IR: LMV. Slow bolting and upright with great flavor. Romaine and green leaf cross. Wavy leaves, like a green leaf, with the upright habit and flavor of a romaine. Dark green, heavy heads with a high leaf count. Unlike the other Summer Crisps, these heads remain fully open through maturity. Plant Variety Protected. MT0-30. PKT \$5.40; 1,000 Seeds \$7.65; 5M @ \$4.80/M; 25M @ \$4.20/M; 100M @ \$3.63/M.

Red

Magenta 2382

48 days. HR: DM (EU 16, 21, 23, 32). IR: LMV. A red Summer Crisp with good flavor. Shiny, slightly puckered, red-tinged leaves form a whorled, conical head with a crispy green heart. Ideal for spring and summer plantings. Tolerant to bolting, tipburn, and bottom rot. MT0-30.

PKT \$5.75; 1,000 Seeds \$10.10; 5M @ \$9.55/M; 25M @ \$8.99/M; 100M @ \$8.01/M.

Cherokee 2741

48 days. HR: DM (EU 16, 21, 23, 32; US 5-6). Darkest red leaves and a long harvest window. Thick, crisp, dark red leaves with good flavor. Similar appearance to Magenta except much darker red color, though not quite as sweet. Very slow bolting with excellent tolerance to heat and bottom rot. Plant Variety Protected. MT0-30.

PKT \$5.40; 1,000 Seeds \$9.05; 5M @ \$8.21/M; 25M @ \$7.57/M; 100M @ \$6.61/M.

Lollo

Green

Ilema 3155G

55 days. HR: DM (EU 16-33; US 5-9), Nr, Pb, TBSV. IR: LMV.

Dark green Lollo. Attractive, uniform, wellfilled heads with very frilly leaves. Growth rate, size, and color complements Antonet very well. Utility Patent granted. MT0-30. CG PKT \$9.35; 1,000 Seeds \$18.35; 5M @ \$18.11/M; 25M @ \$16.01/M; 100M @ \$14.19/M.

Red

Antonet 3211

47 days. HR: DM (EU 16-33; US 5-9), Nr. Bright red Lollo type with good head size. Clear separation between the green base and the red upper portion of the frilly, fanshaped leaves. Good flavor. Vigorous and early maturing. Utility Patent granted. MT0-30. PKT \$9.05; 1,000 Seeds \$17.90; 5M @ \$17.69/M; 25M @ \$15.64/M; 100M @ \$13.85/M.



Proud to be one of the nine original signers of the Safe Seed Pledge!

For the benefit of all growers, we pledge not to knowingly buy, sell, or trade genetically engineered seeds or plants. Further, we wish to support agricultural progress that leads to healthier soils, genetically diverse agricultural ecosystems, and, ultimately, healthy people and communities.

Learn more at Johnnyseeds.com/safe-seed

LETTUCE, BUTTERHEAD

















Butterhead

Green

Buttercrunch 435G

28 days baby; 46 days full size.

Improved selection for full-size heads. Johnny's produces Buttercrunch using the original stock from Cornell University. Forms a small, open but tightly bunched 6" rosette that is fan-shaped rather than round. Dark green leaves and small, compact hearts that blanch to an appetizing yellow color. Crisp and sweet. MT0-30. CG PKT \$6.15; Oz. \$17.90; 1/4 Lb. \$43.95; Lb. \$150.90; 5 Lbs. @ \$143.41/Lb.; 25 Lbs. @ \$136.25/Lb.

Adriana 2358

48 days. HR: DM (EU 16, 21, 23). IR: LMV.

EXCLUSIVE! Heat-tolerant dark green butterhead. Developed by the same talented breeder who gave us Ermosa, Adriana is large and has a broad disease package. Heads are full and dense with good flavor. Good tolerance to tipburn. MT0-30.

PKT \$5.75; 1,000 Seeds \$7.00; 5M @ \$6.85/M; 25M @ \$6.74/M; 100M @ \$6.17/M.

Nancy 438G

52 days. IR: LMV.

Our favorite traditional Boston type. The medium-green leaves are unusually thick and crisp, so the head is sturdy and holds well. The large, well-packed heart has excellent butterhead quality. Nancy is a longtime favorite of Johnny's staff and customers. MT0-30. CG

PKT \$5.70; 1,000 Seeds \$6.50; 5M @ \$6.03/M; 25M @ \$5.87/M; 100M @ \$5.41/M.

Milagro 4215G

54 days. HR: DM (EU 16-35; US 5-9), Nr, TBSV. IR: LMV.

Strong downy mildew resistance. Large, upright green butterhead. Improved mildew resistance and habit over Mirlo, which it replaced. A few days later to mature, but with a slightly larger frame. Widely adaptable and performs well in spring, summer, and fall. MT0-30. CG PKT \$7.40; 1,000 Seeds \$11.35; 5M @ \$11.31/M; 25M @ \$9.73/M; 100M @ \$8.25/M.

Red

Alkindus 3212G

45 days. HR: DM (EU 16-26, 28, 32; US 5-9), Nr, TBSV. IR: LMV.

Uniform, reliable, attractive red butterhead. Darker red and shinier than Skyphos and Red Cross. The leaves have a somewhat savoyed texture. Alkindus performs well in our spring, summer, and fall trials. Smaller, more dense heads in the spring and larger, less dense heads in the summer. Utility Patent granted. MT0-30. OG

PKT \$6.85; 1,000 Seeds \$10.60; 5M @ \$10.57/M; 25M @ \$9.09/M; 100M @ \$7.71/M.

Skyphos 23

47 days. HR: DM (EU 16-26, 32; US 5-9), Nr. IR: LMV.

Most adaptable red butterhead. Beautiful, large, dark red heads with nicely contrasting green centers. Excellent flavor and texture. The surest heading of red butterheads. Our favorite variety in trials year after year. Utility Patent granted. MT0-30.

PKT \$7.70; 1,000 Seeds \$13.40; 5M @ \$12.48/M; 25M @ \$11.52/M; 100M @ \$10.16/M.

Red Cross 2962G

48 days. HR: DM (EU 16, 19, 21, 23).

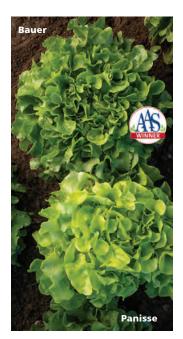
Heat-tolerant red butterhead. The large, fancy, bright red heads make a stunning presentation. Suitable for spring, summer, and fall crops. MT0-30. 06 🌉.

PKT \$5.70; 1,000 Seeds \$6.50; 5M @ \$6.03/M; 25M @ \$5.87/M; 100M @ \$5.41/M.

Marciano 4540G

50 days. HR: DM (EU 16-36; US 5-9), Nr, TBSV. IR: LMV.

Red butterhead with impressive disease package. Smooth, dark red leaves and soft, well-filled heads. Compared to Skyphos, Marciano matures a few days later with darker, more compact heads. MT0-30. PKT \$8.45; 1,000 Seeds \$14.55; 5M @ \$13.55/M; 25M @ \$12.51/M; 50M @ \$11.55/M; 100M @ \$11.02/M; 500M @ \$10.44/M.









Oakleaf

Green

Bauer 4245G 43 days. HR: DM (EU 16-37; US 5-9), Nr, TBSV. IR: LMV. Award-winning dark green oakleaf. Unique to green oakleafs, Bauer has a stunning dark color and a more crisp, durable leaf. The heads sit a little higher off the ground for improved harvestability and lower risk of bottom rot. These features combined with one of the strongest disease packages and a compact habit, makes this an extremely versatile variety for all growers. 2022 AAS winner and proudly named after our very own dedicated sales rep and lettuce enthusiast, John Bauer. MT0-30. 💢 PKT \$7.85; 1,000 Seeds \$13.60; 5M @ \$12.66/M; 25M @ \$11.69/M; 100M @ \$10.31/M.

Panisse 102 48 days. HR: DM (EU 16, 17, 21, 23, 32), Nr. IR: LMV. **EXCLUSIVE!** Bright green oakleaf. Large, lime-green, lobed leaves form dense heads with a long harvest window. Best for early or late plantings, but suitable for summer in the North. From the same French cooperator who developed Oscarde. MT0-30.

PKT \$5.75; 1,000 Seeds \$10.80; 5M @ \$6.94/M; 25M @ \$6.85/M; 100M @ \$6.06/M.

Red

Oscarde 2380 45 days.

Longtime favorite red oakleaf. Attractive, lobed leaves are deep cherry-red, turning bright green toward the dense, tender heart. Suitable for outdoor cropping spring and fall, and the winter greenhouse. From a French cooperator with a focus on fine flavor, this variety has a loyal following for its appealing colors and texture. MT0-30.

PKT \$4.60; 1,000 Seeds \$8.65; 5M @ \$4.41/M; 25M @ \$4.27/M; 100M @ \$3.92/M.

Rouxai 3061

47 days. HR: DM (EU 16-30, 32, 33; US 5-9), Nr.

Striking red color. Lobed leaves are an attractive, deep cherry-red with great flavor and leaf texture. Bright green interior makes a stunning contrast. Very uniform plants. For spring, summer, and fall harvest. Utility Patent granted. MT0-30.

PKT \$8.20; 1,000 Seeds \$14.20; 5M @ \$13.23/M; 25M @ \$12.21/M; 100M @ \$10.77/M.

CrunchLeaf — Available Online

CrunchLeaf varieties include a range of new, unique leaf and head types which combine traits from iceberg, romaine, and other traditional lettuce types to achieve the common characteristics of crunchy textures, sweet flavors, and unique appearance.



Find these unique varieties at Johnnyseeds.com/crunchleaf

LETTUCE FOR HYDROPONIC SYSTEMS

Varieties best suited to hydroponic growing conditions, along with excellent flavor and appearance, all share the following characteristics:



- · Speed to harvestable weight
- Tipburn tolerance
- Resistance to bolting
- · Adaptable across indoor growing systems

We select our recommendations using results from trials with independent hydroponic growers, in combination with our own variety knowledge and the information we receive from our suppliers.

Shop all hydroponic varieties at Johnnyseeds.com/hydroponic-performers







SCAN THIS CODE to explore our Hydroponic Head Lettuce Digital Catalog for recommended varieties and hydroponic growing resources.

Pelleted Lettuce Seed

Pelleted seeds have a more uniform shape and size than raw seeds, and are more easily and accurately sown by hand or machine. Accurate sowing creates stands that require less thinning labor. Our lettuce pellets are made of inert materials, and can be planted with Stanhay seeders (belt size 13.0) or any of the precision seeders offered by Johnny's (see page 186). For best results, we recommend consistent, moderate soil moisture during the germination period.

Many (but not all) of our pelleted lettuce varieties are primed to increase germination uniformity, and to break thermal and/or light dormancy. However, the priming process decreases the storage life of the seed so pelleted seed must be kept cool and dry prior to planting, and should be used within one year of purchase.

Pricing: Includes seed, priming, and coating. **Seeding Rate:** 130,000 pellets/acre at 6 pellets/ft. in rows 24" apart or 6,000 pellets/1,000 ft. row. Stanhay belt 13.0. **Seed Specs:** Avg. 1,100 pellets/oz. Seed size 13.0. **Seeds/PKT:** 250 seeds.

Organic	Sood/N	IOP-Comp	diant	Dollat
urganic	Zeeu/I/	ICIP-C OMP	nnant	Pellet

Туре	Color	Variety	Part #		PKT	1,000 Seeds	5M @/M	25M @/M	100M @/M
	Green	Newham	3680GP	Œ	\$8.50	\$26.40	\$13.21	\$10.50	\$9.95
Bibb	Speckled	NEW Kolibri	4769GP	Œ	\$9.05	\$18.20	\$14.77	\$11.74	\$11.13
	Green	Milagro	4215GP	Œ	\$8.00	\$14.85	\$11.76	\$10.19	\$8.81
		Nancy	438GP	Œ	\$7.70	\$13.60	\$6.77	\$6.71	\$5.78
Butterhead		Alkindus	3212GP	Œ	\$7.85	\$23.20	\$11.59	_	\$8.68
	Red	Marciano	4540GP	Œ	\$9.90	\$35.30	\$17.64	\$15.58	\$13.47
		Red Cross	2962GP	Œ	\$7.70	\$13.60	\$6.77	\$6.71	\$5.78
Iceberg	Green	Crispino	444GP	Œ	\$7.25	\$8.70	\$4.35	\$3.65	\$3.17
	Green	Bergam's Green	3664GP	Œ	\$7.85	\$13.45	\$6.73	\$5.17	\$4.93
Leaf	Green	Tropicana	2485GP	Œ	\$8.00	\$13.65	\$6.83	\$5.24	\$5.00
	Red	New Red Fire	430GP	Œ	\$7.25	\$9.10	\$4.54	_	\$3.10
Lollo	Green	Ilema	3155GP	Œ	\$11.25	\$39.90	\$19.94	\$17.80	\$15.05
Oakleaf	Green	Bauer	4245GP	Œ	\$9.15	\$32.95	\$16.49	\$14.56	\$12.59
	Green	Ezpark	4346GP	Œ	\$7.70	\$12.65	\$10.11	\$9.13	\$7.34
One-Cut		Hampton	4598GP	Œ	\$7.70	\$12.65	\$10.11	\$9.13	\$7.34
Offe-Cut	Red	Brentwood	4599GP	Œ	\$7.15	\$11.80	\$9.44	\$8.52	\$6.86
	neu	Rhone	4347GP	Œ	\$7.70	\$12.65	\$10.11	\$9.13	\$7.34
		Bluerock	4618GP	Œ	\$7.15	\$13.55	\$6.79	\$5.76	\$4.97
	Green	NEW Chalupa	4791GP	Œ	\$7.15	\$13.55	\$6.79	\$5.76	\$4.97
	Green	Coastal Star	2963GP	OG	\$7.15	\$13.55	\$6.79	\$5.76	\$4.97
Romaine		Dragoon	3884GP	Œ	\$8.30	\$18.75	\$12.25	\$11.70	\$9.23
		Breen	118GP	Œ	\$8.00	\$18.75	\$12.25	\$9.97	\$9.23
	Red	Pomegranate Crunch	4646GP	Œ	\$9.00	\$21.15	\$13.83	\$10.97	\$10.42
		Truchas	3880GP	Œ	\$8.00	\$18.75	\$12.25	\$9.97	\$9.23
Summer Crisp	Green	Muir	3881GP	Œ	\$8.00	\$24.50	\$12.23	\$10.60	\$9.16

Conventional Seed/NOP-Compliant Pellet

Туре	Color	Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M	100M @/M
		Cegolaine	3634JP	\$9.50	\$29.10	\$14.56	\$11.58	\$10.97
Bibb	Red	Rosaine	3635JP	\$8.50	\$26.40	\$13.21	\$10.50	\$9.95
		Volcana	4765JP	\$11.00	\$43.20	\$38.13	\$33.69	\$30.22
Dustanhand	Green	Adriana	2358JP	\$7.25	\$16.35	\$8.22	\$8.20	\$7.09
Butterhead	Red	Skyphos	23JP	\$8.60	\$31.25	\$15.63	\$13.80	\$11.93
	Cross	Grazion	4041JP	\$8.60	\$27.40	\$13.71	\$11.20	\$10.33
	Green	Starfighter	3203JP	\$6.45	\$18.70	\$9.33	_	_
Leaf	DI	Ruby Sky	2542JP	\$6.95	\$19.80	\$9.89	\$8.62	\$7.40
	Red	Shirane Sky	4349JP	\$9.65	\$30.20	\$15.11	\$12.72	\$11.39
Lollo	Red	Antonet	3211JP	\$10.95	\$38.95	\$19.47	\$17.39	\$14.71
Oakleaf	Green	Panisse	102JP	\$7.25	\$16.60	\$9.62	\$8.38	\$7.21
	Red	Oscarde	2380JP	\$6.95	\$13.05	\$6.50	\$6.30	\$5.43
		Rouxai	3061JP	\$9.65	\$34.45	\$17.23	\$15.22	\$13.16
0 6 1	Croon	Frisygo	4099JP	\$7.50	\$54.60	\$46.73	\$41.91	\$37.43
One-Cut	Green	Intercut	4460JP	\$7.50	\$27.25	\$23.16	\$20.89	\$18.74
		Green Forest	2196JP	\$7.25	\$13.20	\$6.56	\$5.48	\$4.74
		Monte Carlo	3207JP	\$6.90	\$8.60	\$7.09	\$6.10	\$5.60
	Cuan	Salvius	2543JP	\$8.95	\$33.45	\$16.75	\$14.80	\$12.77
Romaine	Green	Sparx	3156JP	\$7.25	\$13.20	\$6.56	\$5.48	\$4.74
		NEW Sunland	4788JP	\$6.75	\$12.45	\$6.19	\$5.17	\$4.47
		Tendita	4595JP	\$9.65	\$36.00	\$31.77	\$28.07	\$25.19
	Red	Thurinus	3210JP	\$8.95	\$33.45	\$16.75	\$14.80	\$12.77
	Green	Fusion	3593JP	\$6.45	\$11.65	\$5.78	\$4.89	\$4.22
Summer Crisp	Dl	Cherokee	2741JP	\$6.45	\$18.70	\$9.33	\$8.13	\$6.98
'	Red	Magenta	2382JP	\$8.30	\$24.75	\$12.38	\$12.27	\$10.62

Conventional Seed/Conventional Pellet

Туре	Color	Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M	100M @/M
Leaf	Green	Tropicana	2485P	\$6.95	\$11.90	\$5.99	\$5.05	\$4.38
Romaine	Green	Coastal Star	2963P	\$5.65	\$10.75	\$4.13	\$3.36	\$2.88

MELONS

French "Charentais"

D'Artagnan (F1) 4328

71 days. IR: F (0-2), PM.

Extra-early Charentais. Matures a full week before Savor. Round to slightly oval fruits with green sutures and moderate netting average 2 lb. Rich, dark orange flesh with traditional Charentais flavor—very sweet and aromatic. Cut from the vine when skin is green with a yellowish tinge. Very similar to Escorial, which has been dropped by the breeder. PKT (15 seeds) \$6.90; 100 Seeds \$28.40; 250 Seeds \$52.25; 1,000 Seeds \$168.05; 5M @ \$149.88/M.

Griselet (F1) 4554

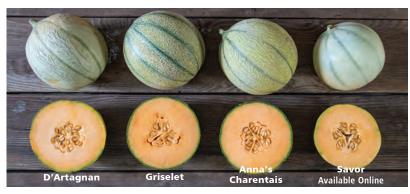
75 days. HR: F (0-2). IR: AB.

Exquisite old-fashioned flavor. Succulent and sweet, this hybrid version of the heirloom Petit Gris de Rennes looks and tastes like the French original but is protected by modern disease resistance. Unique greenish-yellow, green-sutured rind attracts attention, as does the intoxicating scent. Creamy and smooth, with hints of spice. Can be cut from the vine when skin yellows and rind gives slightly from your touch. PKT (15 seeds) \$10.20; 50 Seeds \$28.90; 100 Seeds \$55.35; 250 Seeds \$121.55; 1,000 Seeds \$421.30; 5M @ \$373.12/M.

Anna's Charentais (F1) 4183

78 days. HR: F (0-2). IR: PM.

Specialty melon for longer storage. Very sweet with mild aromatics reminiscent of a traditional Charentais. Classic looks and smaller size (2-3 lb.) make this a great melon for fresh-market sales. Stores 6 days or more at room temperature and up to 18 days refrigerated. Harvest at forced slip or cut from the vine when the skin begins turning yellow. Bred by Jason Cavatorta of EarthWork Seeds. PKT (15 seeds) \$7.70; 50 Seeds \$19.35; 100 Seeds \$34.95; 250 Seeds \$65.00; 500 Seeds \$110.00; 1,000 Seeds \$175.00; 5M @ \$170.00/M.



Specialty

Melonade (F1) 4473

70 days. HR: F (0-2). IR: PM.

EXCLUSIVE! Unique sweet-and-sour flavor. Medium-large, netted fruits that are ready to cut from the vine when they are pale green to yellow. Flavor is sweet and aromatic with a sour kick. Excellent as a dessert or as an appetizer. The plants are vigorous and produce a concentrated fruit set. Fruits avg. 4-5 lb. PKT (15 seeds) \$7.70; 50 Seeds \$20.75; 100 Seeds \$37.50; 250 Seeds \$85.65; 1,000 Seeds \$273.40; 5M @ \$264.58/M.

Golden Giant (F1) 4627

60 days.

Early, attractive Korean melon. Crisp and refreshing. Cylindrical, 9–10" long fruits avg. 2¹/₂ lb. Yellow skin with prominent white sutures and crisp, white flesh. Performs well in cool weather. Harvest when fruits turn slightly golden, at forced slip, or cut from vine. Larger and earlier maturing than Torpedo, which it replaced.

PKT \$5.80; 100 Seeds \$8.30; 250 Seeds \$13.60; 1,000 Seeds \$37.25; 5M @ \$32.22/M.





Growing Melons — Cucumis melo

CULTURE: A light, well-drained soil with a pH of 7.0 and a southern exposure is ideal. Good soil moisture is important in early stages of growth and during pollination when fruits are setting. After this point do not water the last week before fruits are ripe, as overwatering can cause bland fruit. TRANSPLANTING: Sow indoors in 50-cell plug trays or 2-3" peat pots in late April or one month (no sooner!) before transplanting outdoors. Plant 3 seeds/cell or pot, about 1/4" deep. Keep temperature 80-90°F (27-32°C) until germination. Handle young plants carefully and never let the soil dry out. Grow seedlings at 75°F (24°C). Reduce water and temperature for a week to harden-off seedlings. When the weather is frost-free, warm, and settled, transplant 2–3' apart in rows 6' apart or thin to 1 plant/cell or pot with scissors and transplant 18" apart. Even hardened-off

melon seedlings are tender. Do not disturb roots when transplanting, and water thoroughly. DIRECT SEEDING: Sow 1–2 weeks after last frost when soil is warm, above 70°F (21°C), 3 seeds every 18", 1/2" deep, thinning to 1 plant/ cell or pot. ROW COVERS: Since melons like consistently warm conditions, plastic mulch and row covers will make for earlier crops and better yields, especially in the North. Remove covers when plants have female flowers (tiny fruit at base of blossom). DISEASES: Choose varieties resistant to diseases in your area. Sudden wilt (which is caused by cold weather stress in late summer when plants have a heavy set of ripening melons), can cause plants to wilt almost overnight. Keep plants healthy with good fertility and irrigation to prevent sudden wilt. INSECT PESTS: Protect against cucumber beetles with floating row covers applied at transplanting, or control with pyrethrin or azadirachtin. **HARVEST:** Ripeness indicators vary by melon type. Most cantaloupes are ready when the gray-green color begins to change to buff-yellow and are harvested at "full slip" or when a light tug separates the fruit from the vine. Some types, like Canary and Crenshaw, require a bit more pressure to separate the fruit and are harvested at "forced slip." Others, like Honeydew, Charentais, and Piel de Sapo, are overripe by the time the stem can be tugged from the fruit; these must be cut from the vine. See product copy for when to harvest, as there are varietal differences.

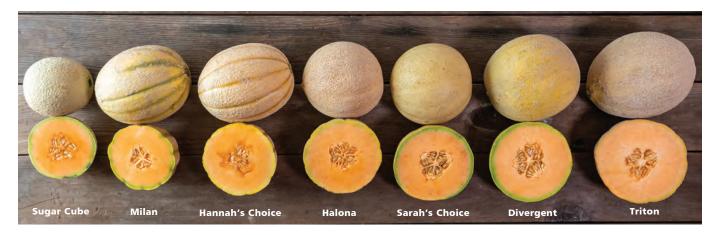
STORAGE: All melons should be stored at 85–95% relative humidity. Store ripe netted melons at 36–41°F (2–5°C); store other melons at 45–50°F (7–10°C) for 7–14 days. **DAYS TO MATURITY:** From transplanting; add about 10 days if direct-seeded. AVG. DIRECT SEEDING RATE: 30 seeds/10', 100 seeds/50', 1M/500', 15M/acre at 3 seeds every 18" in rows 6' apart. SEED SPECS: SEEDS/LB.: Avg. 18,800. PACKET: 30 seeds, unless otherwise indicated.



Melons Resistance Codes

HR = High Resistance IR = Intermediate Resistance

AB	Alternaria Blight
F	Fusarium Wilt
PM	Powdery Mildew
PRSV	Papaya Ringspot Virus
WMV	Watermelon Mosaic Virus
ZYMV	Zucchini Yellow Mosaic Virus



Cantaloupe

Milan (F1) 4102

72 days. IR: F (0-2), PM.

Early Tuscan type with superior flavor.

Aromatic, sweet, juicy Italian melon with pronounced green sutures and a small seed cavity. Fruits are oval and avg. 4-6 lb. The healthy plants produce a concentrated set, so we recommend succession plantings to extend the melon season.

PKT \$6.05; 100 Seeds \$14.10; 250 Seeds \$25.25; 1,000 Seeds \$80.70; 5M @ \$77.47/M; 10M @ \$70.60/M.

Halona (F1) 2488

73 days. IR: F (0-2), PM.

Earliest Eastern variety. Be the first to market with Halona. Fruits mature extra early, avg. 4-5 lb., and have an excellent flavor. PKT \$5.80; 100 Seeds \$12.05; 250 Seeds \$21.60; 1,000 Seeds \$49.10; 5M @ \$43.80/M.

Hannah's Choice (F1) 3560

75 days. IR: F (0, 1), PM, PRSV, WMV, ZYMV. Strong disease resistance. Aromatic, very sweet, and full of flavor. The beautiful, ribbed fruits avg. 3-5 lb. and are borne on healthy, productive plants. Bred at Cornell University. PKT \$6.05; 100 Seeds \$14.75; 250 Seeds \$26.40; 1,000 Seeds \$84.60; 5M @ \$80.94/M.



Find additional melon types such as Korean, canary, Crenshaw, galia, and Piel de Sapo at Johnnyseeds.com



Divergent (F1) 3760G

75 days. HR: F (0-2). IR: PM.

Premium organic cantaloupe. Bred to withstand the stressors of organic cropping systems, these heavily netted fruits are exceptionally sweet and aromatic. Harvest at forced slip or cut from the vine when skin is mostly yellow with a 30-40% green hue. CG PKT (15 seeds) \$8.20; 100 Seeds \$36.60; 250 Seeds \$69.35; 1,000 Seeds \$241.90; 5M @ \$209.12/M.

Triton (F1) 4182

75 days. HR: F (0-2). IR: PM.

Great-tasting Eastern shipper. A delicious cantaloupe that withstands the rigors of storage and handling. With excellent crack tolerance, disease resistance, and good shelf-life, Triton is comparable to Athena but has improved flavor. a smaller seed cavity, slightly smaller fruit (avg. $4-5^{1}/2$ lb.), and earlier maturity (up to 3 days). Bred by Jason Cavatorta of EarthWork Seeds. PKT \$6.50; 100 Seeds \$19.05; 250 Seeds \$40.60; 500 Seeds \$74.95; 1,000 Seeds \$143.70; 5M @ \$137.43/M; 25M @ \$129.93/M.

Sarah's Choice (F1) 2784

76 days. IR: F (0-2), PM.

Our most flavorful cantaloupe. Sarah's Choice consistently comes out on top of our onfarm taste tests. Attractive oval fruits and ideal 3-lb. size also help make it a winner at market. Bred by the late Dr. Brent Loy at UNH. PKT \$6.05; 100 Seeds \$14.35; 250 Seeds \$25.55; 1,000 Seeds \$82.10; 5M @ \$71.00/M.

Sugar Cube (F1) 4399

80 days. HR: F (0-2), PM, WMV. IR: PRSV, ZYMV. Personal-size and widely adapted. Rich internal color hints at Sugar Cube's intensely sweet and aromatic flavor. A true delicacy with a broad disease package for both northern or southern regions. Fill the seed cavity with a scoop of vanilla ice cream for a classic summer dessert. PKT \$6.50; 100 Seeds \$18.20; 250 Seeds \$32.70; 1,000 Seeds \$85.80; 5M @ \$79.45/M.

Honeydew

Snow Leopard (F1) 638

71 days. HR: F (0).

Beautiful variegation. Unique, personal-size, and an excellent specialty item for farmers' markets and restaurants. Melons avg. 2 lb. with firm flesh and sweet flavor.

PKT (15 seeds) \$7.95; 100 Seeds \$45.40; 250 Seeds \$90.90; 1,000 Seeds \$316.50; 5M @ \$273.79/M.

Honey Blonde (F1) 3640

71 days. IR: PM.

Delicious and different. Not your typical honeydew, Honey Blonde has attractive yellow skin and sweet, orange flesh. The oval fruits avg. $3-3^{1}/2$ lb. Plants are strong and vigorous and perform well in warm or cool weather. PKT \$6.50; 100 Seeds \$18.65; 250 Seeds \$36.55; 500 Seeds \$59.50; 1,000 Seeds \$121.55; 5M @ \$105.23/M.

Honey Orange (F1) 2086

74 days.

EXCLUSIVE! Unique orange interior. Unlike typical honeydews which have pale green flesh, Honey Orange's flesh is pale salmon-orange. Thick, crisp, and honey-sweet, it is delicious to the rind. Medium-size, oval-round melons avg. 3 lb. and have smooth, ivory skin. Early maturity. Tolerant of cool conditions. 10–15 day shelf life. PKT \$6.50; 100 Seeds \$17.60; 250 Seeds \$36.55; 1,000 Seeds \$121.55; 5M @ \$105.23/M.



ONIONS

Full Size

Long Day

Bridger (F1) 2545

90 days spring sown. Approx. 270 days fall sown in the North.

First-early onions from seed. While often used as an overwintering onion, Bridger is also an excellent option for early bulbs from spring sowing. Medium-size, slightly flattened globes mature 10-14 days ahead of most other long-day onions. Bulbs cure easily and store 3–4 months. Adaptation: 35-50° latitude.

PKT \$5.80; 1,000 Seeds \$8.75; 5M @ \$6.94/M; 25M @ \$5.76/M; 100M @ \$5.05/M.

Frontier (F1) 3564

100 days. IR: BO, DM, FBR.

Downy mildew resistance for a wider range of latitudes. Medium-large, blocky globes with thin necks and copper skin. A very consistent performer for long storage. Adaptation: 40-50° latitude.

PKT \$5.80; 1,000 Seeds \$9.40; 5M @ \$7.76/M; 25M @ \$5.00/M; 100M @ \$4.11/M.

Talon (F1) 4051G 104 days. IR: PR.

Organic storage onion. Medium-large, blocky globes with thick, clean skins for long storage. Upright plants produce a high percentage of marketable bulbs. Excellent flavor for cooking. Suitable for drier climates, but has also performed well in our Maine trials. Adaptation: 42-50° latitude. 06

PKT \$7.00; 1,000 Seeds \$12.85; 5M @ \$10.78/M; 25M @ \$7.35/M; 50M @ \$6.82/M; 100M @ \$6.51/M.

Patterson (F1) 2521 104 days.

Exceptionally long storage. In our trials, Patterson is consistently one of our longest storing onions. Its firm bulbs have good yield potential. Medium-large, blocky bulbs with dark yellow skin and thin necks that dry quickly. Adaptation: 38-55° latitude.

PKT \$5.80; 1,000 Seeds \$9.30; 5M @ \$5.49/M; 25M @ \$4.63/M; 100M @ \$4.17/M.

Powell (F1) 4309G 108 days. IR: DM. Organic and downy mildew resistant. A hard storage type that produces large bulbs with strong skins. Very similar to Yankee, which it replaced, but a few days earlier. Stores 6+ months. CG PKT \$7.00; 1,000 Seeds \$11.55; 5M @ \$10.36/M; 25M @ \$7.85/M; 100M @ \$6.64/M.







Pelleted Onion Seed

Reduce time-consuming thinning and increase planting uniformity by sowing pelleted seed with a precision seeder. Our onion and shallot seeds are pelleted with inert NOP-compliant materials. These size 13.0 pellets are ideal for direct sowing with precision seeders like the Jang JP Series seeders (see page 187). For best results, we recommend consistent soil moisture during the germination period. Pelleted seed must be kept cool and dry prior to planting, and should be used within one year of purchase.

SEEDS/LB.: 15,500-19,200 (Avg. 17,000).

SEEDING RATE: Avg. 464,600 seeds/acre @ 16 pellets/ft. (3/4" spacing) in rows 18" apart or 16,000 pellets/1,000 ft. row.

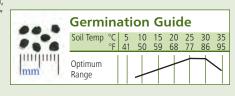
Part Numbers With: GP=Organic Seed/NOP-Compliant Pellet JP=Conventional Seed/NOP-Compliant Pellet. M=1,000 seeds

Variety	Part #	1,000 Seeds	5M @/M	25M @/M	100M @/M			
Long Day								
Bridger	2545JP	\$9.25	\$7.38	\$6.20	\$5.40			
Patterson	2521JP	\$8.45	\$6.64	\$5.54	\$4.82			
Red Carpet	3402GP CG	\$12.70	\$9.12	\$7.73	\$6.70			
Redwing	2137JP	\$11.65	\$8.80	\$7.89	\$7.12			
Rossa di Milano	3454GP CG	\$10.60	\$9.19	\$6.90	\$4.43			
Talon	4051GP CG	\$13.45	\$11.28	\$7.74	\$6.82			
Intermediate Da	ay							
Cabernet	2581JP	\$10.95	\$9.16	\$7.68	\$6.78			
Expression	3215JP	\$8.30	\$6.85	\$5.58	\$5.17			
Monastrell	3362GP CG	\$11.80	\$9.44	\$8.10	\$7.33			
Sierra Blanca	103JP	\$9.55	\$8.27	\$7.09	\$6.10			
Specification Pollet M-1 000 specific								

Growing Onions — Allium cepa

CULTURE: Onions require full sun and fertile, well-drained soil with a pH of 6.0-7.0. Sandy loam soils are ideal; in heavier soils, use raised beds or raised rows to promote soil drainage. DAY LENGTH: Onion bulbing is triggered by day length, and maximum day length during the growing season increases from south to north. Short-day onions are grown at lower latitudes in the South, while intermediate and long-day onions are grown at higher latitudes. Refer to "Adaptation" in each variety description for details.

DIRECT SEEDING: In April or early May, or as soon as the soil can be prepared in early spring, sow in a 2" wide band, about 2 seeds/in., $\frac{1}{4} - \frac{1}{2}$ " deep, rows 12–18" apart. Thin to $\frac{1}{2} - 2$ " apart for highest yields in fertile soil. Thin to 3–4" apart for larger onions. TRANSPLANTING: In long- and intermediate-day areas, sow indoors 6-8 weeks before last frost date. Sow 128-cell trays, 1 seed/cell, and cover with 1/4" soil. Transplant 4" apart in rows 12-18" apart. Unruly tops may be clipped to 5" at time of transplant. **CULTIVATION**: Keep onions well weeded with shallow cultivation. WATER: Onions are shallow-rooted and grow best with at least 1" per week of rain or irrigation, especially during the bulbing phase. **DISEASES**: Adequate air circulation and crop rotation aids in reducing the risk of foliar disease. HARVEST: When necks become soft and 50% of tops are falling over, pull and cure in well-ventilated space out of direct sunlight (to prevent greening) or sun-cure in field for 2–7 dry days before moving to dry location. Cure until tops are completely dried; about 2 weeks. STORAGE: When dry, clip off tops and roots and store in onion bags or shallow boxes at near freezing and 65–70% humidity. DAYS TO MATURITY: From direct seeding; subtract 10–15 days for days to maturity from transplant. AVG. DIRECT SEEDING RATE: 1 oz./25', 1M/50', 5M/250', 25M/1,250', 580M/acre at 20 seeds/ft., in rows 18" apart. TRANSPLANTS: Avg. 1 oz./4,900 plants, 1 lb./78,750. SIZED SEEDS: Standard on all varieties. SEED SPECS: SEEDS/LB.: 96,900—127,700 (avg. 112,000). PACKET: 250 seeds, sows 12' or makes 140 plants.



Onions Resistance Codes

HR = High Resistance IR = Intermediate Resistance

ВО	Botrytis
DM	Downy Mildew
FBR	Fusarium Basal Rot
PR	Pink Root











Ailsa Craig 485G 110 days.

Huge mild onions. Jumbo to colossal, round to teardrop-shaped bulbs with light yellow skins. Use fresh or for short-term storage. Adaptation: 38–60° latitude. CG PKT \$5.90; 1,000 Seeds \$9.05; 5M @ \$7.46/M; 25M @ \$5.21/M; 100M @ \$2.95/M; 1,000M @ \$2.54/M.

Walla Walla Sweet 496 125 days spring sown. Approx. 300 days fall sown.

Juicy, sweet, regional favorite. In the Northwest, seed is sown in late August and a crop of very large, flattened, ultra-mild onions is harvested early the next summer. Springsown crops will not be as big or sweet as overwintered crops, but still milder and juicier than other varieties from spring planting. Not for storage. Adaptation: 35-55° latitude. PKT \$5.75; 1,000 Seeds \$8.40; 5M @ \$2.24/M; 25M @ \$1.66/M; 100M @ \$1.55/M.

Rossa di Milano 3454G 100 days. Our superior strain of this classic Italian OP. An onion so lovely, it's a shame to eat it. Selected by Johnny's breeder Dr. John Navazio under tough organic growing conditions, our 'Rossa di Milano' strain is more thrips-resistant and up to 10 days earlier than others sold under the same name. Rock-hard bulbs with thin necks cure easily for 6+ months of storage. Strong, bronzepink skins and impressive uniformity. A great cooking onion with high sugar and pungency. Adaptation: 38–50° latitude. CG PKT \$5.90; 1,000 Seeds \$9.20; 5M @ \$7.99/M; 25M @ \$6.00/M; 100M @ \$3.85/M; 1.000M @ \$2.47/M.





Talon



Barolo (F1) 4476 110 days.

An earlier red storage type. Globeshaped, dark purple-red bulbs. Thick, smooth, complete skins with a glossy finish. Internal rings are red at harvest time, and the color improves in storage. Earlier maturity ensures fully dormant bulbs after curing. Large to jumbo size potential. Long storage (up to 6 months in our trials). PKT \$5.55; 1,000 Seeds \$8.75; 5M @ \$6.83/M; 25M @ \$5.51/M; 100M @ \$4.96/M.

Red Carpet (F1) 3402G 115 days. Vibrant red onion for long storage. Very good yields and strong skins. Our recommended replacement for organic Redwing. Slightly earlier and smaller than Redwing, but dries and stores just as well. Adaptation: 40–45°.

PKT \$7.00: 1.000 Seeds \$11.95: 5M @ \$8.62/M; 25M @ \$7.31/M; 100M @ \$6.34/M.

Redwing (F1) 2137 118 days. Reliable long-storage red. Uniform, large onions with deep red color and thick skin. Very hard bulbs for long storage. Consistent internal color. Sweet and spicy red onion flavor accents any salad. Adaptation: 43-65° latitude. PKT \$5.80; 1,000 Seeds \$10.20; 5M @ \$7.71/M; 25M @ \$6.93/M; 100M @ \$6.25/M.

Intermediate Day

Sierra Blanca (F1) 103 109 days. IR: PR. Big, mild, white onions. Widely adapted, dayneutral, and matures well anywhere in North America from spring sowing. Suitable for fall planting where short-day onions are normally grown. Produces uniform, large bulbs with mild flavor and thick rings. Not for long storage. Also known as 'Super Star'. AAS winner.

PKT \$5.80; 1,000 Seeds \$8.65; 5M @ \$6.17/M; 25M @ \$5.46/M; 100M @ \$4.35/M.

Calibra (F1) 4578G 110 days.

Storage onion for intermediate latitudes. Forms large bulbs farther south than our other hard storage onions. Robust, upright green tops for improved thrips resistance. Strong bronze skins. Excellent storage potential (6+ months). Adaptation: 35–45° latitude. PKT \$6.65: 1.000 Seeds \$12.05: 5M @ \$10.11/M: 25M @ \$6.91/M; 100M @ \$6.11/M.

Cabernet (F1) 100 days.

Early yields of red onions. Cabernet produces medium-large, globe-shaped onions with deep red color. Long-intermediate adaptation gives an earlier harvest than long-day reds without sacrificing size. Good internal color. Mostly single centers. 4–6 month storage. Adaptation: 35–45° latitude.

2581G Organic CG

PKT \$6.15; 1,000 Seeds \$9.25; 5M @ \$7.22/M; 25M @ \$6.33/M; 100M @ \$5.40/M.

2581 Conventional

PKT \$5.80; 1,000 Seeds \$7.40; 5M @ \$6.10/M; 25M @ \$5.51/M; 100M @ \$4.57/M.

Monastrell (F1) 3362G 106 days.

Long harvest window. Excellent field-holding capacity. Slightly flattened globes are large to jumbo size. Rich red skin color permeates the internal rings. A good choice to follow Cabernet for a late-season crop. Strong tops withstand thrips and foliar disease. Stores approx. 3–5 months. CG

PKT \$6.65; 1,000 Seeds \$10.65; 5M @ \$8.32/M; 25M @ \$7.16/M; 100M @ \$6.46/M.



Patterson







Rossa di Milano



Ailsa Craig

Bridger

Frontier

Powell











Overwintering Onions

Select varieties of bolt-resistant onions can be overwintered in low tunnels in northern areas of the country. Onions for overwintering should be sown in late August to early September, and transplanted out in late September to early October. Plan to harvest full-size spring onions by late May to early June.

T-448 (F1) 4054

95 days spring sown. Approx. 265 days fall sown in the North. Earliest overwintering onion for the North. Our trials have shown T-448 to be larger and about a week earlier than Bridger when overwintered. Bulbs are also more rounded in shape. Not as early or as large as Bridger when spring sown, however.

PKT \$6.05; 1,000 Seeds \$16.70; 5M @ \$10.66/M; 25M @ \$7.94/M; 100M @ \$6.62/M.

Red Spring (F1) 4815 98 days spring sown. Approx. 270 days fall sown in the North.

Red long-day onion for overwintering. Robust, dark green plants survive winter well and produce red bulbs with deeper color than Desert Sunrise. Bulbs are round and uniform in size, maturing a few days behind Desert Sunrise when overwintered. Slightly more prone to bolting than Desert Sunrise when overwintered in Maine. A good option for a spring-sown, early red onion in longday latitudes. Stores approx. 3 months.

PKT \$5.80; 1,000 Seeds \$8.85; 5M @ \$7.70/M; 25M @ \$6.24/M; 100M @ \$4.89/M.

Guardsman 29 50 days. A. fistulosum x cepa **Our earliest bunching onion.** This selection, from a cross between a bunching onion and a bulb onion, produces the shape of a bunching onion with a strong root system, larger top, and the mildness of a bulb onion. An excellent choice for overwintering in the North. PKT \$5.75; Oz. \$13.05; 1/4 Lb. \$31.20; Lb. \$103.50; 5 Lbs. @ \$92.13/Lb.

Deep Purple 491G/491 - Product listing at right.

Bunching Onions

Deep Purple

60 days.

Rich reddish purple. A red bunching type that is highly colored at any temperature. For spring or summer sowing, with good bolting tolerance for overwintering. **

491G Organic CG

PKT \$6.15; 1,000 Seeds \$8.00; 5M @ \$6.38/M; 25M @ \$5.26/M; 100M @ \$4.57/M. 491 Conventional PKT \$5.75; 1,000 Seeds \$6.85; 5M @ \$5.51/M; 25M @ \$4.47/M; 100M @ \$3.80/M.

Nabechan (F1) 256

EXCLUSIVE! Better flavor than other bunching onions. Sweeter, more complex flavor. Upright plants with long, thick shanks and no bulbing, even in high heat. Nabechan is a Japanese type grown for its high quality, and is an excellent choice for producing Negi onions. 🚆

PKT \$5.80; 5M @ \$2.13/M; 25M @ \$1.52/M; 100M @ \$1.21/M. Feast 4758 65 days. IR: DM.

Downy mildew resistance. The most downy mildew-resistant bunching onion we've found. Performs well in a variety of climates

PKT \$5.70; 5M @ \$2.13/M; 25M @ \$1.52/M; 100M @ \$1.21/M.

Parade 3850G 65 days.

Organic bunching onion. Parade has bright white shanks with no bulbing and dark green foliage. Very uniform, upright growth makes for easy harvest and cleaning. **G**

PKT \$5.90; 1,000 Seeds \$9.50; 5M @ \$2.55/M; 25M @ \$2.11/M; 100M @ \$1.71/M.

Evergreen Hardy White 502 65 days. Our most winter-hardy bunching onion. Exceptionally cold-hardy scallions. Sow early spring through early fall for harvest well into winter. Little or no bulbing, though overwintering may result in bolting in spring. *

PKT \$5.75; Oz. \$9.35; 1/4 Lb. \$19.30; Lb. \$56.40; 5 Lbs. @ \$52.00/Lb.

Growing Bunching Onions

Allium fistulosum unless otherwise indicated

CULTURE: See "Onions." DIRECT SEEDING: Seed can be sown in early spring for summer use, and in July or August for fall and spring use. Sow about 1/4" apart in single rows or in 2-3" wide bands, $^{1}/_{4}$ deep. Increase the blanched white portion by hilling plants with soil. **TRANSPLANTING:** Sow 6–8 seeds per cell in 72-cell trays at the same time you would seed bulbing onions for transplant. Transplant seedling clusters 6–8" apart in rows 18" apart. HARVEST: Loosen with fork or underminer and gather. Wash, hydrocool, and hold at near freezing until shipped or displayed. AVG. DIRECT **SEEDING RATE:** 1 oz./250', 4 oz./1,000', 1 lb./4,000', 7¹/2 lb./acre at 50 seeds/ft. in 2" wide bands 18" apart. SEED SPECS: SEEDS/LB.: Avg. 150,300. PACKET: 500 seeds, sows 10'.









Available Online











Calibra Cabernet



Gold Coin











Cipollini

Gold Coin 2025 80 days.

Very flat, yellow. Matures to a small-medium, yellow cipollini onion, avg. $1^{1}/2-3$ " diam. x $^{3}/4-1$ " depth. Pungent, but deliciously sweet when cooked. For bunching or braiding. Recommended for latitudes 38–60°, as necks may be too thick at lower latitudes. Suitable for short-term storage. PKT \$5.75; Oz. \$14.70; 1/4 Lb. \$32.10; Lb. \$96.15.

Bianca Di Maggio 2088 80 days.

Johnny's selected strain of the classic Italian specialty. We trialed several strains from Italy, and this one is the best. Market these white cipollini onions young with green tops, or mature, dried in braids. Mild flavor. Limited storage. August to October sowing is possible where winter is moderate. Avg. 2-3" diameter x $1^{1}/2"$ depth. Approx. latitude range 35-55°. PKT \$5.85; Oz. \$15.15; 1/4 Lb. \$33.00; Lb. \$98.85.

Red Geneva 4827G 105 days.

Our recommended substitute for Red Marble. Cipollini onion with beautiful purple skin. In our trials, very similar to Red Marble (which is unavailable this year), but with less of a flattened shape. Avg. 1¹/₂–3" diameter by 1" depth. OG

PKT \$6.15; 5M @ \$2.95/M; 25M @ \$1.79/M; 100M @ \$1.42/M.

Specialty Cooking

Red Long of Florence 4601 90 days.

Beautifully refined. Long, narrow onions in gorgeous pink and purple hues. Remarkably uniform bulbs resist rounding and are more slender than Red Long of Tropea's. Delicate flavor for chefs. Stunning for market displays. Sow in bunches of 4-5 bulbs for easier harvests. When harvested immature, it can be peeled and bunched. At maturity, it can be cured and kept for short-term storage.

PKT \$5.75; Oz. \$14.65; 1/4 Lb. \$32.75; Lb. \$98.10.

Red Long of Tropea 2333G 90 days.

Tall, elongated red bulbs. Traditionally grown in Mediterranean Italy and France for harvest just at maturity in mid-late summer. For bunching or fresh use, not for storage. Nice specialty variety. Adaptation: 35–48° latitude. PKT \$6.15; Oz. \$23.20; 1/4 Lb. \$56.55; Lb. \$167.40.

Mini

Eclipse 3632 60 days.

White onion for bunching or pearl size. Eclipse is a short-day onion that can be grown in long-day areas to produce mini or pearl onions. Mild flavor. Seeding rate can be adjusted to get onions of desired size, or thin after seedlings are established. Best at 40° latitude and higher.

PKT \$5.75; Oz. \$12.65; 1/4 Lb. \$23.65; Lb. \$84.15.

Purplette 499 60 days.

Early mini with purplish-red skins. These flavorful specialty onions mature early and hold well. Purplette is a glossy rich burgundy, transforming to a nice pastel-pink when cooked or pickled. Can be harvested at golf-ball size (or very young) as baby bunching onions with purple pearl ends. Best at 40° latitude and higher.

PKT \$5.75; Oz. \$15.05; 1/4 Lb. \$32.70; Lb. \$98.05.

Growing Cipollini/Specialty/Mini Onions — Allium cepa

CULTURE: Sow in early spring in 2-4" wide bands or single rows 4" apart, about 1/2" between seeds. Cover 1/4-1/2". Thinning is not necessary. Keep free of weeds. As with all onions, full sun, consistent soil moisture, and a fertile soil with a pH of 6.2–6.8 are preferable. HARVEST: Pull by the bunch whenever needed. No skin forms until 2–3 months into the season, making mini onions easy to wash and prepare. ADAPTATION: Mini onions are smaller and earlier to bulb the further north they are grown. Suited to 40° and higher latitudes for pearl and cipollini onions, for small to medium onions at lower latitudes. AVG. DIRECT SEEDING RATE: 5M/50', 1 oz./80', 13 oz./1,000', 34 lb./acre at 96 seeds/ft. in 4" wide bands, in rows 12" apart. SIZED SEEDS: All seeds are unsized. SEED SPECS: SEEDS/LB.: 113,700-134,300 (avg. 123,300). PACKET: 1,000 seeds.



SHALLOTS

Crème Brûlée (F1) 4575 105 days.

Hybrid "eschalion" is a standout in the kitchen. Iridescent peachy pink skin covers uniform bulbs. Elongated, cylindrical, and easy to peel and cut, with a sugar profile particularly well-suited to caramelizing. Long storage potential. Adaptation: 40–60° latitude. AAS Regional winner for the Southeast, West/Northwest. PKT \$6.90; 1,000 Seeds \$18.80; 5M @ \$15.96/M; 25M @ \$14.00/M; 100M @ \$11.73/M.

Ambition (F1) 2148 105 days.

Traditional shallot for long storage. Large, half-long style French shallots with reddish-copper skin and white flesh. Very firm, and suitable for long storage through spring. Adaptation: 40–60° latitude.

PKT \$6.90; 1,000 Seeds \$15.05; 5M @ \$12.97/M; 25M @ \$11.59/M.

NEW Innovator (F1) 4674 110 days.

Downy mildew resistant. A Conservor type with elongated, singular bulbs with reddish-bronze skins. Suitable for long storage. Adaptation: 40–60° latitude. PKT \$6.90; 1,000 Seeds \$15.10; 5M @ \$12.97/M; 25M @ \$11.59/M.

Conservor (F1) 110 days.

Single-bulb shallots. These reddish-copper shallots have an elongated shape with fewer splits and are suitable for long storage. Adaptation: 37–60° latitude.

2703GP Organic Pelleted OG

5M @ \$33.23/M; 25M @ \$25.83/M; 100M @ \$22.38/M. **2703 Conventional**

PKT \$7.00; 1,000 Seeds \$21.10; 5M @ \$17.66/M; 25M @ \$15.33/M.



Find organic Matador online at **Johnnyseeds.com**

Growing Shallots

Allium cepa var. aggregatum

CULTURE: See "Onions." When planted at 2" per plant spacing, shallots are more likely to form a single bulb. Wider spacing yields larger bulbs, but they may divide into clusters. HARVEST: Harvest in summer when tops fall and begin to brown. Dry in a well-ventilated location. Store near freezing at 60–70% relative humidity. DAY LENGTH: Like onions, all shallots are day-length sensitive. Plant shallots as you would long-day onions. PELLETED SEED: See "Onions" pelleted seed box. AVG. DIRECT SEEDING RATE: 50 seeds/row foot, 1,000 seeds/20', 1¹/2 million seeds/acre in rows 18" apart. SEED SPECS: SEEDS/LB.: 119,600–125,270 (Avg. 122,500). PACKET: 250 seeds, sows 5'.



PARSNIP

A. Warrior (F1) 4571 105 days.

Earlier harvests, bigger roots. Large, cylindrical roots with slow taper provide more bulk. Shallow crowns combined with root size make for easy kitchen prep. Stronger canker tolerance than Albion. Not recommended for late-fall harvests or overwintering due to tendency to oversize. PKT \$5.35; 1,000 Seeds \$7.85; 5M @ \$3.47/M; 25M @ \$2.70/M; 100M @ \$2.29/M; 500M @ \$1.88/M; 1,000M @ \$1.73/M.

B. Javelin (F1) 2028 110 days.

For overwintering/spring harvests. Slim, smooth, tapered roots with shallow crown. Consistent performer with strong field resistance to canker, making it ideal for overwintering. Compared to Albion, Javelin has a narrower root and holds its size longer in the field. PKT \$5.35; 1,000 Seeds \$6.05; 5M @ \$3.49/M; 25M @ \$2.72/M; 100M @ \$2.30/M; 500M @ \$1.99/M.

C. White Spear 3530 120 days.

High-performance OP. Very uniform, white roots from vigorous plants. Classic parsnip shape with a deep crown-set, wide, rounded shoulders, and roots that quickly taper. PKT \$4.90; 1,000 Seeds \$7.20; 5M @ \$2.19/M; 25M @ \$1.68/M; 100M @ \$1.42/M.

D. Albion (F1) 2522 120 days.

For fall harvests. Long, tapered roots are noticeably whiter and slower to discolor than Javelin. Large roots are high yielding for easy processing. PKT \$5.35; 1,000 Seeds \$7.85; 5M @ \$3.30/M; 25M @ \$2.57/M; 100M @ \$2.17/M; 500M @ \$1.88/M.

Pelleted Parsnip Seed

Conventional Seed/NOP-Compliant Pellet - Size 18.0

Variety	Part #	PKT	1,000 Seeds	5M @/M	25M @/M	100M @/M			
Albion	2522JP	\$6.15	\$9.05	\$4.27	\$3.32	\$2.84			
Javelin	2028JP	\$6.15	\$9.05	\$4.27	\$3.32	\$2.84			
Packet=250 seeds. M=1,000 seeds.									

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Find Key Growing Information for pelleted parsnips at Johnnyseeds.com/pelleted-parsnip-kgi

Growing Parsnip — Pastinaca sativa

CULTURE: Parsnips like a deep, friable "carrot" soil. Sow in early to midspring in a 2" band about 1" apart (20 seeds/ft.), \(^1/2\)" deep, in rows 18–24" apart. Seed normally requires 2–3 weeks to germinate. Do not allow soil to dry out prior to emergence. Thin plants to 2–3" apart. **HARVEST:** Fork or mow tops and undermine, or use root crop harvester. Parsnips require a full season of growth, and their sweet flavor is brought on by cold weather. Dig in the fall or leave in the ground through the winter. Hilling is recommended for overwintered crops. When harvesting in early spring, dig before the tops begin to re-grow for the highest quality roots. **STORAGE:** Hold washed or unwashed in perforated bags or bins at 32°F (0°C) and 95% relative humidity. **AVG. DIRECT SEEDING RATE:** 1M/50', 5M/250', 25M/1250', 436M/1 acre at 20 seeds/ft. in rows 24" apart. **SEED SPECS:** SEEDS/LB.: 107,300–123,100 (avg. 115,700). **PACKET:** 350 seeds, sows 25'.

CAUTION: In rare instances, contact with the foliage can result in a severe rash. When working with this crop on hot, sunny days, we recommend wearing long sleeves and long pants and washing any exposed skin surfaces as soon as possible after contact.



PEAS

Snap

Sugar Ann 559 51 days.

Our earliest snap pea. A much-loved variety that always comes through for us in the early season with uniform crops of delicious, $2-2^{1}/2''$ long peas. Maturity is exceptionally early, with a concentrated set on 20" dwarf vines with 1-2 pods per node. AAS winner.

PKT \$5.75; Lb. \$11.95; 5 Lbs. @ \$7.69/Lb.; 25 Lbs. @ \$5.37/Lb.

Sugar Snap 58 days.

Most flavorful snap variety. Johnny's superior strain. From an ongoing collaboration with the family of the late Dr. Calvin Lamborn, the breeder of Sugar Snap. A household name for its sweet, crisp pods, Sugar Snap germinates well in cold, wet soil, and the vigorous plants quickly produce a thick stand. Vines avg. 72" with 1-2 pods per node. Yields well over a long season in both hot and cold weather. Needs trellising. AAS winner.

558G Organic CG

PKT \$6.15; Lb. \$16.60; 5 Lbs. @ \$13.51/Lb.; 25 Lbs. @ \$13.10/Lb.

558 Conventional

PKT \$5.75; 1/2 Lb. \$7.85; Lb. \$11.95; 5 Lbs. @ \$7.69/Lb.; 25 Lbs. @ \$5.37/Lb.; 50 Lbs. @ \$4.66/Lb.

Royal Snap II 4115 58 days.

EXCLUSIVE! Rich purple color from the breeder of Sugar Snap. An eye-catching color. Looks great combined with its counterpart, Honey Snap II, and either Sugar Ann or Sugar Snap. Pods avg. $2^{3}/4-3''$ long with 2 per node on 24" vines. Bred by the late Dr. Calvin Lamborn. PKT \$5.75; 1/2 Lb. \$8.40; Lb. \$12.80; 5 Lbs. @ \$10.36/Lb.; 25 Lbs. @ \$7.29/Lb.; 50 Lbs. @ \$6.47/Lb.

Honey Snap II 4114 58 days.

EXCLUSIVE! Golden yellow color from the breeder of Sugar Snap. A beautiful addition to a snap pea mix, particularly with Royal Snap II, and either Sugar Ann or Sugar Snap. Pods avg. $2^{3}/4-3$ " long with 2 per node on 30" vines. Bred by the late Dr. Calvin Lamborn.

PKT \$5.75; 1/2 Lb. \$8.40; Lb. \$12.80; 5 Lbs. @ \$10.36/Lb.; 25 Lbs. @ \$7.29/Lb.; 50 Lbs. @ \$6.47/Lb.

Super Sugar Snap 2855 61 days. IR: PM. Powdery mildew resistance. A diseaseresistant version of the beloved Sugar Snap with more manageable 60" vines. Early yields are heavier over a shorter period. Not quite as sweet as the original. Pods avg. 3" long with 1-2 per node. Needs trellising.

PKT \$5.75; Lb. \$14.05; 5 Lbs. @ \$9.03/Lb.; 25 Lbs. @ \$6.27/Lb.



PLS 141 64 days. HR: F (1), PM.

Large, fancy pods. Vigorous plants produce high yields of $4-4^{1}/2^{\prime\prime}$ pods over an extended harvest window. Strong disease resistance and good eating quality. 30" vines with 2 pods per node.

3343G Organic CG

PKT \$6.15; Lb. \$16.60; 5 Lbs. @ \$13.51/Lb.; 25 Lbs. @ \$13.10/Lb.

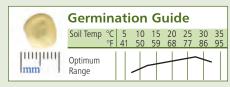
3343 Conventional

PKT \$5.75; Lb. \$11.95; 5 Lbs. @ \$7.69/Lb.; 25 Lbs. @ \$5.37/Lb.

Growing Peas — Pisum sativum

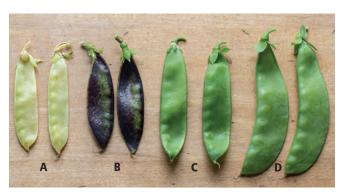
CULTURE: Peas are a cool-weather crop. Midsummer pickings are not as prolific as earlier harvests. For best yields, sow in well-drained soil and ensure adequate fertility and a pH of 6.5–6.8. Adjust pH with ground limestone or wood ashes, ideally in the fall prior to spring planting. Inoculate peas with inoculant (see index) to encourage formation of nitrogen-

producing nodules on the plant roots. This enriches the soil, results in larger plants, and increases yield. DAYS TO MATURITY: From direct seeding. DIRECT SEEDING: In early spring as soon as the soil can be worked, sow 1¹/₂–2" between seeds, in rows 18-36" apart, 1/2-1" deep. Do not thin. Varieties under 3' tall can be sown without support. For taller varieties use a trellis net or chicken wire to keep vines upright, easy to pick, and off the ground where they are less likely to rot if rainy weather coincides with harvest. Suspend the bottom of the trellis net or chicken wire just above the young plants. The best time to install a trellis is at planting time. Normal row spacing is 4–6' for trellised peas. Harvest when peas enlarge in the pods. FALL CROP: Variety selection is key: choose powdery mildew-resistant varieties and early maturing varieties that will still flower in diminishing daylight. Sow about 2 months before frost. Keep well-watered to encourage good germination in hot, dry conditions. AVG. DIRECT SEEDING RATE: 1 lb./ 80', 13 lb./1,000', 90-150 lb./acre at 25 seeds/ft., in rows 18-36" apart. DISEASE: A common disease is pea root rot (Fusarium sp. or Aphanomyces euteiches) which causes yellowing and die-back of foliage from the ground up. The best control is to ensure well-drained soil and to rotate crops out of legumes for at least three years. Powdery mildew causes white, powdery mold on the leaves, stems, and pods in hot weather. Choose resistant varieties. TREATED SEEDS: Treated seeds (identified with a "T" in the part number) are less susceptible to rotting in prolonged cold, wet weather. SEED SPECS: SEEDS/LB.: 1,450-3,400 (avg. 2,200). PACKET: 250 seeds, sows 30-40'.



Peas Resistance Codes

HR = High Resistance IR = Intermediate Resistance							
DM Downy Mildew							
F Fusarium Wilt							
Pea Enation Mosaic Virus							
Pea Leaf Roll Virus							
Powdery Mildew							







Snow

A. Golden Sweet 3869 61 days. Attractive yellow pods. Produces over an extended season. Best picked at 3–3¹/2" long, as larger pods will be bitter and develop a string. Vines are tall, 60–72", and purple-flowered. 1–2 pods per node. Needs trellising. PKT \$5.75; Lb. \$16.20; 5 Lbs. @ \$13.20/Lb.; 25 Lbs. @ \$12.80/Lb.

B. Royal Snow 3242 61 days.

EXCLUSIVE! Deep purple pods. Beautiful 3–3¹/2" snow peas. Pods that are overmature or exposed to high temperatures may diminish in color to a mottled purple. Best used raw as pods become a "muddy" color if overcooked. The 30", pink-flowered vines produce 2 pods per node. Bred by the late Dr. Calvin Lamborn. PKT \$5.75; Lb. \$12.80; 5 Lbs. @ \$10.36/Lb.; 25 Lbs. @ \$7.29/Lb.

C. Avalanche 60 days. HR: F (1).

High yields. A versatile, dark green snow pea that can be picked at $3^3/4''$, or as small as $2^1/2''$. Very productive in our trials with a nice, manageable plant habit. The 36", Afila-type vines produce an abundance of tendrils for garnishes. 1–2 pods per node.

NEW 3040G Organic CG

PKT \$6.15; Lb. \$16.35; 5 Lbs. @ \$10.55/Lb.; 25 Lbs. @ \$9.50/Lb.

3040 Conventional

PKT \$5.75; Lb. \$14.05; 5 Lbs. @ \$9.03/Lb.; 25 Lbs. @ \$6.27/Lb.

D. Oregon Giant 525 60 days.

HR: F (1), PEMV, PM.

Large, tender pods. Abundant yields of mediumgreen pods up to 4¹/2" long x 1" wide. The 30" tall, white-flowered vines produce 1–2 pods per node. Bred by the late Dr. James Baggett of OSU. PKT \$5.75; Lb. \$11.10; 5 Lbs. @ \$7.11/Lb.; 25 Lbs. @ \$4.95/Lb.



Shelling

Strike 55 days. HR: F (1).

First to market. Our best variety for early sales. The color contrast between pod and vine makes for easier harvesting and the taste is sweet. Pods avg. 2³/4–3" long with 6–7 peas each. 24" vines produce 1–2 pods per node. Plant Variety Protected.

2831T Treated or 2831 Untreated PKT \$5.75; Lb. \$11.25; 5 Lbs. @ \$7.23/Lb.; 25 Lbs. @ \$5.03/Lb.; 50 Lbs. @ \$4.16/Lb.

Premium 57 days. HR: F (1).

Popular early pea. Almost as early as Strike, Premium is a high-quality pea with similarly sweet flavor. Pods avg. 3–3¹/2" and contain 7–8 peas each. The 30" vines produce 1–2 pods per node

2669T Treated or 2669 UntreatedPKT \$5.75; Lb. \$11.25; 5 Lbs. @ \$7.23/Lb.;
25 Lbs. @ \$5.03/Lb.

Maxigolt 2138 65 days.

Best flavor and field-holding. A delicious later variety that holds its sweetness well in the field, enabling a more forgiving harvest window. Productive, 30" vines yield plump, $3^1/2-4$ " long pods at 1–2 pods per node. Each pod contains 7–8 peas.

PKT \$5.75; Lb. \$14.05; 5 Lbs. @ \$9.08/Lb.; 25 Lbs. @ \$6.31/Lb.

PLS 595 64 days. HR: F (1, 2), PM. IR: DM. Extra-long pods and easy harvesting.

Reliable, high-yielding pea with truly impressive pods, averaging $4-4^{1}/2$ " with 10–11 peas each. Strong disease resistance and plant vigor. Very sweet flavor, too! Easy-to-harvest, 24" Afila-type vines are also excellent for producing tendrils for garnishes. 2 pods per node.

4103G Organic CG

PKT \$6.15; 1/2 Lb. \$10.90; Lb. \$16.60; 5 Lbs. @ \$13.51/Lb.; 25 Lbs. @ \$13.10/Lb.; 50 Lbs. @ \$11.34/Lb.

4103 Conventional

PKT \$5.75; 1/2 Lb. \$7.85; Lb. \$11.95; 5 Lbs. @ \$7.69/Lb.; 25 Lbs. @ \$5.37/Lb.; 50 Lbs. @ \$4.66/Lb.

Bistro 63 days. HR: F (1, 2).

Excellent all-around performer. Great-tasting pea with reliably high yields on compact, upright, disease-resistant plants. The 24" Afila-type vines are easy to harvest and produce 2³/4–3" long pods at 2 pods per node. Pods contain 7–8 peas each.

3451T Treated or 3451 Untreated PKT \$5.75; Lb. \$10.95; 5 Lbs. @ \$7.08/Lb.; 25 Lbs. @ \$4.93/Lb.



For larger plants and higher yields, see inoculants on page 132.

Garnish

Dwarf Grey Sugar 2206

10 days shoots; 57 days snow pea pods.

Red flowers for shoots. An attractive addition to salad mixes. The preferred variety for both taste and tenderness and a great choice for restaurant sales. 28" vines.
Lb. \$7.40; 5 Lbs. @ \$4.75/Lb.;

Feisty 2722

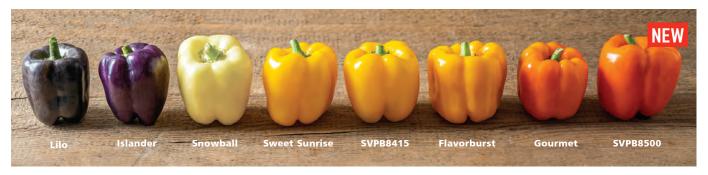
25 Lbs. @ \$3.29/Lb.

50 days tendrils; 61 days shell peas. HR: F (1). IR: PM. **EXCLUSIVE!** Fancy tendrils for garnishes.

The highest tendril count of any variety we offer. Easy to hand-harvest because plants are upright and the 31/2" pods are very visible. 30" vines. Plant Variety Protected.

PKT \$5.75; Lb. \$11.25; 5 Lbs. @ \$7.23/Lb.; 25 Lbs. @ \$5.03/Lb.





PEPPERS

Bell

Specialty

Gourmet (F1) 2648 65 days green; 85 days orange ripe. HR: TMV.

Bright orange fruits. Medium-large blocky fruits have thick walls and are very sweet and flavorful. Widely adapted. Performs well under a wide variety of conditions.

PKT \$5.80; 100 Seeds \$19.60; 250 Seeds \$34.05; 1,000 Seeds \$99.95; 5M @ \$98.09/M.

Sweet Sunrise (F1) 3027G

65 days green; 85 days yellow ripe.

Blocky, dark green fruit ripens to yellow/ orange. Medium-large 3- and 4-lobed fruits are blocky to slightly elongated. Fruity, sweet flavor. The sturdy, medium-size plants have good leaf cover. Yields well and fruits ripen early, even in the North. Bred by Janika Eckert. 1005 PKT \$6.15; 100 Seeds \$16.85; 250 Seeds \$28.00; 1,000 Seeds \$97.50; 5M @ \$84.26/M.

NEW SVPB8500 (F1) 4895

71 days green; 91 days orange ripe. HR: TM (0). IR: BLS (1-10).

Orange bell with BLS 1-10 resistance.

Performs very well in Georgia for the spring and summer sowing slots and in Florida for spring, fall, and winter. It has also done well in New England. The large, blocky fruits are borne on big, vigorous plants. Excellent leaf cover protects the fruits from sunscald.

PKT (10 seeds) \$9.85; 50 Seeds \$38.20; 100 Seeds \$54.00: 250 Seeds \$88.35: 500 Seeds \$156.40; 1,000 Seeds \$227.80; 5M @ \$199.00/M.

Islander (F1) 591

56 days lavender; 81 days red ripe. HR: TMV. Light lavender skin, pale yellow flesh. 3-lobed, medium-size peppers with a mild, slightly sweet taste. Fruits ripen through a showy stage of violet, yellow, and orange streaks, eventually turning a rich, very dark red. Strong, medium-tall plants yield well. PKT \$7.00; 100 Seeds \$20.30; 1,000 Seeds \$144.45; 5M @ \$122.90/M.

SVPB8415 (F1) 4754

73 days green; 93 days yellow ripe. HR: TM (0). IR: BLS

Full resistance to bacterial leaf spot (BLS

1–10). Strong, sturdy plant with a leafy canopy to protect fruits from sunburn. Medium to medium-large fruits are smooth, blocky, and slightly elongated. Larger but later to mature than Sweet Sunrise and Flavorburst.

PKT \$9.85; 100 Seeds \$38.75; 250 Seeds \$60.90; 1,000 Seeds \$135.20; 5M @ \$71.56/M.

Snowball (F1) 4199

65 days white; 85 days golden yellow ripe.

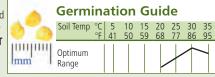
EXCLUSIVE! Ivory-colored bell. Fruits are medium-size, blocky, and mostly 4-lobed. They mature from ivory to yellow and, finally, goldenyellow. Flavor is mild when ivory, and sweet and fruity when golden. Sturdy, medium-size plants provide average leaf cover.

PKT \$7.00; 100 Seeds \$20.10; 250 Seeds \$42.30; 500 Seeds \$76.65; 1,000 Seeds \$143.05; 5M @ \$121.74/M; 25M @ \$111.51/M.

Growing Peppers — Capsicum annuum unless otherwise noted

CULTURE: Peppers thrive in well-drained, fertile soils with a pH of 6.5. Abundant phosphorus and calcium is needed for the best results. GROWING SEEDLINGS: Sow seed in 20-row or shallow flats, 4 seeds/in., 1/4" deep, in late March or about 8 weeks prior to transplanting. If possible, maintain soil temperatures at 80–90°F (27–32°C). Pepper seeds germinate very slowly in cooler soil. When the first true leaves appear, transplant seedlings into 2" cell-type containers or 4" pots. Grow plants at approx. 70°F (21°C) day and 60°F (16°C) nights. COLD TREATMENT: Exposing the seedlings to controlled cold treatments can increase the number of flowers and fruits. When the third true leaf appears, grow the plants at a minimum night temp. of 53–55°F (12–13°C) for 4 weeks. The plants should receive full sunlight. After 4 weeks adjust temp. to 70°F (21°C) day and night. If this technique is used, peppers should be seeded 1-2 weeks earlier than usual, TRANSPLANTING: Transplant out after frost when the soil is warm and weather is settled. Ideal

seedlings have buds, but no open flowers. Set plants 12-18" apart in rows 24-36" apart, or 2 rows on poly/paper mulch, 18" between plants. Water-in transplants using a high phosphorus solution. ROW COVERS: Cold weather is buffered and earliness increased by using black plastic mulch, especially in combination with lightweight fabric row cover supported by wire hoops. Remove row covers in sunny weather above 85°F (29°C) to prevent blossom drop and heat damage. INSECT **PESTS:** Control climbing cutworms with *Bacillus thuringiensis* (Bt), or with paper cylinder collars. Control tarnished plant bugs, aphids, and flea beetles with pyrethrin. DISEASES AND PROBLEMS: To prevent bacterial spot and Phytophthora, drip irrigate only, plant only in well-drained soils, minimize soil compaction, and follow a 4-year crop rotation. Sunscald is caused by an inadequate foliage canopy. Prevent blossom end rot with adequate soil calcium and regular moisture. Big bushy plants with few peppers can be caused by an excess of nitrogen, hot or cold temperature extremes during the flowering period, tarnished plant bug injury, and choice of late, poorly-adapted varieties. BACTERIAL SPOT NOTICE: Bacterial spot can be seedborne. All Johnny's pepper seed lots are tested for bacterial spot. **NOTE:** A disease-free test result does not guarantee a seed lot to be disease-free, only that in the sample tested, the pathogen targeted was not found. HARVEST AND STORAGE: Pick the first peppers promptly when they reach full size to encourage further fruit set. Wash and hold at 45°F (7°C) and 95% relative humidity. **DAYS TO MATURITY:** Approximate days from transplanting outdoors to first pickings of full size fruit. AVG. TRANSPLANT SEEDING RATE: Avg. 19 plants/ Pkt., 750 plants/1,000 seeds, 19,360 seeds per acre of transplants (avg. 14,520 plants), 12" between plants in rows 36" apart. SEED SPECS: SEEDS/OZ.: Avg. 4,300. PACKET: 25 seeds, unless otherwise noted.



Peppers Resistance Codes

HR = High Resistance IR = Intermediate Resistance

BLS	Bacterial Leaf Spot
PC	Phytophthora Blight
PMV	Pepper Mottle Virus
PVY	Potato Virus Y
TEV	Tobacco Etch Virus
TM	Tobamovirus
TMV	Tobacco Mosaic Virus
ToMV	Tomato Mosaic Virus
TSWV	Tomato Spotted Wilt Virus

Lilo (F1) 4148G

60 days purple; 80 days red ripe. HR: TM (0).

Blocky purple bell for tunnel and field production. Lilo begins a beautiful dark purple and eventually ripens red. Produces high yields indoors and in the open field. Interior flesh is green with a mild flavor. NOTE: Nighttime temperatures must be below 65°F for dark purple fruits. Fruits will be a brownish-purple under warmer conditions. Lilo is ready for harvest well before Milena and Sprinter are ripe.
MINI \$5.70; PKT \$12.10; 50 Seeds \$23.95; 100 Seeds \$47.75; 250 Seeds \$99.85; 500 Seeds \$165.25; 1,000 Seeds \$280.40;

5M @ \$243.71/M. Flavorburst (F1)

67 days green; 87 days yellow ripe.

Vibrant golden yellow. Initial color is lime green, turning to golden yellow when ripe. Excellent, sweet flavor. Medium-large fruits are mostly 3-lobed and slightly elongated.

54G Organic CG

PKT \$7.65; 100 Seeds \$23.15; 250 Seeds \$37.65; 1,000 Seeds \$103.00; 5M @ \$97.60/M. **54 Conventional**

PKT \$5.60; 100 Seeds \$20.70; 250 Seeds \$31.30; 500 Seeds \$48.80;



Green to Red

Ace (F1) 574

50 days green; 70 days red ripe.

Extra-early, highly productive standard.

Huge yields of medium-size, 3–4 lobed fruits. Has apparent tolerance to blossom drop as nearly every flower produces a pepper. Widely adapted but performs particularly well in cool climates where bell peppers are difficult to grow successfully. Best for early crops and particularly good for pack sales.

PKT \$5.80; 100 Seeds \$10.50; 250 Seeds \$16.90; 1,000 Seeds \$50.95; 5M @ \$42.55/M.

X3R® Red Knight (F1) 2309

57 days green; 77 days red ripe. HR: BLS (1–3, 7, 8), PVY (0).

Improved King Arthur type. Big, blocky fruits are early to turn red. Stronger disease resistance than King Arthur and a more compact, open plant. Widely adapted.

PKT \$5.60; 100 Seeds \$18.55; 250 Seeds \$32.25; 1,000 Seeds \$94.65; 5M @ \$92.93/M.

NEW Sailfish (F1) 5030

57 days green; 77 days red ripe. HR: TM (0). IR: BLS (1–10), PC.

Quick-to-ripen bell with BLS 1–10 and phytophthora resistance. Our best bell for high-quality red fruit production! The smooth, uniform fruits are very quick to turn red. Large, sturdy plants have a good canopy to protect fruits from sunscald. Best grown with adequate fertility as fruits can be small under poor conditions. Adapted for Canada, the Northeast, Mid-Atlantic, and Midwest. Not for the West, Southeast, or South as it is not adapted to those regions.

PKT \$7.50; 100 Seeds \$28.50; 250 Seeds \$49.50; 1,000 Seeds \$124.15; 5M @ \$122.00/M.

King Arthur (F1) 2038

59 days green; 79 days red ripe. HR: BLS (1–3, 7, 8), PVY. For early production of large green or red fruits. Plants are large and early to bear huge yields of big, thick-walled fruits. Widely adapted. PKT \$5.35; 100 Seeds \$17.20; 250 Seeds \$28.05; 1,000 Seeds \$76.65; 5M @ \$72.69/M.

NEW Autry (F1) 5025

60 days green; 80 days red ripe. HR: TM (0). IR: BLS (1–10), TSWV.

BLS 1–10 and TSWV resistance. Performs very well in the Southeast, particularly in Georgia, for the spring and summer sowing slots. The large, blocky fruits are borne on big, vigorous plants with a high yield potential. Good leaf cover protects the fruits from sunscald.

PKT \$8.95; 100 Seeds \$34.95; 250 Seeds \$61.70; 1,000 Seeds \$137.95; 5M @ \$133.25/M.

NEW Green Machine (F1) 5026

60 days green; 80 days red ripe HR: TM (0). IR: BLS (1-10), TSWV.

BLS 1–10 and TSWV resistance. Ideal for spring and summer-sown crops in the Southeast, especially in Florida. The fruits are medium-large to large and blocky. The large, vigorous plants provide good leaf cover to protect the fruits from sunscald. High yield potential.

PKT \$8.95; 100 Seeds \$34.95; 250 Seeds \$61.70; 1,000 Seeds \$137.95; 5M @ \$133.25/M.

Olympus (F1)

65 days green; 85 days red ripe. HR: BLS (1–3, 7, 8). **Large bell peppers.** Widely adapted with good performance in the South and in warmer regions in the North. Medium-size plants with good leaf cover. Produces high yields of large, uniform fruits with good flavor.

2244G Organic CG

Johnston, Jr. 000

PKT \$7.65; 100 Seeds \$26.00; 250 Seeds \$41.00; 1,000 Seeds \$134.00; 5M @ \$125.00/M. 2244 Conventional

PKT \$5.80; 100 Seeds \$16.50; 250 Seeds \$26.75; 1,000 Seeds \$88.50; 5M @ \$79.00/M.

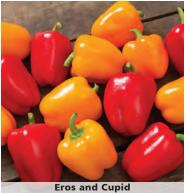
Open Pollinated

Yankee Bell 566G 60 days green; 80 days red ripe. **Open-pollinated bell for Northern growers.** Blocky, 3–4 lobed fruits are medium-size and a bit smaller than our hybrids. Better quality and uniformity than most OPs. Bred by Rob

PKT \$7.40; 100 Seeds \$15.15; 250 Seeds \$21.65; 1,000 Seeds \$66.55; 5M @ \$62.51/M.

Variety	Part #	Days to Maturity	Cole	or	Disease Resistance	Si	Size		
· ·		(Unripe/Ripe)	(Unripe)	(Ripe)		(Fruit)	(Plant)		
Ace	574	50–70	Green	Red	_	Medium	Small		
NEW Autry	5025	60–80	Green	Red	HR: TM (0). IR: BLS (1-10), TSWV.	Large	Large		
Flavorburst	54G CG or 54	67–87	Lime Green	Yellow	_	Medium Large	Medium Large		
Gourmet	2648	65–85	Green	Orange	HR: TMV.	Medium Large	Small		
NEW Green Machine	5026	60–80	Green	Red	HR: TM (0). IR: BLS (1-10), TSWV.	Large	Medium Large		
Islander	591	56-81	Lavender	Dark Red	HR: TMV.	Medium	Medium		
King Arthur	2038	59-79	Green	Red	HR: BLS (1-3, 7, 8), PVY.	Large	Large		
Lilo	4148G CG	60–80	Purple	Red	HR: TM (0).	Medium Large	Medium Large		
Olympus	2244G CG or 2244	65–85	Green	Red	HR: BLS (1-3, 7, 8).	Large	Medium		
NEW Sailfish	5030	57–77	Green	Red	HR: TM (0). IR: BLS (1-10), PC.	Medium Large	Large		
Snowball	4199	65–85	Ivory	Yellow	_	Medium Large	Medium		
SVPB8415	4754	73–93	Green	Yellow	HR: TM (0). IR: BLS (1-10).	Medium Large	Medium Large		
NEW SVPB8500	4895	71–91	Green	Orange	HR: TM (0). IR: BLS (1-10).	Large	Large		
Sweet Sunrise	3027G CG	65–85	Green	Yellow	_	Medium Large	Medium		
X3R® Red Knight	2309	57–77	Green	Red	HR: BLS (1-3, 7, 8), PVY (0).	Large	Medium		
Yankee Bell	566G CG	60–80	Green	Red	_	Medium	Medium Large		







Sweet Specialty

Snack Peppers

Lunchbox Peppers

The perfect snack. Our beautiful, mini Lunchbox peppers are remarkably sweet and flavorful. Delicious sautéed, as an addition to salads, and perfect for a healthy snack. All three varieties have tall, strong plants that yield well for snack-type peppers. Grow and sell them individually or as mixed colors loose or in clamshells. Bred by Janika Eckert. NOTE: Lunchbox Red has smaller fruits than the other varieties. 005

PKT \$7.40; 100 Seeds \$23.65; 250 Seeds \$39.60; 1,000 Seeds \$99.45; 5M @ \$90.35/M.

Red 3032G

55 days green; 75 days red ripe. Avg. 2-21/2" long x 1" wide. Orange 3030G

60 days green; 80 days orange ripe. Avg. 2¹/₂–3" long x 1¹/₂" wide. Yellow 3031G

63 days green; 83 days yellow ripe. Avg. $2^{1}/2-3''$ long x $1^{1}/2''$ wide. **Lunchbox Pepper Mix 3515G**

55-63 days green; 75-83 days color. All three colors in one mix.

NEW BLS 1-10 Snack Peppers (F1)

53 days green; 73 days color.

Full bacterial leaf spot resistance. Innovative snack peppers with resistance to BLS 1–10, which is critical in high-pressure regions, such as the Southeast. Fruits avg. 3-4" and have good flavor, though not a good as the Lunchbox Series. Tall, vigorous, continuous-set type plants. These varieties are adapted for the East Coast. NOTE: Harvest fruits promptly as they do not hold well in the field.

PKT (10 seeds) \$7.25; 50 Seeds \$29.20; 100 Seeds \$41.30; 250 Seeds \$86.85; 500 Seeds \$160.75; 1,000 Seeds \$283.00.

SVPS0897 4896 IR: BLS (1-10). Red **SVPS0953 4897** IR: BLS (1–10), TM (0). Orange

SVPS1263 4898 HR: TM (0). IR: BLS (1–10). Yellow

BLS 1-10 Snack Peppers

Mini Bells (F1) 55 days green; 75 days color.

Early and sweet. The perfect pair. Fruits are blocky to slightly pointed and avg. 2" $\times 1^3/4^{\prime\prime}$. Tasty, fruity flavor when ripe. Large, sturdy, leafy plants protect the fruits from sunscald. Bred by Janika Eckert. OCG ¥

PKT \$7.65; 100 Seeds \$25.90; 250 Seeds \$45.00; 1,000 Seeds \$113.20; 5M @ \$102.78/M.

Eros 3124G Golden yellow Cupid 3026G Red

Mellow Star (F1) 2592 60 days green; 80 days red ripe.

Japanese shishito pepper for cooking or salads. Avg. 3¹/₂–4" heavily wrinkled fruits are thin-walled, mild (no heat) when green, and slightly sweet when red. Popular in Japan where its thin walls make it particularly suitable for tempura. Also very good roasted, in stir fries, or sautéed. In Asia, fruits are always cooked green but they also may be used red. Thinly sliced, the red fruits are excellent in salads and cole slaws. Large, upright plants produce good yields over an extended harvest period. ** PKT \$5.80; 100 Seeds \$17.25; 250 Seeds \$30.85; 1,000 Seeds \$101.85; 5M @ \$86.14/M.

Shishito 4227G 60 days green; 80 days red ripe.

Organic shishito pepper. Avg. 3–3¹/2" fruits are thin-walled and have no heat. All the same culinary uses as Mellow Star. The plants are large and very productive. Very similar to Mellow Star, but fruits are slightly narrower and paler in color. 💢 PKT \$6.95; 250 Seeds \$10.90; 1,000 Seeds \$36.05; 5M @ \$30.52/M.

Goddess (F1) 3230 63 days yellow; 83 days red ripe. HR: BLS (1-3, 7, 8). **Sweet banana for pickling or fresh eating.** Long, thick-walled, smooth fruits are borne on large plants. Avg. 8–9" long, the fruits are mild when yellow and moderately sweet when they ripen red. Best for pickling due to their mild flavor, but also suitable for fresh market. Widely adapted. PKT \$5.80; 100 Seeds \$13.15; 250 Seeds \$23.85; 1,000 Seeds \$77.10; 5M @ \$71.18/M.

Find Nassau Cubanelle at Johnnyseeds.com







Corno di Toros

Carmen (F1) 60 days green; 80 days red ripe. **Best-tasting sweet Italian frying pepper.** A high-performing rendition of the classic Corno di Toro (or "Bull's Horn") pepper popular in Italy. Early, adaptable, and notably sweet (especially when fully red-ripe) with a shapely, tapered silhouette. Excellent roasted, grilled, and in salads. Named for Carmen from the French opera. Upright, medium-size plant. Suitable for indoor and outdoor growing. Fruits avg. 6" long x 2¹/2" wide. Avg. weight 5 oz. Bred by Janika Eckert. AAS winner. **1**

PKT \$7.65; 100 Seeds \$20.50; 250 Seeds \$37.20; 1,000 Seeds \$124.15; 5M @ \$104.89/M. 2993 Conventional

PKT \$5.80; 100 Seeds \$18.25; 250 Seeds \$32.75; 1,000 Seeds \$107.90; 5M @ \$91.29/M.

Escamillo (F1) 3125G 60 days green; 80 days yellow ripe. **Delicious yellow Italian frying pepper.** The goldenyellow counterpart to lovely Carmen and the second Corno di Toro ever bred by Johnny's. Named for the bullfighter Escamillo, Carmen's love interest in the French opera. Intoxicating sweetness any way it is prepared, but traditionally used for frying. Broad-shouldered with an attractive taper. Fruits avg. 6" long x 2–2¹/2" wide. Bred by Janika Eckert. AAS winner.

PKT \$7.40; 100 Seeds \$20.50; 250 Seeds \$37.20; 1,000 Seeds \$124.15; 5M @ \$104.89/M.

Cornitos (F1)

Half-size Corno di Toros with full-size flavor. A popular class of peppers, cornitos are $1-1^1/2$ " wide at the shoulders and 5" long. They are exceptionally sweet and attractive smaller versions of Carmen and Escamillo, with similar maturity. Perfect for grilling and roasting. Productive plants.

Cornito Rosso 3128G

60 days green; 80 days red ripe. Bred by Janika Eckert. PKT \$10.35; 100 Seeds \$14.50; 250 Seeds \$30.10; 1.000 Seeds \$90.45.

Cornito Giallo 3986G

55 days green; 75 days yellow ripe. Bred by Janika Eckert. AAS winner. PKT \$10.35; 100 Seeds \$14.50; 250 Seeds \$30.10; 1,000 Seeds \$90.45; 5M @ \$85.62/M.

Cornito Arancia 4200G

60 days green; 80 days orange ripe. Bred by Janika Eckert and Emily Rose Haga. PKT \$7.65; 100 Seeds \$25.50; 250 Seeds \$42.55; 500 Seeds \$79.35; 1,000 Seeds \$127.35.



High Tunnel & Greenhouse

Olly (F1) 4761G 54 days green; 74 days red ripe. HR: TM (0–2).

Early red bell for tunnel or field production. Medium-large, sturdy plants produce high yields in heated and unheated tunnels. Fruits are slightly smaller than Sprinter, but mature around 6 days earlier. **CG**

MINI (10 seeds) \$8.45; PKT \$18.40; 50 Seeds \$20.95; 100 Seeds \$35.85; 250 Seeds \$74.55; 500 Seeds \$135.30; 1,000 Seeds \$240.55; 5M @ \$223.77/M.

Sprinter (F1) 60 days green; 80 days red ripe. HR: TM (0-3).

Blocky red bell for heated and unheated tunnels. A tall, strong, vegetative plant, Sprinter remains productive through adverse weather. Benefits from at least some heat, but produces high yields of beautiful, large, dark red fruits through a variety of conditions. Excellent flavor.

3186G Organic CG

MINI (10 seeds) \$8.45; PKT \$18.40; 50 Seeds \$36.45; 100 Seeds \$64.80; 250 Seeds \$136.60; 500 Seeds \$247.15; 1,000 Seeds \$444.95.

3186 Conventional

MINI (10 seeds) \$7.80; PKT \$16.25; 50 Seeds \$31.90; 100 Seeds \$55.40; 250 Seeds \$113.40; 500 Seeds \$209.85; 1,000 Seeds \$369.46.

Milena (F1) 60 days green; 80 days orange ripe. HR: PVY (0, 1), TM (0–3). IR: TEV, TSWV (0). **Blocky orange bell for heated and unheated tunnels.** Milena's resilient plants produce beautiful, deep orange fruits with very good flavor. Fruits are medium-large to large in size. Suitable for high and low-tech systems.

3382G Organic CG

MINI (10 seeds) \$8.45; PKT \$18.95; 50 Seeds \$37.15; 100 Seeds \$64.00; 250 Seeds \$139.60; 500 Seeds \$246.00; 1,000 Seeds \$451.95.

3382 Conventional

MINI (10 seeds) \$7.80; PKT \$15.75; 50 Seeds \$30.95; 100 Seeds \$56.00; 250 Seeds \$118.50; 500 Seeds \$219.50; 1,000 Seeds \$387.50.

Brocanto (F1) 60 days green; 80 days yellow ripe. HR: TM (0–3). IR: TSWV (0). **Blocky yellow bell for heated and unheated tunnels.** Strong, tall plants with excellent performance in varied conditions. The tasty fruits are medium-large to large and ripen bright yellow.

4147G Organic CG

MINI (10 seeds) \$8.45; PKT \$18.40; 50 Seeds \$35.95; 100 Seeds \$69.80; 250 Seeds \$146.80; 500 Seeds \$265.65; 1,000 Seeds \$478.25; 5M @ \$470.48/M. 4147 Conventional

MINI (10 seeds) \$7.80; PKT \$17.50; 50 Seeds \$34.78; 100 Seeds \$60.20; 250 Seeds \$127.00; 500 Seeds \$234.00; 1,000 Seeds \$415.00; 5M @ \$395.06/M.

Lilo (F1) 4148G 60 days purple; 80 days red ripe. HR: TM (0).

Blocky purple bell for tunnel and field production. Lilo begins a beautiful dark purple and eventually ripens red. Produces high yields indoors and in the open field. Interior flesh is green with a mild flavor. NOTE: Nighttime temperatures must be below 65°F for dark purple fruits. Fruits will be a brownish-purple under warmer conditions. Lilo is ready for harvest well before Milena and Sprinter are ripe. \bigcirc

MINI \$5.70; PKT \$12.10; 50 Seeds \$23.95; 100 Seeds \$47.75; 250 Seeds \$99.85; 500 Seeds \$165.25; 1,000 Seeds \$280.40; 5M @ \$243.71/M.

Hungarian Hot Wax











Hot Specialty

Hungarian Hot Wax 3092G 58 days pale yellow; 83 days red ripe. **Johnny's improved strain.** Growers rely on Hungarian Hot Wax as it matures very early in cool, wet weather. Many commercial strains have been poorly maintained; plants grown from these lots are often floppy, and the fruits vary in size, shape, and heat level. In 2015, we began improving this strain through selective breeding. Our newly selected strain features an upright plant and uniform fruits. Greatly improved plant architecture offers faster/easier harvests with minimal fruit damage! Smooth, tapered, and moderately spicy fruits avg. 5¹/₂" x 1¹/₂" and mature from pale yellow to orange red, and finally, to a vibrant red. Excellent for frying, roasting, or pickling. (G)PKT \$6.90; 250 Seeds \$10.00; 1,000 Seeds \$20.75; 5M @ \$14.99/M.

Shishimai (F1) 4757 60 days green; 80 days red ripe. HR: TMV (0-2), ToMV. **Spicy shishito.** Featured for its mildly spicy flavor and exceptional culinary quality, Shishimai is a new take on the traditional Japanese shishito, which typically has no heat. Medium-green, wrinkled, thinwalled fruits avg. 3¹/₂–4" long. Stake the plants for straighter, cleaner fruits, as they are prolific and tend to be floppy. 🕨

PKT \$5.80; 100 Seeds \$18.40; 250 Seeds \$33.30; 1,000 Seeds \$99.50; 5M @ \$87.10/M.

Padron 666G 60 days.

Famous Spanish heirloom. Named after the town where they originated. Harvest at $1-1^{1}/2$ " long. About 1 out of 20 fruits will be hot, and the rest mild. All the fruits become hot if allowed to grow 2-3" long. Typically sautéed in olive oil with a little sea salt and eaten as tapas (appetizers) in Spain. CG

PKT \$7.00; 100 Seeds \$12.80; 250 Seeds \$23.95; 1,000 Seeds \$49.20; 5M @ \$35.13/M.

Capperino (F1) 3094 60 days green; 85 days red ripe. HR: TM (0). EXCLUSIVE! Cherry pepper for stuffing and pickling. Fruits have a moderate heat level and avg. 1¹/₂" in diameter—just perfect for stuffing. Most fruits are round to slightly flattened. Medium-size plants. PKT \$5.80; 100 Seeds \$19.95; 250 Seeds \$35.95; 1,000 Seeds \$120.10; 5M @ \$101.45/M.

Mad Hatter (F1) 3388 85 days green; 105 days red ripe. C. baccatum Slightly hot Bishop's Crown type. Unusually shaped peppers. Fruits avg. $2^{1}/4^{"}$ in diameter and are borne on big, bushy plants. Moderately sweet flesh with floral and citrus notes and a touch of heat near the seed cavity. AAS winner.

PKT \$7.00; 100 Seeds \$21.50; 250 Seeds \$45.15; 1,000 Seeds \$152.95; 5M @ \$130.38/M.

Mojo 70 days green; 90 days red ripe. *C. baccatum*

EXCLUSIVE! Tropical flavors with a hint of heat. Exceptional, wellbalanced flavor—sweet, fruity, citrusy, and spicy. Crisp, crunchy texture characteristic of an aji pepper. Fruits avg. 4–6" long and are excellent for fresh eating and sauces, but will also dry into slightly hot, fragrant chile powder. Large, floppy plants have a high yield potential and are best staked.

NEW 4628G Organic OG

PKT \$6.90; 100 Seeds \$11.10; 250 Seeds \$20.95; 1,000 Seeds \$57.95; 5M @ \$54.54/M.

4628 Conventional

PKT \$5.55; 100 Seeds \$9.95; 250 Seeds \$18.75; 1,000 Seeds \$51.95; 5M @ \$48.88/M.

Johnn	y's Pepper Heat Scale
•	Slightly Hot
**	Moderately Hot
***	Hot
****	Very Hot
****	Extremely Hot
Heat le	vels may vary slightly due to culture and environmental conditions.

Cayenne

Red Ember (F1) 3130G 55 days green; 75 days red ripe.

Our most versatile, flavorful cayenne. Tremendous flavor with warm heat that lingers. Fruits avg. 4–4 ½" and are thick enough for a bit of crunch when eaten fresh, but thin enough to dry easily. Makes excellent powder, flakes, and hot sauce. Also nice fried or in stir-fries. Matures early. High-yielding plants. Bred by Janika Eckert. AAS winner. (CF)
PKT \$5.80; 100 Seeds \$21.45; 250 Seeds \$34.50; 500 Seeds \$55.75; 1,000 Seeds \$119.50; 5M @ \$104.80/M; 25M @ \$78.77/M.

Red Rocket 2672G 55 days green; 75 days red ripe.

Early, quick-drying for ristras. Thin-walled 5–6" long, attractive fruits are bright red both fresh and dried. Flavor is sweet and hot. Matures early with high yields for an OP. Widely adapted. Bred by Rob Johnston, Jr.

PKT \$5.30; 100 Seeds \$5.95; 250 Seeds \$6.80; 1,000 Seeds \$21.60; 5M @ \$18.56/M.

Red Flame (F1) 3025G 60 days green; 80 days red ripe. Higher-yielding Red Rocket type for ristras. 6–6¹/2" fruits dry quickly to a bright crimson for an eye-catching presentation. Sweet-hot flavor. Thin walls. Big, productive plants. Outperforms Red Rocket but matures later. Widely adapted. Bred by Janika Eckert. (OCG)

PKT \$5.90; 100 Seeds \$19.85; 250 Seeds \$33.65; 1,000 Seeds \$117.40; 5M @ \$101.60/M.

Bottle Rocket 4437 65 days green; 90 days red ripe.

EXCLUSIVE! Early Thai-type pepper. Originally found in a market in Budapest and re-selected by Johnny's for a more upright plant, earlier maturity, and more uniform fruit size. While from Hungary, it has the small fruit size and heat of a Thai chile. Performs well in regions with cool summers. Similar size and heat to Bangkok, which was dropped by the supplier.

PKT \$4.95; 100 Seeds \$15.80; 250 Seeds \$26.80; 1,000 Seeds \$93.45; 5M @ \$80.90/M.

Habanero - C. chinense

Helios (F1) 3219 67 days green; 87 days orange ripe. IR: PMV, TSWV. **Extra-early hybrid habanero.** Fruits avg. $2^3/4$ " x $1^1/2$ " and are very hot. Much earlier, higher yielding, and with bigger fruits than the standard OP habanero. Good yield potential, even in northern and short-season regions. Medium-large, upright plants. ****PPP****

PKT \$5.60; 100 Seeds \$15.80; 250 Seeds \$29.85; 1,000 Seeds \$82.60; 5M @ \$77.90/M.

Hot Paper Lantern 2343G 70 days lime green; 90 days red ripe. *EXCLUSIVE!* Earlier and more productive than regular habaneros. Magnificent, elongated and wrinkled, red, lantern-shaped fruits are 3–4" long. Early maturing for a habanero. Tall plants. Bred by Janika Eckert.

PKT \$5.90; 100 Seeds \$11.95; 250 Seeds \$18.00; 1,000 Seeds \$53.30; 5M @ \$38.98/M.

Habanero 598G 80 days green; 100 days orange ripe.

Traditional heat with fruity citrus notes. The extremely pungent, wrinkled fruits avg. 2" x 1¹/4" and ripen to salmon-orange. A key ingredient in Jamaican "jerk" sauces. Yield potential is good, but can be erratic in the North.

PKT \$5.90; 250 Seeds \$9.00; 1,000 Seeds \$17.05; 5M @ \$12.06/M.

Roulette (F1) 3572 70 days green; 90 days red ripe.

Red habanero without the heat. This "no heat" habanero imparts a sweet, floral flavor without the traditional fire expected from an habanero. The beautiful, bright red fruits avg. 3" x 1³/4" and are borne on large, sturdy plants.

PKT \$7.00; 100 Seeds \$22.75; 250 Seeds \$47.95; 1,000 Seeds \$162.05; 5M @ \$137.95/M.

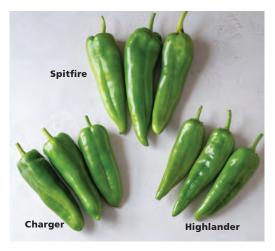














Hot Southwestern

Anaheim/Numex

Spitfire (F1) 4673

65 days green; 85 days red ripe. IR: PC.

Anaheim with Phytophthora resistance. Large, sturdy, upright plants are bushy and bear heavy yields of uniform, attractive peppers. Fruits are similar, but larger than Highlander and Charger. Performs well in both the East and the West. Fruits avg. 7–9" long x 2¹/₂−3" wide. ▶

PKT \$5.80; 100 Seeds \$14.45; 250 Seeds \$28.65; 1,000 Seeds \$82.25; 5M @ \$78.90/M.

Highlander (F1) 3829G

65 days green; 85 days red ripe.

Early and adaptable. Bred by Johnny's for good productivity even in cooler regions where Anaheim types are often shy-yielding. Traditional, semi-flattened, mostly 2-lobed fruits avg. 7" x 2". Large, tall plants. Widely adapted. Bred by Janika Eckert. 1005 PKT \$6.15; 100 Seeds \$23.55; 250 Seeds \$39.40; 1,000 Seeds \$118.00; 5M @ \$114.18/M.

Charger (F1) 4154

65 days green; 85 days red ripe. IR: TSWV.

Widely adapted. An Anaheim type that performs well in both the Eastern US and California. The fruits are large and thick-walled, making them suitable for frying and stuffing. The very large plants have good leaf cover to protect the fruits from sunscald. Fruits avg. 7" x 2". PKT \$5.80; 100 Seeds \$22.35; 250 Seeds \$47.35; 500 Seeds \$88.75; 1,000 Seeds \$108.75; 5M @ \$105.20/M; 25M @ \$99.53/M.



Read tips for growing pepper transplants at Johnnyseeds.com/pepper-seedling-success

Johnny's Pepper Heat Scale Sliahtly Hot Moderately Hot *** *** Very Hot ****** Extremely Hot Heat levels may vary slightly due to culture and environmental conditions.

Jalapeño

Jalafuego (F1) 70 days green; 93 days red ripe. HR: BLS (1-3, 7, 8), PVY (0-2).

Big, smooth, dark green fruits. Fruits avg. $3^{1}/2-4^{\prime\prime}$ and are similar in size and shape to El Jefe. Also resistant to checking (small cracks in skin). Large plants are later to mature than El Jefe, but have a higher yield potential.

NEW 3807G Organic OG

PKT \$7.20; 100 Seeds \$41.20; 250 Seeds \$68.08; 1,000 Seeds \$186.00; 5M @ \$184.90/M.

3807 Conventional PKT \$5.80; 100 Seeds \$17.85; 250 Seeds \$29.80; 1,000 Seeds \$81.45; 5M @ \$77.25/M.

NEW Pantera (F1) 4912

70 days green; 90 days red ripe. HR: BLS (1-3, 7, 8). Widely adapted and high-yielding.

Fruits avg. 41/2" long and are smooth, glossy, and slow to check. Large, vigorous, continuous-set type plants have a very high yield potential. Similar to Jedi but a few days earlier to mature with slightly bigger fruits. Performs well in the East and the West.

PKT \$5.80; 100 Seeds \$16.60; 250 Seeds \$31.40: 500 Seeds \$56.00: 1,000 Seeds \$89.65; 5M @ \$85.60/M; 25M @ \$77.95/M.

Jedi (F1) 3528T Treated

72 days green; 82 days red ripe. HR: BLS (1-3, 7, 8). High-yielding, continuous-set type. Fruits avg. 4-4¹/₂" and are slow to check (show small cracks in skin). The large plant produces over a long harvest window, especially in regions with a long growing season. High yield potential. Available treated seed only this year.

PKT \$5.80; 100 Seeds \$17.25; 250 Seeds \$32.65; 500 Seeds \$58.25; 1,000 Seeds \$93.25; 5M @ \$89.02/M; 25M @ \$81.07/M.

NEW PS11435807 (F1) 5028

70 days green; 90 days red ripe. HR: PVY (0), TEV. IR: PC.

Phytophthora resistance. Very large, medium-green fruits avg. 4-41/2" and are borne on big, high-yielding, continuous-set plants. A good leaf canopy protects the fruits from sunscald. Average to check (show small checks in skin). A widely adapted variety that has performed well on both the West and East Coasts. Intermediate resistance to the root knot species Meloidogyne arenaria, M. incognita, and M. javanica. PKT \$5.80; 100 Seeds \$16.05; 250 Seeds \$30.30; 500 Seeds \$54.05; 1,000 Seeds \$82.50; 5M @ \$78.78/M;

NEW SVHJ5816 (F1) 5029

25M @ \$76.00/M.

70 days green; 90 days red ripe. HR: PVY (0). IR: BLS (1-10).

Full bacterial leaf spot (BLS) resistance. Smooth, attractive fruits avg. 31/2-4" and are a bit plumper than your average jalapeño. The medium-large plants have a strong canopy and a high yield potential. Concentrated harvest. Adapted for the East Coast from Canada to Florida. PKT \$5.80; 100 Seeds \$17.05; 250 Seeds \$32.20; 500 Seeds \$57.45; 1,000 Seeds \$91.95; 5M @ \$91.00/M; 25M @ \$88.00/M.

Early Jalapeño 586G

60 days green; 80 days red ripe.

Open-pollinated jalapeño. Cylindrical fruits are of the smaller, traditional size $(2-2^{1}/2'')$ and have more checking than our hybrids. Earlier but much lower yielding than our later varieties. Small plants. Best for early season plantings for an early crop. We suggest using our other varieties for main-season production. (G))) PKT \$5.90; 250 Seeds \$9.00; 1,000 Seeds \$17.05; 5M @ \$12.06/M.







Ancho/Poblano

Known as a poblano when green, ancho when dried. Used green for a spicier version of chile rellenos. Excellent for making powders and the classic Mexican mole sauce.

Sargento (F1) 4752

5M @ \$73.87/M.

65 days green; 85 days red ripe. IR: PC.

500 Seeds \$49.75; 1,000 Seeds \$78.05;

Phytophthora-resistant poblano. The 2 and 3-lobed fruits are smooth, shiny, and very dark green. Similar in appearance to Baron, but fruits average slightly larger at 5-6" long x 3" wide. Plants are tall, vigorous, and have an excellent yield potential. PKT \$5.80; 100 Seeds \$13.50; 250 Seeds \$26.55;

Baron (F1) 3672 65 days green; 85 days red ripe. Large, highly adaptable poblano. This widely adapted pepper performs particularly well under challenging conditions. The fruits are very large, avg. 5" x 3", and are typically 2-lobed, which makes them easy to stuff and cook in their signature dish, chile rellenos. PKT \$5.80; 100 Seeds \$12.25; 250 Seeds \$24.20; 1,000 Seeds \$71.15; 5M @ \$67.35/M.

Bastan (F1) 3274G

65 days green; 85 days brown ripe. HR: TM (0). Early and adaptable. Sturdy, upright plants produce high yields of uniform, 5" smooth, mostly 2-lobed fruits. Bastan's fruits may be used at the green-unripe or brown-ripe stages. Excellent fried, roasted, or in chile rellenos. (G)

PKT \$7.65; 100 Seeds \$20.30; 250 Seeds \$33.90; 1,000 Seeds \$114.90; 5M @ \$93.60/M.



Serrano

Altiplano (F1) 4149

57 days green; 77 days red ripe.

Large-fruited serrano. An impressive size at 4¹/₂–5" long, Altiplano peppers are faster to harvest than types with smaller fruits. Traditional serrano flavor and pungency. Medium-large plants. PKT \$5.60; 100 Seeds \$12.10; 250 Seeds \$22.90; 500 Seeds \$40.85; 1,000 Seeds \$65.33; 5M @ \$63.15/M; 25M @ \$54.94/M.

Santo Domingo (F1) 4337

62 days green; 82 days red ripe. Similar to Altiplano. Santo Domingo has a bigger plant than Altiplano and yields over a longer period of time. Fruits avg. $4^{1}/2-5''$ long. The larger fruit size makes harvest faster than the traditional, shorterfruit types. Standard serrano flavor and pungency.

PKT \$5.80: 100 Seeds \$11.40: 250 Seeds \$22.50; 500 Seeds \$37.60; 1,000 Seeds \$64.60; 5M @ \$58.93/M; 25M @ \$58.59/M.

Efficiently harvest peppers without damage using Johnny's new Double Harvest Bag. See page 196.

Fresno

Flaming Flare (F1) 3270

67 days green; 77 days red ripe. HR: TM (0). Widely adapted Fresno pepper. Conicalshaped fruits are thin-walled, avg. 4" long, and ripen to a bright red. Their flavor is sweet, mildly hot, and very good. Excellent for fresh use, stir-fries, sautéing, and hot sauce. AAS winner.

PKT \$7.00; 100 Seeds \$19.10; 250 Seeds \$39.80; 1,000 Seeds \$120.90; 5M @ \$108.83/M.

Santa Fe

Havasu (F1) 3096

60 days pale yellow; 80 days red ripe. High-yielding, widely adapted Santa Fe pepper. Conical-shaped fruits are thick-walled, avg. $3^{1}/2^{\prime\prime}$ x $2^{\prime\prime}$, and change from pale yellow, to orange, to red. Usually harvested pale yellow but can also be used orange or red. Commonly stuffed like poblanos to make a spicier version of chile rellenos. Santa Fe peppers are also known as guero chiles.

PKT \$7.00; 100 Seeds \$20.40; 250 Seeds \$42.55; 1,000 Seeds \$129.30; 5M @ \$116.39/M.







POTATOES

A. Purple Viking 3424G Early IR: S. Early purple beauty. Deep purple skin with pink splashes and pure white flesh. Vibrant and eye-catching. Early to bulk and mature. Some leaf hopper resistance and good scab tolerance. Known for creating perfect mashed potatoes, but also great for all other cooking applications. A rare cultivar used exclusively for tablestock. Space densely (8–10"). QG

5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*.

B. Red Gold 2444 Early IR: S.

Renowned for "new" potatoes. Early variety with high yields of round tubers with light red skin and delicious yellow flesh. Excellent for roasting and boiling. Not recommended for long storage.

5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.

C. Dark Red Norland Early IR: RZ, S. Productive early red variety. Round-tooblong tubers have red skin, white flesh, and are quick to bulk up. Excellent for roasting and boiling. Plant at closer spacing (6-8") for small "new" potatoes.

552G Organic CG

5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$110.00*. 552 Conventional

5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.

D. Natascha 3470 Early Midseason IR: FLB, RZ, TLB. Gorgeous, deep yellow. The smooth, shallow-eyed tubers with few blemishes are attractive at market. Improved emergence and plant vigor for a yellow type. High yields with a low percentage of oversized tubers for greater marketability. Waxy type especially suited for salads/boiling. Excellent storage potential. 5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.

E. Adirondack Blue 2715 Early Midseason Medium purple skin and flesh. High yields of large, oblong tubers with consistent, blue-violet flesh and deep eyes. Holds color when cooked. High in antioxidants.

5 Lbs. \$24.30; 25 Lbs. \$32.50*; 50 Lbs. \$43.50*.

F. Yukon Gold Early Midseason

Longtime favorite for flavor. Large, upright plants produce round-oval tubers with smooth, thin skin and famously delicious, yellow flesh. Versatile in the kitchen and stores well. Susceptible to hollow heart, which can be avoided with consistent soil moisture.

2361 Organic CG

5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*. 532 Conventional

5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.



G. NEW Blackberry (F1) 4833G

Midseason IR: S.

Eye-catching and easy to grow. Gorgeous! Dark purple through and through. Tall, strong, upright vines with purple stems and white flowers. Concentrated set. Some resistance to Colorado potato beetles. Great gourmet chip variety developed by MSU. CG 5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*.

H. Gold Rush 2219 Midseason IR: S, V. Adaptable, tasty, early russet. Mediumlarge, fully russeted skin with dry, white flesh perfectly suited for baked potatoes. Attractive tubers with pale yellow eyes. Stores well. 5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.

ORDER EARLY TO ENSURE AVAILABILITY

POTATOES SHIPPING INFORMATION

Seed potatoes ship late March to early April according to destination and climate. Potatoes cannot be shipped to HI, AK, outside the U.S., or to U.S. territories.

Growing Potatoes — Solanum tuberosum

CULTURE: Potatoes grow best in well-drained, fertile soil with a pH of 6.0–7.0. Cut tubers into pieces roughly $1^{1}/2-2$ oz. $(1-1^{1}/4^{\prime\prime}$ diameter) each, with at least one "eye" per piece. Small tubers may be planted whole. Potatoes can be planted in early to midspring as they tolerate cool soil and moderate frost. Plant seed pieces 2–3" deep, 12" apart, in rows 30–36" apart. Plants will emerge 2–3 weeks later. When the plants are 6–8" tall, hill them by mounding soil from each side of the row about 4" high along the base

of the plants to protect developing tubers from greening. Repeat hilling process as plants grow until hills are about 12" high. DISEASES: The best disease control is fertile soil, crop rotation, and consistent moisture. INSECT PESTS: Row covers work well to exclude insect pests such as Colorado potato beetles, aphids, and leafhoppers. Otherwise, scout for yellow-orange potato beetle eggs on undersides of leaves and crush them; manually remove and dispose of larvae and adults. Potato beetles can also be controlled with a spinosad insecticide. **HARVEST:** Small, "new" potatoes can be harvested beginning about 7–8 weeks after planting. After foliage has died back, leave main crop tubers in the ground for 2 weeks to set skin. Dig tubers, brush off soil, and allow skins to dry before storing. Store in a cool but not freezing 40°F (4.4°C) dark, humid place.

AVG. PLANTING RATE: 10 lb./80-100' at 12" spacing; 110 lb./1,000'; 1,600 lb./acre in rows 36" apart. **SEED SPECS:** Avg. 8–10 pieces/lb.; fingerling type: avg. 20 pieces/lb.

Potatoes Resistance Codes

HR = High Resistance IR = Intermediate Resistance

S	Scab					
FLB Foliar Late Blight						
RZ	Rhizoctonia					
TLB	Tuber Late Blight					
V	Verticillium Wilt					



I. Caribou Russet Midseason IR: S, V. Superior baking potato for the North.

Developed by Univ. of Maine. Truly phenomenal flavor for baked potatoes. Moderate yields of oval-to-oblong tubers that store well. Bred for cool climates, Caribou Russet performs best in the northern tier of the US. Plant Variety Protected.

4745G Organic CG

5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*. 4745 Conventional

5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.

J. Satina 3136G Midseason HR: S, TLB. Yellow skin, yellow flesh, gourmet flavor. Always a favorite on our research farm. Silky smooth and buttery for mouth-watering mashed potatoes. Produces high yields with few culls. Stores well. Plant Variety Protected. CG 5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*.

K. Kennebec Midseason IR: FLB.

Excellent all-purpose potato. High yields of round-to-oblong tubers with buff skin and white flesh that store well. Widely adapted, fast-growing plants do best when planted at 8-10" spacing to avoid overly large tubers.

539G Organic CG

5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*. 539 Conventional

5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.

L. Strawberry Paw Midseason IR: S, TLB. Vibrant red skin with creamy white flesh. High yields of large, round-to-oblong tubers with midseason maturity. Strawberry Paw's flesh has a smooth texture with excellent flavor. Great

storage potential. 3137G Organic 😘

5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*. 3137 Conventional

5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.

M. Elba 3897G Late HR: S.

High-yielding with excellent storage potential. Large, round tubers with buff skin, white flesh, and excellent flavor. The texture is best suited for roasting, boiling, baking, and potato salad. 🌀

5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*.

N. Pinto Gold 3282 Late

Specialty potato with outstanding flavor. Bred by Univ. of Maine, Pinto Gold is an excellent gourmet potato with red skin and yellow eyes. The smooth, buttery yellow flesh is delicious. Tubers are somewhat irregular and range from oval to fingerling in shape. Excellent yield and storage potential.

Lb. \$22.05; 5 Lbs. \$88.45; 25 Lbs. \$99.75*.

O. German Butterball Late IR: FLB. S.

Richly flavored heirloom. Large, healthy plants with slightly sprawling tuber set. Later to mature but its rich, buttery flavor is worth the wait! Highly versatile in the kitchen and stores well. Mediumsized tubers with characteristic layered skin and yellow flesh. **!!**

3110G Organic CG

5 Lbs. \$32.75; 25 Lbs. \$75.00*; 50 Lbs. \$140.00*. 3110 Conventional

5 Lbs. \$24.30; 25 Lbs. \$28.50*; 50 Lbs. \$43.50*.

Fingerling

P. French Fingerling Late Midseason IR: S. Pink fingerling with bicolor flesh. Tall, spreading plants produce tubers with pink skin and yellow, red-flecked flesh. Known for its gourmet flavor. Best boiled or roasted.

2608G Organic CG

Lb. \$29.40; 5 Lbs. \$117.80; 25 Lbs. \$133.00*. 2608 Conventional

Lb. \$22.05: 5 Lbs. \$88.45: 25 Lbs. \$99.75*.

Q. Magic Molly 3896G Late Midseason Purple fingerling. Purple through and through. From its dark purple skin to its dark purple flesh, Magic Molly retains its rich color when boiled. Its large tubers have an excellent, earthy flavor, especially when roasted. CG Lb. \$29.40; 5 Lbs. \$117.80; 25 Lbs. \$133.00*.

Potato Comparison Chart

Variety	Part #	Maturity	Skin Color	Flesh Color	Shape	"New" Potatoes [†]	Storability	Culinary Use
Adirondack Blue	2715	Early Mid	Purple	Purple	Oblong	Good	Fair	Chips, Roasted, Baked
NEW Blackberry	4833G CG	Mid	Purple	Purple	Round/Blocky	_	Fair	All Purpose
Caribou Russet	4745G CG or 4745	Mid	Russet	White	Oblong	_	Good	Baked, Mashed
Dark Red Norland	552G CG or 552	Early	Red	White	Round/Oblong	Very Good	Good	Roasted, Boiled
Elba	3897G CG	Late	Buff	White	Round	_	Excellent	Roasted, Boiled, Baked
French Fingerling	2608G CG or 2608	Late Mid	Pink	Yellow	Fingerling	_	Good	Roasted, Boiled
German Butterball	3110G CG or 3110	Late	Yellow	Yellow	Round/Oblong	_	Excellent	Baked
Gold Rush	2219	Mid	Russet	White	Oblong	_	Good	Baked, Fried
Kennebec	539G CG or 539	Mid	Buff	White	Round/Oblong	Fair	Excellent	All Purpose
Magic Molly	3896G CG	Late Mid	Purple	Purple	Fingerling	Fair	Good	Roasted, Boiled
Natascha	3470	Early Mid	Yellow	Yellow	Oval	_	Excellent	All Purpose
Pinto Gold	3282	Late	Red/Yellow	Yellow	Oval/Fingerling	_	Excellent	Roasted
Purple Viking	3424G CG	Early	Purple/Pink	White	Round/Oval	Good	Excellent	All Purpose
Red Gold	2444	Early	Lt. Red	Yellow	Round	Excellent	Fair	Roasted, Boiled
Satina	3136G CG	Mid	Yellow/Buff	Yellow	Round/Oval	Fair	Excellent	Boiled, Mashed
Strawberry Paw	3137G CG or 3137	Mid	Red	White	Round/Oval	Fair	Excellent	Roasted, Boiled
Yukon Gold	2361 CG or 532	Early Mid	Yellow/Buff	Lt. Yellow	Round/Oval	Good	Good	All Purpose



PUMPKINS

Jack-o'-Lantern

Racer (F1) 85 days.

Extra-early workhorse variety. Speedy ripening helps avoid disease pressure. Blocky, heavy, midsize pumpkin with slightly flattened shape, great-looking rib, and strong, dark green handle. Typical weight 12–16 lb. Highly productive, vigorous, short vines. Our thanks to UNH for working with us to develop this variety, which combines parentage from UNH and Johnny's.

2163G Organic CG, 2163T Treated, or 2163 Untreated

Champion (F1) 95 days.

Big, early jack. Well-ribbed and upright with a thick, medium-length handle. Vigorous, medium vines produce 30–40 lb. fruits. Our thanks to UNH for working with us to develop this variety. (1)

2601T Treated or 2601 Untreated

Expert (F1) 98 days.

A beauty in the Howden class. Blocky, upright, medium-large jack with deep orange color and big, dark green handles. Avg. 22–30 lb. \$\circ\$ 2261T Treated or 2261 Untreated

Igor (F1) 100 days.

We've created a monster! The perfect Halloween jack for attracting attention, whether at the farm stand or the front door. Tall, lurking, and very uniform in size, shape, and menace. Dark orange skin, deep ribs, and a pronounced shoulder create a foreboding look, while a strong handle carries the weight well. Avg. 25–35 lb. Bred by Dr. Lindsay Wyatt at Johnny's. 4027T Treated or 4027 Untreated



Visit our Pumpkin Grower's Library for additional growing information at **Johnnyseeds.com/pumpkin-library**

Powdery Mildew Resistant

Jack of Hearts (F1) 4421 100 days. IR: PM. Great for kids and U-Pick farms.

Outstanding color and an intriguing handle style will have specialty pumpkin growers betting big on the Jack of Hearts. Strong powdery mildew resistance keeps the stem nice and dark for a beautiful contrast with the bright orange skin. Fruits average 6–7 lb., borne on a short vine. An excellent choice for mixed fall displays. Bred by Dr. Lindsay Wyatt at Johnny's. Our thanks to UNH for working with us to develop this variety.

Gumdrop PMR (F1) 100 days. IR: PM. A different take on the small jack. Gumdrop gets your attention with rich orange color, a whimsical shape, and a big, sturdy handle. Ideal size for kids, at 11–13 lb. Grower-friendly with a short vine and intermediate resistance to powdery mildew. Our thanks to UNH for working with us to develop this variety.

3571T Treated or 3571 Untreated

Growing Pumpkins — *Cucurbita pepo* unless otherwise indicated

CULTURE: See "Winter Squash." Time plantings so that varieties will mature for the fall market. Overexposure to sun in the field after maturity and foliage dieback reduces fruit and handle color quality. **PLANT SPACING:** For between-row spacing, bush plants require 4–5', short-vine habits require 6', and long-vine habits generally require 12'. In-row spacing varies depending on fruit size and is generally: small, 18–24"; medium, 24–36" and large to extra-large, 36–72". Spacing requirements may vary, so check for individual variety recommendations. **DISEASES AND PESTS:** See "Winter Squash." **HARVEST:** Fruits can tolerate 1–2 light frosts, however, temperatures below 28°F (-2°C) can damage fruit. When fruit color is fully developed, clip handles close to the vine. Avoid picking up fruits by handles and take care not to damage the skin/rind. Sun cure in the field for 5–7

days or cure indoors by keeping fruits at 80–85°F (27–29°C) with good air ventilation. White varieties should be brought out of direct sunlight once foliage starts to die back; cure inside and keep out of sun to avoid yellowing. **STORAGE:** Store at 50–60°F (10–15°C) with 50–70% relative humidity and good ventilation. **DAYS TO MATURITY:** From direct seeding. Subtract 14 days if transplanting. **AVG. DIRECT SEEDING RATE:** 250 seeds/125′, 500 seeds/250′, 1,000 seeds/500′, 15M/acre @ 2 seeds/ft rows 6′ apart. **SEED SPECS:** SEEDS/LB.: Avg. 3,200. **PACKET:** 30 seeds (unless otherwise noted in product description), sows 15′.

90 | VEGETABLES



Pumpkin Resistance Codes

HR = High Resistance IR = Intermediate Resistance

PM Powdery Mildew
WMV Watermelon Mosaic Virus

DISEASE PREVENTION TIPS

Cucurbit powdery mildew (Podosphaera xanthii) is a fungal disease that is widespread throughout the US and often arrives in midsummer before fruits reach maturity. It can weaken and defoliate plants, cause premature ripening, and reduce yields and fruit quality—ultimately devastating a pumpkin crop.

For best success:

- 1. Choose resistant varieties. This is by far the most important preventative method.
- 2. Select varieties that mature early to reduce crop loss.
- 3. Apply preventative fungicide sprays (e.g., OxiDate, copper-based) ahead of infection.
- 4. Provide sufficient airflow through proper plant spacing and weed control measures.



Powdery Mildew Resistant, continued...

Renegade PMR (F1) 95 days. IR: PM. EXCLUSIVE! Highly uniform with few culls. A reliable producer in an essential size class. Striking, rich orange, avg. 14–18 lb. fruits are thick-walled and blocky round. Robust handle, strong PMR, and a medium vine. Consistently high marketable yields and very few culls. Ideal for wholesale and roadside stands. Bred by the late Dr. Brent Loy of UNH. 3437T Treated or 3437 Untreated

Duchess (F1) 100 days. IR: PM.
Lovely double-ribbed appearance. Deeply ribbed and a stunning effect in autumn's afternoon glow. Each year, we observe big yields, consistent quality, and strong powdery mildew resistance. The same predictability and low cull rates as Renegade PMR, but larger and with a unique look. Avg. 19–21 lb. Bred by Dr. Lindsay Wyatt at Johnny's. Our thanks to UNH for working with us to develop this variety. 4422T Treated or 4422 Untreated

The Boss (F1) 100 days. IR: PM.
Clearly in charge. A great complement to
Duchess, with more traditional ribs and a
vibrant color. Uniform sizes, prolific yields, and
strong PMR. Thick, strongly attached handles
are an ideal length for direct market or bin
sales. Strong walls maintain perfect blockyround shape throughout the season. Avg.
18–20 lb. Bred by Dr. Lindsay Wyatt at Johnny's.
Our thanks to UNH for working with us to
develop this variety.

4419T Treated or 4419 Untreated

Cargo PMR (F1) 100 days. IR: PM.

A robust hybrid with strong handles and beautiful color. The perfect jack-o'-lantern.
Cargo produces nice medium-size pumpkins at southern latitudes. Our thanks to UNH for working with us to develop this variety.

3978T Treated or 3978 Untreated



Early Giant (F1) 95 days. IR: PM.
Early, large jack with PMR. Tall pumpkin with rich color that attracts attention. Easy to grow for its size, with fruits ranging from 25–40 lb. An adaptable, reliable producer. Performs well on moderate spacing.

3782T Treated or 3782 Untreated

Cronus (F1) 4676 115 days. IR: PM. **Beautiful blocky shape**. Popular, extra-large jack with a sturdy handle. Truly striking, especially when it reaches its full size potential. Can grow up to 60 lb. if provided with ample fertility and wide spacing (12' between rows, 48" in-row).

Variety	Part #	Disease Resistance	Days	Wt Range	Rin Count	Vine Length	PKT	250 Seeds	1,000 Seeds	5M @/M	25M @/M
Small	ruit //	nesistance	Duys	Wt. nange	Din Count	Ville Length	, i Ki	230 3000	1,000 3ccus	3m @/m	23111 @/1111
Gumdrop PMR	3571T or 3571	IR: PM.	100	11–13 lb.	N/A	Short	\$6.10	\$34.45	\$94.85	\$92.26	\$87.83
Jack of Hearts	4421	IR: PM.	100	6-7 lb.	N/A	Short	\$6.10	\$34.45	\$94.85	\$92.26	\$87.83
Medium											
D	2163G CG		0.5	12 16 11-	F0. C0	Medium	\$6.65	\$38.55	\$118.75	\$101.80	\$87.99
Racer	2163T or 2163		85	12–16 lb.	50–60		\$5.80	\$18.50	\$58.95	\$50.53	\$43.66
Renegade PMR	3437T or 3437	IR: PM.	95	14-18 lb.	40-50	Medium	\$6.10	\$34.45	\$94.85	\$92.26	\$87.83
Large											
The Boss	4419T or 4419	IR: PM.	100	18–20 lb.	30–35	Long	\$6.10	\$34.45	\$94.85	\$92.26	\$87.83
Cargo PMR	3978T or 3978	IR: PM.	100	20-25 lb.	30	Short	\$5.80	\$18.85	\$60.15	\$51.56	\$44.50
Champion	2601T or 2601	_	95	30–40 lb.	25	Medium	\$5.80	\$18.65	\$59.75	\$51.39	\$44.35
Cronus	4676	IR: PM.	115	25-40 lb.	20-30	Long	\$10.45	\$46.80	\$145.60	\$139.36	\$130.00
Duchess	4422T or 4422	IR: PM.	100	19–21 lb.	30-40	Short	\$6.10	\$34.45	\$94.85	\$92.26	\$87.83
Early Giant	3782T or 3782	IR: PM.	95	25-40 lb.	25	Long	\$5.80	\$34.00	\$101.20	\$92.00	\$87.73
Expert	2261T or 2261	_	98	22-30 lb.	30	Long	\$5.50	\$17.54	\$55.70	\$47.80	\$41.30
Igor	4027T or 4027	_	100	25–35 lb.	25	Medium	\$6.50	\$38.75	\$106.80	\$103.92	\$99.02

Part Numbers with T=Treated seeds. M=1,000 seeds.





Pie

Cinnamon Girl PMR (F1)

85 days. IR: PM.

Beautiful ornamental with excellent eating quality. As the name suggests, Cinnamon Girl can be combined with the favorite spice of fall and used for pie filling, in bread, or in any other pumpkin-based recipes. Our thanks to UNH and Cornell for working with us to develop this variety. Avg. weight: 3–5 lb. Vine length: short.

3996G Organic CG

PKT \$6.65; 250 Seeds \$42.75; 1,000 Seeds \$139.60; 5M @ \$119.43/M; 25M @ \$111.80/M.

3996 Conventional

PKT \$6.10; 250 Seeds \$34.45; 500 Seeds \$50.45; 1,000 Seeds \$94.85; 5M @ \$92.26/M; 25M @ \$87.83/M.

Winter Luxury 2783G

105 days.

Silky texture for a perfect pie. This marvelous, small pumpkin has a unique, netted skin. Typical weight is 6–9 lb. Not only a gorgeous ornamental, but also superb for eating. Vine length: long. CG PKT \$6.15; Oz. \$19.25; 1/4 Lb. \$45.15; Lb. \$150.45; 5 Lbs. @ \$144.10/Lb.

New England Pie 592G

105 days.

The classic New England pie pumpkin. Dark orange-skinned pumpkins in a range of small sizes, typically 4–6 lb. The orange flesh is stringless with a high dry matter for a creamy texture. A well-known mini jack-o'-lantern type for pies. Vine length: long. 🂢 🖺

PKT \$5.90; Oz. \$8.50; 1/4 Lb. \$17.85; Lb. \$50.30; 5 Lbs. @ \$44.52/Lb.



Giant

Polar Bear (F1)

100 days. C. maxima

Extra-large white pumpkin. Holds its color after maturity in the field, at market, and on display. Long, vigorous vines produce fruit averaging 30–65 lb., but may exceed 100 lb. Vine length: extra long. 2504T Treated or 2504 Untreated

PKT (10 seeds) \$6.90; 100 Seeds \$30.55; 250 Seeds \$57.20;

500 Seeds \$94.60; 1,000 Seeds \$194.65; 5M @ \$165.43/M; 25M @ \$154.44/M.

Big Moose

110 days. C. maxima

Giant pumpkins with bright color. Orange-red with some lighter streaking and light ribbing. Great for eye-catching roadside displays; pairs well with Polar Bear. Avg. 50–125 lb. Vine length: extra long.

3911T Treated or 3911 Untreated

PKT (15 seeds) \$6.90; Oz. \$30.05; 1/4 Lb. \$114.10; Lb. \$434.15; 5 Lbs. @ \$408.00/Lb.

Atlantic Giant (F1) 4428

120 days. C. maxima

Re-selected for improved shape and uniformity. An improved strain of one of the largest pumpkins in the world. Excellent for fall displays, the huge pumpkins are pale orange with a pink tinge. 50 to 100 pounders are commonly grown. Originally bred by Howard Dill of Nova Scotia. Vine length: extra long.

PKT (15 seeds) \$6.25; 100 Seeds \$15.50; 250 Seeds \$28.60; 1,000 Seeds \$87.45; 5M @ \$57.77/M.







White

Casperita (F1) 3076

77 days. IR: PM, WMV.

Selected for productivity, shape, and color. Ideal for U-picks, fall markets, and home decoration. This mini ¹/₂–1 lb., white pumpkin has strong handles and holds its color well. Vine length: semibush. PKT \$5.60; 250 Seeds \$32.20; 500 Seeds \$47.30; 1,000 Seeds \$94.30; 5M @ \$82.26/M; 25M @ \$76.24/M.

Snowball (F1) 3018

Small white pumpkin that holds its color well. Attractive, smoothrind, $1^{1}/2-2^{1}/2$ lb. round fruit. Bright white color with dark green stems. Good for painting. Vine length: long.

PKT \$6.25; 250 Seeds \$35.35; 1,000 Seeds \$113.70; 5M @ \$98.73/M; 25M @ \$86.67/M.

Shiver (F1)

100 days. IR: PM.

EXCLUSIVE! A little white pumpkin with a great handle. Gleaming white tabletop pumpkin with strong green handles that won't snap off. Cute blocky shape. Avg. weight: 11/2-21/2 lb. Compact habit allows for tighter spacing and higher yields. Holds its color well. Bred by the late Dr. Brent Loy of UNH. Vine length: semibush.

4020T Treated or 4020 Untreated

PKT \$6.50; 250 Seeds \$38.95; 1,000 Seeds \$116.30; 5M @ \$106.54/M; 25M @ \$97.44/M.

Flat Stacker (F1) 3574

95 days. C. maxima

Improved flat white hybrid. A more uniform, productive update on the classic Flat White Boer pumpkin. Perfectly complements other flat ornamentals, like Rouge Vif D'Etampes, Musquee de Provence, and Jarrahdale (page 94). A must-have for fall displays and wholesales. Avg. 15-25 lb. Vine length: long.

PKT \$5.80; 250 Seeds \$35.35; 1,000 Seeds \$108.15; 5M @ \$95.74/M; 25M @ \$91.31/M.

Moonshine (F1) 690

100 days.

Wonderful small-medium, white pumpkin. Very uniform, smoothskinned pumpkins avg. 8-12 lb. Perfect for decorating or carving. Long, dark green handles. Combine it with Kakai, Sunlight PMR, and Orange Smoothie (page 94) for a great display. Vine length: short.

PKT \$6.30; 250 Seeds \$34.00; 1,000 Seeds \$109.35; 5M @ \$94.93/M; 25M @ \$83.35/M.

Valenciano 2185

110 days. C. maxima

Snow-white heirloom. Unique white pumpkin for doorstep decorations and painting. Medium-size, flattened shape with slight ribbing. Thick orange flesh suitable for pies. Avg. 10–15 lb. Vine length: long. PKT \$5.75; Oz. \$14.90; 1/4 Lb. \$33.90; Lb. \$108.85; 5 Lbs. @ \$98.55/Lb.





What Our Growers Are Saying...

"I appreciate Johnny's fast shipping! Even though I'm on the West Coast, I know I can receive items from Johnny's sooner than some closer competitors.

"And the service is excellent. My Sales Rep, Heidi Peroni, is easy to contact, responds quickly, and provides ideas and resources. Other employees I interact with earnestly want to help, demonstrating they value my business."

Beth Leimbach, Farm Manager Organic Farm, The Evergreen State College Olympia, Washington

We want to hear from you! Join the Johnny's community. #growwithjohnnys



Specialty

Dort #	Genus/	Dave	Disease	Wt Bango	Vine	Description
Part #	species	Days	Resistance	wt. Kange	Length	Description
2070	Consists	105		4 10 lb	Lana	Unusual tri-colored fruit for displays.
						Kid-sized favorite. AAS winner.
						Prolific, uniform mini pumpkin with a unique black color.
						Brilliant color. Very uniform with big yields.
						Colorful decorative acorn.
						Peanut-like blisters on salmon-pink skin. A choice edible.
						Tan skin and heavy warting for a one-of-a-kind look.
4467	C. pepo	95	IR: PM.		Long	Distinctive caramel color.
3150	C. maxima	100	_	12-18 lb.	Extra Long	The classic blue Australian pumpkin.
3767	C. pepo	100	IR: PM.	¹ / ₂ lb.	Medium	Great for tabletop displays. Strong PMR. Plant Variety Protected.
2051	C. moschata	108	_	6-10 lb.	Long	Deep orange, moderately sweet flesh.
2625	C. maxima	100	_	6-12 lb.	Extra Long	A warty blue monster. Makes great gnocchi and ravioli.
3391	C. pepo	95	IR: PM.	10-18 lb.	Medium	Full-size yellow jack.
2621	C. moschata	125	_	15-40 lb.	Extra Long	Great for cooking. A favorite in France.
2365	C. pepo	95	_	6-9 lb.	Short	Best small jack for painting. AAS winner.
4019T or 4019	C. pepo	100	IR: PM.	4-8 lb.	Medium	Productive, upright pumpkin with long handles.
3997	C. maxima	110	IR: PM.	16-24 lb.	Extra Long	Pink beauty that pairs well with Jarrahdale.
614	C. maxima	115	_	10-15 lb.	Long	Striking color and shape. Good for pies.
4653	C. pepo	105	_	15-20 lb.	Long	Ghoulish, warty pumpkin.
3776	C. pepo	90	IR: PM.	¹ / ₂ lb.	Medium	Bright, striped mini pumpkin. Perfect for tabletop displays.
2506	C. maxima	100	_	3-6 lb.	Extra Long	A beautiful bicolor pumpkin that bakes up nicely.
3910	C. pepo	100	IR: PM.	4–6 lb.	Medium	Unique yellow color draws attention at farmstands.
618	C. maxima	95	_	3-7 lb.	Long	Mushroom-shaped with multicolored skin.
2216	C. pepo	95	_	10-14 oz.	Bush	Tiny, round pumpkin. AAS winner.
						· · · · · · · · · · · · · · · · · · ·
2860	С. реро	100	_	5–8 lb.	Medium	Interesting striped rind and hulless seeds for snacking.
3387T or 3387	C. pepo	105	_	2-4 lb.	Medium	High yields of semi-hulless seeds for roasting and snacking.
	3150 3767 2051 2625 3391 2621 2365 4019T or 4019 3997 614 4653 3776 2506 3910 618 2216	Part # Species 3078	Part # Species Days 3078 C. mixta 105 600T or 600 C. pepo 105 4493 C. pepo 80 3668T or 3668 C. pepo 95 2452 C. pepo 95 3777 C. maxima 95 4549 C. pepo 90 4467 C. pepo 95 3150 C. maxima 100 3767 C. pepo 100 2051 C. moschata 108 2625 C. maxima 100 3391 C. pepo 95 4019T or 4019 C. pepo 95 4019T or 4019 C. pepo 100 3997 C. maxima 115 4653 C. pepo 105 3776 C. pepo 90 2506 C. maxima 100 3910 C. pepo 100 618 C. maxima 95 2216 C. pepo 95 <	Part # Species Days Resistance 3078 C. mixta 105 — 600T or 600 C. pepo 105 — 4493 C. pepo 80 IR: PM. 3668T or 3668 C. pepo 95 IR: PM. 2452 C. pepo 95 — 3777 C. maxima 95 — 4549 C. pepo 90 IR: PM. 4467 C. pepo 95 IR: PM. 3150 C. maxima 100 — 3767 C. pepo 100 IR: PM. 2051 C. moschata 108 — 2625 C. maxima 100 — 3391 C. pepo 95 IR: PM. 2621 C. moschata 125 — 2365 C. pepo 95 — 4019T or 4019 C. pepo 100 IR: PM. 614 C. maxima 115 — 4653 C. pep	Part # Species Days Resistance Wt. Range 3078 C. mixta 105 — 4–10 lb. 600T or 600 C. pepo 105 — 1½-2½-½ lb. 4493 C. pepo 80 IR: PM. 1-1½ lb. 3668T or 3668 C. pepo 95 IR: PM. 2½-3½-3½ lb. 2452 C. pepo 95 — 1½ lb. 3777 C. maxima 95 — 15-20 lb. 4549 C. pepo 90 IR: PM. 6-10 lb. 4467 C. pepo 95 IR: PM. 5-8 lb. 3150 C. maxima 100 — 12-18 lb. 3767 C. pepo 100 IR: PM. 5-8 lb. 2051 C. moschata 108 — 6-10 lb. 2625 C. maxima 100 — 6-12 lb. 3391 C. pepo 95 IR: PM. 10-18 lb. 2365 C. pepo 95 — 6-9 lb.	Part # Species Days Resistance Wt. Range Length 3078 C. mixta 105 — 4–10 lb. Long 600T or 600 C. pepo 105 — 1¹/2−2¹/2 lb. Medium 4493 C. pepo 80 IR: PM. 1−1¹/2 lb. Semibush 3668T or 3668 C. pepo 95 IR: PM. 2¹/2−3¹/2 lb. Semibush 2452 C. pepo 95 — 1¹/2 lb. Semibush 3777 C. maxima 95 — 15−20 lb. Long 4549 C. pepo 95 IR: PM. 6−10 lb. Long 4467 C. pepo 95 IR: PM. 5−8 lb. Long 3150 C. maxima 100 — 12−18 lb. Extra Long 3767 C. pepo 100 IR: PM. ¹/2 lb. Medium 2051 C. maxima 100 — 6−12 lb. Extra Long 3391 C. pepo 95 IR: P

Part Numbers with T=Treated seeds.



Sold by Seed Count

sold by seed coe						
Variety	Part #	PKT	250 Seeds	1,000 Seeds	5M @/M	25M @/M
Ornamental						
Baby Bear	600T or 600	\$5.75	\$9.25	\$29.50	\$25.79	\$23.92
NEW Black Bear	4493	\$6.50	\$38.95	\$116.30	\$106.54	\$97.44
Blaze	3668T or 3668	\$5.80	\$38.65	\$105.30	\$98.53	\$92.64
Carnival	2452	\$5.80	\$16.85	\$57.75	\$55.36	\$52.96
Grizzly Bear	4549	\$7.80	\$51.85	\$155.60	\$134.36	\$129.65
Hot Chocolate	4467	\$8.25	\$51.85	\$155.60	\$134.36	\$129.66
Jill-Be-Little	3767	\$5.75	\$9.10	\$27.20	\$24.42	\$22.09
Mellow Yellow	3391	\$6.90	\$47.30	\$128.85	\$120.57	\$113.38
Orange Smoothie	2365	\$5.80	\$24.75	\$76.15	\$69.15	\$64.20
Pipsqueak PMR	4019T or 4019	\$6.10	\$34.45	\$94.85	\$92.26	\$87.83
Porcelain Doll	3997	\$6.90	\$54.55	\$190.55	\$152.38	\$140.93
Scarface	4653	\$8.25	\$42.90	\$130.00	\$123.76	\$114.40
Spark	3776	\$5.80	\$27.70	\$89.20	\$77.39	\$67.96
Speckled Hound	2506	\$5.80	\$30.10	\$92.55	\$84.07	\$78.04
Sunlight PMR	3910	\$7.30	\$40.80	\$131.20	\$113.91	\$100.02
Snack Seed						
Naked Bear	3387T or 3387	\$6.90	\$37.10	\$96.45	\$87.81	\$84.48

Part Numbers with T=Treated seeds. M=1,000 seeds.

Sold by Weight

Sold by Weight						
Variety	Part #	PKT	1 Oz.	1/4 Lb.	1 Lb.	5 Lbs. @/Lb.
Ornamental						
Autumn Colors Cushaw	3078	\$5.80	\$13.95	\$47.55	\$155.05	\$134.09
Galeux d'Eysines	3777	\$5.75	\$15.30	\$38.20	\$119.35	\$114.63
Jarrahdale	3150	\$5.55	\$8.05	\$17.95	\$62.15	\$62.12
Long Island Cheese	2051	\$5.45	\$8.75	\$22.45	\$63.20	\$58.99
Marina Di Chioggia	2625	\$5.75	\$9.85	\$21.50	\$68.90	\$61.71
Musquee de Provence	2621	\$5.75	\$14.75	\$30.60	\$95.80	\$83.48
Rouge Vif D'Etampes	614	\$5.75	\$14.75	\$38.80	\$140.75	\$132.07
Turk's Turban	618	\$5.75	\$8.80	\$17.75	\$48.30	\$42.19
Wee-B-Little	2216	\$5.75	\$13.45	\$39.25	\$126.35	\$123.00
Snack Seed						
Kakai	2860	\$5.05	\$13.70	\$32.05	\$100.10	\$82.53
Part Numbers with T=Treated seeds.						



NEW Black Bear (F1) 4493

80 days. IR: PM.

Unique black color! A new offering for Johnny's and a vast improvement over other varieties on the market. Black Bear stays black—it does not ripen to any other color—and provides beautiful contrast to orange and white pumpkins. Cute, small, "true pumpkin" shape makes it ideal for autumn decorations. High-yielding and exceptionally uniform. Early to harvest. Bred by Aneta Jacobs and Dr. Lindsay Wyatt at Johnny's. Our thanks to UNH for working with us to develop this variety. Avg. $1-1^{1}/2$ lb. \bigcirc

PKT \$6.50; 250 Seeds \$38.95; 1,000 Seeds \$116.30; 5M @ \$106.54/M; 25M @ \$97.44/M.











RADISHES Round

NEW Donato (F1) 4910

21 days. HR: BRoot, DM, RZ. IR: FY.

Early, mildew resistant, and reliable. Our first downy mildew-resistant radish. Donato has consistently performed well in trials, holding its round shape and quality even during warm, summer weather. Earlier and with better fieldholding ability than Crunchy King. Crisp and mild with a hint of sweetness.

PKT \$5.80; 5M @ \$2.40/M; 25M @ \$1.87/M; 100M @ \$1.75/M; 500M @ \$1.50/M.

Rover (F1) 664

21 days.

Extra-early and refined. Rover matures early, holds well in the field, and produces fewer oval radishes under heat stress than other varieties. Extremely uniform and attractive. Roots are smooth and dark red with crisp, white flesh. Very widely adapted. 📇

PKT \$5.80; 5M @ \$2.26/M; 25M @ \$1.52/M; 100M @ \$1.50/M; 500M @ \$1.41/M.

Sora 612G 22 days.

Heat-tolerant organic radish. Sora produces high-quality roots that resist pithiness and maintain their round shape, even when oversized or in warm weather. Suitable for spring, summer, or fall crops. $\mathbb{G}_{\frac{1}{2}}$ PKT \$5.90; 5M @ \$2.68/M; 25M @ \$1.91/M; 100M @ \$1.61/M; 500M @ \$1.54/M.

Crunchy King (F1) 3414 23 days. Uniform size and exceptional fieldholding. Produces blemish-free red spheres with remarkably even maturity for consistently high pack-outs. Slower maturing than Rover,

PKT \$5.80; 5M @ \$2.78/M; 25M @ \$2.01/M; 100M @ \$1.65/M; 500M @ \$1.63/M.

Crunchy King holds well in the field. Dense tops

Bacchus (F1) 3675 24 days.

help inhibit weeds.

EXCLUSIVE! A strong performer with striking purple skin. Bacchus is a perfect complement to Pink Beauty, Pearl, and any of our round red radishes. Best flavor in early spring and fall. PKT \$5.75; 5M @ \$4.49/M; 25M @ \$3.48/M; 100M @ \$2.87/M; 500M @ \$2.72/M.

Pink Beauty 626G 26 days.

Pastel-pink round radish. Uniform roots with medium tops. Sweet flavor and crisp texture. An eye-catching, attractive, pink radish. Resists pithiness. QG

PKT \$5.90; Oz. \$7.25; 1/4 Lb. \$15.75; Lb. \$47.25; 5 Lbs. @ \$43.32/Lb.

Pearl (F1) 3456G 28 days.

Pure white with strong tops. An organic radish that maintains its perfectly round shape more reliably than other whites. Crunchy and moderately spicy, with the right amount of sweetness. GG

PKT \$6.15; 5M @ \$5.53/M; 25M @ \$5.21/M; 100M @ \$4.05/M; 500M @ \$3.45/M.

Easter Egg II 617 30 days.

Multicolor mix. Make beautiful bunches with this mix of red, purple, pink, and white round radishes. Maturing over an extended period of time, they stay crisp and mild even when large. Great fun for children and adults alike. PKT \$5.75; Oz. \$8.95; 1/4 Lb. \$12.85; Lb. \$29.95; 5 Lbs. @ \$26.23/Lb.

Growing Radishes — Raphanus sativus

CULTURE: Radishes require friable, well-drained soils with a pH range of 5.8–6.8. Sow at any time during the season, beginning in early spring. Use 2-3" wide bands, seeds about 3/4-1" apart (about 35 seeds/ft. except 10 seeds/ft. for 'Red Meat,' 'Purple Heart,' 'Nero Tondo,' and 'Green Luobo Improved') 1/2" deep, rows 1' apart. Radishes are adversely affected by hot, dry weather. They remain in prime condition only a few days and should be grown rapidly with plenty of moisture to be mild, tender, and attractive. If growth is checked, roots may become tough, pithy, and too spicy. INSECT PESTS: Use floating row covers at time of planting to control flea beetles and cabbage root maggots. HARVEST AND STORAGE: Harvest promptly to avoid pithiness, beginning at about 3–4 weeks when roots are the size of a large marble. Bunch or top, hydrocool, and refrigerate. Topped radishes will keep 3-4 weeks in good, crisp condition if kept at 32°F (0°C), 95% relative humidity, and in breathable packaging. See Johnnyseeds.com for longer storage of specialty types. AVG. DIRECT SEEDING RATE: 1 oz./70', 14 oz./1,000', 21 lb./acre at 35 seeds/ft. in rows 18" apart, or 31 lb./acre in rows 12" apart. SIZED SEEDS: "Sized" seeds have been sorted so they are roughly the same size. This consistency allows for more accurate spacing with mechanical seeders and more even germination. Only the round red radishes are sized. SEED SPECS: SEEDS/LB.: 36,500-61,200 (avg. 47,800). PACKET: 250 seeds, sows 7'.



Radish Resistance Codes

HR — High Resistance IR — Intermediate Resistance

BRoot	Black Root
DM	Downy Mildew
FY	Fusarium Yellows
RZ	Rhizoctonia





Long French

French Breakfast

21 davs.

Classic French Breakfast type. A wellmaintained strain of this market staple. Longer than Nelson, with more white on the tip. Large, healthy tops. After trying many strains we found this to be the best.

4088G Organic CG

PKT \$6.75; Oz. \$9.25; 1/4 Lb. \$20.95; Lb. \$49.30; 5 Lbs. @ \$44.36/Lb. 4088 Conventional PKT \$5.55; Oz. \$10.65; 1/4 Lb. \$13.75; Lb. \$22.50; 5 Lbs. @ \$18.74/Lb.

Nelson 3591

21 days.

A more refined French Breakfast type. Straight, candy-red roots resist pithiness better than other long French types. Compared to French Breakfast, roots are shorter, wider, and show less white on the tips. Responds better to tight spacing. Improved top strength.

PKT \$5.55; 5M @ \$2.94/M; 25M @ \$2.04/M; 100M @ \$1.67/M; 500M @ \$1.61/M.



Specialty

Purple Heart (F1) 3275 48 days. Improved bolt resistance. Resists bolting better than Red Meat for spring planting. Striking color definition between white rind and deep pink flesh. Round shape, avg. 3" in diameter. More uniform and attractive than Red Meat but not as good eating quality. Suitable for long-term storage. Strapleaf tops. PKT \$6.05; 1,000 Seeds \$9.50; 5M @ \$5.80/M; 25M @ \$3.68/M; 100M @ \$2.95/M.

Red Meat 624 50 days.

"Watermelon" radish for fresh eating and fermenting. Round radishes with unique, dark pink flesh. Harvest from 2-4". Large tops. Remarkably sweet, delicious taste. Great for pickling, fermenting, or winter salads. Thin to 4" apart. Stores until early spring in proper conditions. NOTE: For summer to fall sowing only; may bolt to seed from spring sowing.

PKT \$5.75; Oz. \$13.85; 1/4 Lb. \$38.10; Lb. \$117.90; 5 Lbs. @ \$117.00/Lb.

GROWING TIP

For longer, straighter French Breakfast radishes, sow 15-20% more seeds/row than round radishes, ¹/₂ to 1 cm deeper, and do not irrigate unless absolutely necessary.



Nero Tondo 616G 50 days.

Special Black Spanish type. An elite, uniform, bolt-tolerant strain. The roots may be harvested from 2-4" and have crisp, spicy, white flesh. For sowing midspring (soil temp. 60°F/16°C or higher to prevent bolting) through fall. Thin to 4" apart. Medium-long storage. Q

PKT \$5.90; Oz. \$17.85; 1/4 Lb. \$42.20; Lb. \$129.20; 5 Lbs. @ \$110.03/Lb.

Green Luobo Improved 3361 57 days. Green Asian specialty for fermenting. Adds beautiful green color to kimchi. Also great for fresh eating. Uniform and fast-maturing. Selected for its balance of sweet and spicy flavor. Spineless tops make for itch-free harvesting. Roots avg. 5-7" long. For summer planting/fall harvest. For long storage. NOTE: Not recommended for spring sowing, as it may bolt. PKT \$5.75; Oz. \$11.60; 1/4 Lb. \$29.40; Lb. \$88.15; 5 Lbs. @ \$67.63/Lb.

Shunkyo Semi-Long 611 32 days. Traditional Chinese specialty. The smooth, deep pink, cylindrically shaped roots avg. 4-5" long and have crisp, white flesh. The flavor is both hot and unusually sweet. Edible, smooth, strapleaf foliage with rhubarb-pink stems. Slow-bolting, and can be sown throughout the year. PKT \$5.75; Oz. \$16.55; 1/4 Lb. \$43.25; Lb. \$136.50; 5 Lbs. @ \$128.53/Lb.







Specialty and Daikon/Korean Radishes

Nero Shunkyo Tondo Mini Semi-Long Mak Red KN-Bravo Meat Green Luobo Purple Improved 11" Heart 12" 13" Alpine 14" Red King 2 15" 16" **Summer Cross** 17" No. 3 Miyashige 18"

Dimensions may vary significantly due to culture and environmental conditions.

Daikon/Korean

Mini Mak (F1) 3344 50 days. Small Korean radish for pickling and fresh use. At 4-5'' long x $1^{1}/2''$ wide, it is well-suited for bunching. Sweet and mildly spicy. Highly uniform with good bolt tolerance for spring and summer sowings. NOTE: 3" in-row spacing is optimal. PKT \$5.80; Oz. \$20.20; 1/4 Lb. \$50.30; Lb. \$179.45; 5 Lbs. @ \$166.95/Lb.

KN-Bravo (F1) 3866 49 days. Attractive purple roots. Pale purple to white internal color with purple streaks—a beautiful color for kimchi or fresh salads. Roots avg. $4-6" \times 2^{1/2}-3"$ with good, sweet eating quality. For spring and summer sowings. NOTE: Contains 5-10% whiterooted off-types.

PKT \$5.80; Oz. \$17.60; 1/4 Lb. \$43.65; Lb. \$155.90; 5 Lbs. @ \$140.94/Lb.

Red King 2 (F1) 4173 53 days.

Smooth, brilliant red skin. Mild, crisp, and juicy into late maturity—like KN-Bravo, but sweeter. Tall, upright tops with red and green petioles. Beautiful, especially paired with purple and white varieties. Root size is adaptable to plant spacing—can produce radishes over 1 lb.! Slow-bolting variety holds well in the field. For both spring and summer sowings. Avg. $5-8" long x 2-2^{1/2}."$

PKT \$5.80; Oz. \$23.10; 1/4 Lb. \$54.85; Lb. \$168.65; 5 Lbs. @ \$162.42/Lb.

Alpine (F1) 2473 55 days.

Traditional Korean radish with exceptional

flavor. The most common type grown for kimchi in Korea. Smooth white roots with green shoulders, avg. $5-8" \times 2-2^{1}/2"$. Sweeter than the long, white, Japanese types and a better choice for rocky soils, especially in warm weather. Strong bolt tolerance for spring and summer sowings. For fresh use, pickling/ fermenting, and storage.

PKT \$5.80: Oz. \$17.60: 1/4 Lb. \$43.65: Lb. \$155.90; 5 Lbs. @ \$140.94/Lb.

Summer Cross No. 3 (F1) 623

55 davs.

For late summer and fall. Endorsed by critical growers and markets as the choice Japanese-style variety for mid- and latesummer harvest. Uniform, long, tapered white roots avg. 16" x $2^{1/2}$ ". Late spring and summer sowing.

PKT \$5.80; Oz. \$26.10; 1/4 Lb. \$77.40; Lb. \$235.40; 5 Lbs. @ \$219.20/Lb.

Miyashige 625

50 days.

Traditional fall-harvest daikon. Crisp, Japanese-type fall radish of highest quality. "Stump-rooted" cylindrical white roots are pale green near the crown and avg. 16–18" long x $2^{1/2}$ -3" wide. A crisp, tender variety for pickling and storage. For July and early August sowina.

PKT \$5.75; Oz. \$13.10; 1/4 Lb. \$30.90; Lb. \$119.00; 5 Lbs. @ \$107.47/Lb.

Specialty and Daikon/Korean Radish Planting Program

Days	Variety	Part #	Length	Skin Color	Flesh Color	Cool/Spring	Warm/Summer	Cool/Fall	Cold/Winter ^{††}
Specia	Specialty								
32	Shunkyo Semi-Long	611	4–5"	Pink	White				
48	Purple Heart	3275	Round, 3" diam.	White/Green Shoulder	Magenta				
50	Red Meat	624	2-4"	White/Green Shoulder	Magenta				
50	Nero Tondo	616G CG	2-4"	Black	White	†			
57	Green Luobo Improved	3361	5-7"	Green/White	Green/White				
Daiko	Daikon/Korean								
49	KN-Bravo	3866	4–6"	Purple	White				
50	Miyashige	625	16–18"	White	White		_		
50	Mini Mak	3344	4-5"	White	White				
53	Red King 2	4173	5–8"	Red	White				
55	Summer Cross No. 3	623	16"	White	White				
55	Alpine	2473	5–8"	White	White				
† Whe	† When soil temperature is at least 60°F (16°C). †† In mild climates.								

Growing Daikon/Korean Radishes — Raphanus sativus var. longipinnatus

CULTURE: Daikon and Korean radishes require friable, well-drained soils with a pH range of 5.8-6.8. Work soil deeply, in raised beds if possible, for straight roots and ease of harvest. Sow 10 seeds/ft., thinning to 4-6" apart, rows 18" apart. Note planting seasons in variety descriptions to reduce bolting. HARVEST AND STORAGE: Daikon and Korean radishes are brittle; fork or undermine and lift roots carefully. Cut tops 2" above crowns, wash, and refrigerate. Can be stored at 32°F (0°C) and 95% relative humidity for 6-10 weeks. AVG. DIRECT SEEDING RATES: 1 oz./260', 3.9 oz./1,000', 51/4 lb./acre at 6 seeds/ft. in rows 24" apart, or 7 lb./acre in rows 18" apart.







SPINACH Smooth-Leaf

Auroch (F1) 4056

24 days. HR: DM (1-12, 14-16, 19).

Fast-growing, upright variety for the winter tunnel. Very tall plants with very long stems. Leaves are dark green, heavy, smooth, and flat with elongated oval shape. Suitable for picking at all growth stages. Performs best in fall, winter, and early spring.

PKT \$5.80; 5M @ \$1.49/M; 10M @ \$1.05/M; 50M @ \$0.96/M; 100M @ \$0.77/M; 500M @ \$0.68/M; 1,000M @ \$0.63/M.

Space (F1)

25 days. HR: DM (1-3, 5, 6, 8, 9, 11, 12, 14, 16, 19). Tried-and-true variety for all seasons. Fastgrowing, medium-green leaves are smooth to slightly savoyed.

4543G Organic CG

PKT \$6.15; 5M @ \$1.80/M; 10M @ \$1.40/M; 50M @ \$1.27/M; 100M @ \$1.10/M; 500M @ \$0.98/M; 1,000M @ \$0.96/M. 644 Conventional

PKT \$5.80; 5M @ \$1.49/M; 25M @ \$0.97/M; 100M @ \$0.77/M; 500M @ \$0.68/M.

Flamingo Improved (F1) 4568

27 days. HR: DM (1-14, 16).

Asian-leaf type for early spring and fall harvests. Unique arrowhead shape. Uniform, smooth, medium-green leaves on very long stems. A great choice for bunching. PKT \$5.80; 5M @ \$1.49/M; 10M @ \$1.42/M; 25M @ \$1.21/M; 50M @ \$0.96/M; 100M @ \$0.77/M; 500M @ \$0.68/M; 1,000M @ \$0.63/M.

Lizard (F1) 4046

28 days. HR: DM (1-15, 17).

Slow-bolting, dark green spinach for spring and summer. Smooth, round leaves on upright, compact plants. Full plants with thick leaves produce high yields. Excellent regrowth. PKT \$5.80; 5M @ \$1.49/M; 10M @ \$1.05/M; 50M @ \$0.96/M; 100M @ \$0.77/M; 500M @ \$0.68/M; 1,000M @ \$0.63/M.

Seaside (F1) 3927

30 days. HR: DM (1-11, 15, 16, 19). IR: DM (12, 14). Slow-bolting variety for spring and summer. Seaside has upright, dark green leaves that are somewhat spade-shaped. Stays small, which extends the baby leaf harvest window. PKT \$5.80; 5M @ \$1.49/M; 25M @ \$0.97/M; 100M @ \$0.77/M; 500M @ \$0.68/M.

Red Tabby (F1) 4567

31 days, HR; DM (1-9, 11-13), IR; DM (10),

Red-veined spinach for spring and summer. Dark green leaves, bright red veins, and an angular leaf shape create a striking combination. Upright habit and uniform growth for effortless harvest at any growth stage. PKT \$5.80; 5M @ \$2.12/M; 10M @ \$1.75/M;

25M @ \$1.35/M; 50M @ \$1.35/M; 100M @ \$1.18/M; 500M @ \$1.09/M; 1,000M @ \$1.03/M.

Read our guide to winter harvest crops and overwintering for spring harvest at Johnnyseeds.com/winter-growing





Spinach Downy Mildew (Peronospora effusa) An ever-evolving pathogen most common where spinach is grown intensively year-round and during cool, damp weather, spinach downy mildew can spread rapidly in the field and post harvest. For best success:

- 1. Look for varieties with the most comprehensive list of isolate resistances (1-19), or grow multiple varieties which together span full resistances.
- 2. Focus on your riskiest planting slots (fall, early winter) and locations (tunnels, under row cover).
- 3. Trial new varieties, as not all regions have similar isolate pressures.

Growing Spinach — Spinacia oleracea

CULTURE: Spinach grows in a wide range of soils if moist and fertile but it is sensitive to acidity; pH should be at least 6.0, preferably 6.5–7.5. SOWING DATES: Spinach germinates best in cool soil. Begin sowing in early spring as soon as the ground can be worked. Summer sowing in soil over 85°F (30°C) risks low or erratic germination. If sowing has to be done during warmer weather, irrigating can help cool the soil and improve germination. Sow in mid-to-late summer for a fall harvest. Spinach can also be planted from late summer through the winter in protected structures for fall, winter, and spring harvest. Using floating row covers offers additional winter protection. PLANTING AND HARVEST: For baby leaf: Sow 3-5 seeds/ inch in rows at least 2" apart. Cut when leaves are small, in 3-5 weeks, depending on time of year and speed of growth. For a continuous supply, sow every 7 days. For bunching and full size: Sow 10 seeds/ft., \(^1/2\)" deep, in rows at least 8" apart. Harvest spinach full size but before bolting. STORAGE: Store at 32°F (0°C) and 95% relative humidity for 10-14 days. AVG. DIRECT SEEDING RATE: For baby leaf: 1M/25', 5M/125', 1,200M/acre at 40 seeds/ft. in rows at least 2" apart. For full-size leaves: 10M/1,000', 290M/acre at 10 seeds/ft. in rows 12-18" apart SIZED SEEDS: Standard except where noted. SEED SPECS: SEEDS/LB.: 24,800-45,800 (avg. 38,800). PACKET: 1,000 seeds; sows 25' baby, 100' full size.



Spinach Resistance Codes

HR = High Resistance IR = Intermediate Resistance

l.	DM	Downy Mildew	
	WR	White Rust	



Savoyed-Leaf

NEW Rangitoto (F1) 4830

27 days. HR: DM (1-16, 19).

Fast, upright growth for the winter tunnel. Uniform, bright green leaves on tall, upright stems. Glossy, round, and cupped. Best in fall, winter, and early spring.

PKT \$5.80; 5M @ \$1.87/M; 10M @ \$1.46/M; 50M @ \$1.32/M; 100M @ \$1.14/M; 500M @ \$1.02/M; 1,000M @ \$1.00/M.



Hammerhead (F1) 3458

27 days. HR: DM (1-12, 14-16, 19). IR: WR.

Full-savoy DMR spinach for spring, fall, and winter. Medium-green, upright spinach with slightly elongated, round, cupped leaves. Quick to bolt, so best suited for early spring, fall, and winter sowing.

PKT \$5.80; 5M @ \$1.49/M; 25M @ \$0.97/M; 100M @ \$0.77/M; 500M @ \$0.68/M.



Sunangel (F1) 4542

27 days. HR: DM (1-9, 11-19). IR: DM (10), WR. Heavily savoyed DMR spinach for all seasons. A good balance of speed, dark color, savoy, and bolt tolerance for ample harvests through the whole year. Very productive in the winter tunnel. Uniform and upright, with a more cupped leaf than traditional savoy

PKT \$5.80; 5M @ \$1.49/M; 10M @ \$1.05/M; 50M @ \$0.96/M; 100M @ \$0.77/M; 500M @ \$0.68/M; 1,000M @ \$0.63/M.

Tundra (F1) 3583G

27 days. HR: DM (1-13, 15, 16, 18).

Organic, semi-savoy variety for spring and fall. Glossy, dark green, elongated-oval leaves. Upright growth habit. Slower growth makes it ideal for early spring through early summer planting, as well as early fall. OG PKT \$6.15; 5M @ \$1.72/M; 25M @ \$1.23/M; 100M @ \$1.07/M; 500M @ \$0.95/M.

Spinach Seed Roller Pack 7519

EXCLUSIVE! Includes one of each Jang roller: MJ-24 and L-24. Sows

approximately 2-3 seeds per drop at your desired spacing between 0.5-2.5" apart for seeding baby leaf spinach. \$62.40.





Equinox 4034G

29 days.

Improved OP Bloomsdale-type for spring and fall. A fast-growing, slow-bolting, highly uniform selection of the standard Bloomsdale. Upright plants with fully savoyed leaves on long stems. Excels in spring and fall and can be harvested at baby leaf or full size. Bred by Dr. John Navazio at Johnny's. 🐧 🔾

PKT \$6.15; 5M @ \$1.52/M; 25M @ \$1.39/M; 100M @ \$1.27/M; 500M @ \$1.15/M; 1,000M @ \$0.53/M.

Kolibri (F1) 3683

29 days. HR: DM (1-9, 12-15, 17). IR: DM (10, 11). **Semi-savoy for all seasons.** Medium-dark green leaves. Fast regrowth for ample cut-andcome-again harvest.

PKT \$5.80; 5M @ \$1.49/M; 25M @ \$1.21/M; 100M @ \$0.77/M; 500M @ \$0.68/M.

Bloomsdale 3645

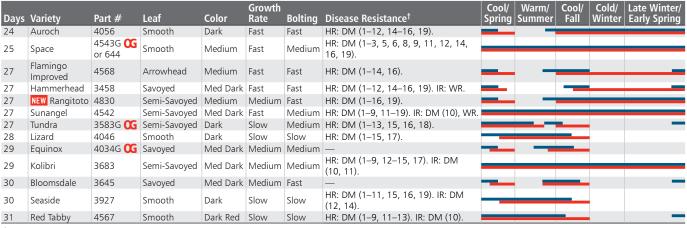
30 davs.

OP savoy for spring and fall. Mediumdark green leaves on upright plants make Bloomsdale easy to harvest. Heavily savoyed. Suited for early spring and fall plantings as it is fast growing. For full size and bunching. Great flavor. Unsized seed.

PKT \$5.75; 5M @ \$1.39/M; 25M @ \$1.00/M; 100M @ \$0.85/M; 500M @ \$0.76/M.

Spinach Planting Program

Generally, slow-growing varieties are slower bolting, making them better-suited for warmer conditions and as day lengths are increasing. Fast-growing varieties are typically faster bolting and perform best in cooler conditions and as day lengths are stable or decreasing.



[†] Numbers indicate known resistance to specified races.

SUMMER SQUASH

Yellow Summer

NEW Butterfingers (F1) 4306G

52 days. IR: PM.

EXCLUSIVE! Excellent yield potential. Very uniform, attractive fruits. Semi-open, spineless plants result in easier harvesting and fewer blemishes. Early, with a long harvest period. Compared to Slick Pik® YS 26, which it replaces, fruit quality is much improved and yields are higher. Bred by the late Dr. Brent Loy of UNH. CG PKT \$6.15; 100 Seeds \$33.00; 250 Seeds \$49.50; 1,000 Seeds \$145.00; 5M @ \$111.00/M; 25M @ \$102.00/M.

Goldfinch (F1) 4600G 50 days. IR: PM. Convenient open habit. Excellent early, steady yields of beautiful, tender yellow squash perched on a long central stem. The open plant habit and medium spines make for easier harvests. Bred by Dr. Lindsay Wyatt at Johnny's. 100 PKT \$5.80: 100 Seeds \$14.20: 250 Seeds \$33.00; 1,000 Seeds \$79.20; 5M @ \$68.45/M; 25M @ \$53.24/M.

Multipik (F1) 2968 50 days.

Precocious yellow straightneck. Precocious gene ensures fruits will stay yellow and not show green streaking if they are infected with virus (CMV or WMV). Vigorous bush plants have a high yield potential and long harvest period. Rich yellow fruits with a medium bulb. PKT \$5.50; 250 Seeds \$13.95; 1.000 Seeds \$45.95: 5M @ \$40.24/M: 25M @ \$35.84/M.

Yellow Crookneck 2450 58 days. Garden favorite. A traditional variety wellknown for its buttery flavor and firm texture. Big plants are late to begin bearing, but then yield consistently over a long picking period. Best picked small, 4-5" long. Larger fruits will have a bumpy appearance. **O**

PKT \$5.50; 250 Seeds \$18.25; 1,000 Seeds \$31.25; 5M @ \$20.14/M; 25M @ \$15.54/M.

Tempest (F1) 3256G 54 days.

Outstanding culinary quality. Yellow crookneck with vibrant color, gourmet flavor, distinctive ridges, and subtle striping. Tempest's 4-7" fruits have a rich, nutty flavor and pleasantly firm texture. Versatile in the kitchen, it retains its shape, texture, and color through a multitude of cooking applications. Open habit and soft spines for easy harvest. NOTE: Presence of the precocious yellow gene causes leaves to express yellow color, which sometimes resembles virus symptoms. This is normal. The plant will grow and perform as expected. **90** PKT \$5.80; 100 Seeds \$16.90; 250 Seeds \$39.20; 1,000 Seeds \$94.05; 5M @ \$81.30/M; 25M @ \$63.27/M.

Zephyr (F1) 2217 54 days.

Distinctive appearance and great flavor. Slender yellow fruits with faint white stripes and light green blossom ends. Harvest young at 4-6" for unusually delicious, nutty flavor and firm texture. Vigorous, high-yielding plants. NOTE: Under certain stressful situations, such as hot weather, Zephyr fruits can show some variability in the amount of green at the blossom ends. In addition, sometimes the first fruit on a plant will be green-striped. PKT \$5.50; 250 Seeds \$21.65; 1,000 Seeds \$38.65; 5M @ \$33.43/M; 25M @ \$16.86/M.









Growing Summer Squash — Cucurbita pepo

CULTURE: See "Winter Squash." For highest quality fruit, succession plantings every 2–3 weeks may be needed. **PLANT SPACING:** Space plants 18–24" apart in rows 6' apart. Wider spacing may allow for easier harvesting. DISEASES AND PESTS: See "Winter Squash." HARVEST FRUIT: For some varieties, it is common for the first fruits to be malformed, wither, or blacken, which indicates poor pollination and is usually remedied as more male flowers appear. Harvest regularly, 2–3 times a week, once plants begin to produce. Cut or gently twist off fruits when they have reached the desired size: for zucchini, 6-8" long; summer squash, 4-6"; and patty pan and round, 2-3" in diameter. Handle with care to avoid scratching fruits. HARVEST BLOSSOMS: Harvest closed blossoms in early morning or open blossoms in late morning. Clip flowers 1–2" below the flower base. If a squash fruit crop is also desired from the same planting, only harvest male flowers, leaving a few to pollinate the female flowers. (Male blossoms have thin stems while female blossoms have thick stems and an immature fruit at the base of the flower.) STORAGE: Keep fruit at 40–50°F (5–10°C), 95% relative humidity for up to 2 weeks. Use as soon as possible for best quality. DAYS TO MATURITY: From direct seeding; for days to maturity from transplanting, subtract about 14 days. AVG. DIRECT SEEDING RATE: (At 3 seeds/ft., rows 6' apart) 250 seeds/83', 500 seeds/166', 1,000 seeds/333'. SEED SPECS: SEEDS/LB.: Zucchini: Avg. 3,400; Yellow Summer: Avg. 5,500; Specialty: Avg. 4,500. PACKET: 25 seeds (unless otherwise noted), sows 8'.



Summer Squash Resistance Codes

HR = High Resistance IR = Intermediate Resistance

CMV	Cucumber Mosaic Virus
PM	Powdery Mildew
PRSV	Papaya Ringspot Virus
WMV	Watermelon Mosaic Virus
ZYMV	Zucchini Yellow Mosaic Virus







Zucchini

Dark Green

NEW Kefren (F1) 5027

50 days. IR: PM, PRSV, WMV, ZYMV.

Easy harvesting and disease resistant.

Open plants with greatly reduced spines result in less skin irritation and fruit scarring and easier harvests. Stem is firmly attached to the fruit but snaps easily, saving labor and leading to fewer culls. Medium-dark green fruit.

PKT \$6.10; 250 Seeds \$35.30; 1,000 Seeds \$99.45; 5M @ \$87.08/M; 25M @ \$78.26/M.

Dunja (F1) 3843G

47 days. IR: PM, PRSV, WMV, ZYMV.

Organic, early, powdery mildew resistant. A high-yielder of straight, dark green zucchini. Open plants and short spines make for an easy harvest. Sets fruit well with minimal pollinator activity, making it a good choice for tunnel production. CG

PKT \$5.80; 100 Seeds \$18.50; 250 Seeds \$37.50; 1,000 Seeds \$129.00; 5M @ \$115.00/M; 25M @ \$111.80/M.

Noche (F1) 2560

48 days. IR: WMV, ZYMV.

High-yielding, dark green, and spineless. Noche produces attractive, dark green, cylindrical zucchini. Easy to harvest due to an open habit and very reduced spines. Disease resistances keep the plant healthy and bearing over a long period. PKT \$5.50; 250 Seeds \$35.30;

1,000 Seeds \$99.45; 5M @ \$87.08/M; 25M @ \$78.26/M.



Medium/Light Green

Mexicana (F1) 4220G

48 days. IR: CMV, PM, PRSV, WMV, ZYMV. Mexican gray zucchini. Upright plants with an open habit and moderate spines for ease of harvest. Strong disease resistance. Produces early, heavy yields of gray-green, slightly bulbous fruits with remarkable uniformity, great texture, and a refined flavor profile. CG PKT \$6.95; 250 Seeds \$46.85; 1,000 Seeds \$145.45; 5M @ \$133.10/M; 25M @ \$122.02/M.

Magda (F1) 2913

48 days.

Cousa type with superb flavor. The best flavor of any Middle Eastern type in our trials. Magda's sweet, nutty flavor is comparable to Zephyr. The blocky, pale green, tapered fruits are usually picked small (3-4" long) for stuffing, stir-fries, and pickling. High-yielding over a long season. PKT \$5.50; 250 Seeds \$16.65; 1,000 Seeds \$48.15; 5M @ \$42.22/M; 25M @ \$37.96/M.

Spineless Perfection (F1) 3854

45 days. IR: PM, WMV, ZYMV.

High-yielding, medium-green type.

Attractive, straight fruits are borne on a spineless, open plant which makes harvesting easy. Multiple disease resistances keep the plants bearing over an extended period. PKT \$6.95; 100 Seeds \$21.00; 250 Seeds \$39.00; 1,000 Seeds \$119.00; 5M @ \$109.80/M; 25M @ \$99.96/M.

Green Machine (F1) 3279G

45 days. IR: CMV, PM, WMV, ZYMV.

Uniform, medium-green with light

flecking. Open plant habit with moderate spines. High yields of straight fruits. An excellent disease package keeps the plants healthy and producing for a full-season harvest. Widely adapted. 😘

PKT \$5.80; 100 Seeds \$17.15; 250 Seeds \$39.55; 1,000 Seeds \$130.65; 5M @ \$114.49/M; 25M @ \$102.90/M.

Yellow

Golden Glory (F1) 3837

50 days. IR: PM, WMV, ZYMV.

Spineless yellow zucchini with excellent yields. Open habit and few spines make it easy to harvest blemish-free fruit. Excellent disease resistance keeps the plant productive over a long season. Bright yellow fruits with solid areen stems.

PKT \$5.50; 100 Seeds \$16.85; 250 Seeds \$33.30; 1,000 Seeds \$93.75; 5M @ \$82.12/M; 25M @ \$75.68/M.

Yellowfin (F1) 3886G

50 days. IR: CMV, PM.

Organic yellow zucchini with powdery mildew resistance. Uniform, cylindrical fruits are an attractive golden-yellow color. Semi-open plants with moderate spines. CG PKT \$6.15; 100 Seeds \$19.95; 250 Seeds \$44.85; 1,000 Seeds \$137.95; 5M @ \$122.38/M; 25M @ \$113.94/M.









Striped Zucchini

Safari (F1) 3852 50 days.

Green zucchini with attractive white stripes. A prolific yielder of attractive, glossy, cylindrical fruits that are easy to pick due to the nearly spineless plant.

PKT \$5.50; 100 Seeds \$13.25; 250 Seeds \$21.40; 1,000 Seeds \$63.55; 5M @ \$55.64/M; 25M @ \$50.02/M.

Costata Romanesco 2053 52 days. Traditional Italian heirloom with great

flavor. Distinctive, medium gray-green zucchini with pale green flecks and prominent ribs. While this OP's big plants yield half that of hybrids, it tastes much better—great texture, nutty flavor, and delicious raw or cooked. Excellent choice for edible flowers. Semi-vining plants with large leaves. PKT \$5.50; 250 Seeds \$11.65; 1,000 Seeds \$19.95; 5M @ \$15.00/M; 25M @ \$11.52/M.

Pantheon (F1) 3559 50 days.

Costata with improved yield and plant

habit. Classic Costata Romanesco appearance but superior uniformity, higher yielding, and easier to harvest. Improved upright bush habit with reduced spines. Firm flower attachment at marketable size and attractive, glossy fruit. PKT \$5.50; 100 Seeds \$16.50; 250 Seeds \$28.35; 1,000 Seeds \$79.80; 5M @ \$69.89/M; 25M @ \$64.41/M.



Patty Pan

G-Star (F1) 3844G

50 days.

Shiny, dark green patty pan. Compared to Starship, G-Star's fruits are darker green and more ribbed. The smaller this prolific yielder is picked, the shinier it will be. Open plants. Q PKT \$7.20; 100 Seeds \$23.90; 250 Seeds \$40.20; 1,000 Seeds \$128.70; 5M @ \$117.42/M; 25M @ \$112.57/M.

Jaune et Verte 3724G

50 days.

Unique, tulip-shaped patty pan. Attractive, light green fruits with dense, flavorful flesh are perfect for stuffing. Full-habit plants. Slightly earlier and higher yielding than Benning's Green Tint. Mature fruits are cream- and green-striped and can be used as ornamentals. \mathbf{G} PKT \$5.80; 250 Seeds \$12.90; 1,000 Seeds \$28.00; 5M @ \$19.93/M; 25M @ \$13.69/M.

Y-Star (F1) 3855G

50 days.

Yellow patty pan. Prolific yielder of shiny yellow, scalloped fruits with light green on the blossom end. Widely adaptable. Open plant for easy harvest. NOTE: Amount of green may vary depending on the level of heat and plant stress. CG PKT \$7.20; 100 Seeds \$23.90; 250 Seeds \$40.20; 1,000 Seeds \$128.70; 5M @ \$117.42/M; 25M @ \$112.57/M.

Lemon Sun (F1) 4412

50 days.

Uniform, bright yellow patty pan. Fully yellow, tulip-shaped, blemish-free fruits with bright green stem. Plants are open for ease of harvest and have minimal spines. Earlier and higher yielding than Sunburst, which it replaced. Attractive harvested while small with blossom still attached, or teacup-sized. PKT \$5.50; 100 Seeds \$16.10; 250 Seeds \$26.80; 1,000 Seeds \$77.20; 5M @ \$71.83/M; 25M @ \$62.46/M.

Find tips for squash growing, harvesting, disease prevention, and more at Johnnyseeds.com/summer-squash-library

Round

Eight Ball (F1) 2624

50 days. IR: PM, WMV, ZYMV.

Dark green, shiny, round zucchini. Plants have short spines and yield consistently over the whole season. For best flavor, harvest when fruit is 2-3" in diameter. AAS winner.

PKT \$5.50; 250 Seeds \$24.10; 1,000 Seeds \$69.40; 5M @ \$64.54/M; 25M @ \$56.12/M.

One Ball (F1) 3736

48 days. IR: WMV, ZYMV.

Vibrant yellow fruit with appealing shape. Attractive, brightly colored fruits. Semi-open, bush habit plants with short spines and very good yields. Rounder than Summer Ball, which it replaced. Fruits may experience some stem and blossom-end greening during prolonged warm weather periods. Best when picked at 2-3" diameter.

PKT \$5.50; 250 Seeds \$24.10; 1,000 Seeds \$69.40; 5M @ \$64.54/M; 25M @ \$56.12/M.

Cue Ball (F1) 3359

25M @ \$44.98/M.

48 days. IR: PM, WMV, ZYMV.

Attractive, light green fruits with subtle **flecking.** Very productive plant. Longer stem and open habit makes for easy harvesting. Flat blossom end ensures harvested fruit sits upright. Pick at 2-3" diameter for best flavor. PKT \$5.50; 250 Seeds \$18.70; 1,000 Seeds \$57.10; 5M @ \$49.99/M;





WINTER SQUASH

Acorn/Delicata

A. Autumn Delight (F1) 4047

80 days. IR: PM. C. pepo

High-yielding classic acorn. Uniform fruit with rich, dark green skin. Strong powdery mildew tolerance. Semibush plants. Stores well for 2–3 months. Avg. weight: $1^{1}/2-2^{1}/2$ lb. Avg. 5,200 seeds/lb.

PKT \$5.60; 100 Seeds \$12.95; 250 Seeds \$19.40; 1,000 Seeds \$58.10; 5M @ \$55.00/M; 25M @ \$51.40/M; 100M @ \$49.90/M.

B. Honey Bear (F1) 689 85 days. IR: PM. C. pepo EXCLUSIVE! Delicious small acorn. Just right for single servings when halved. Worthy of marketing by name. Semibush plant. Bred by the late Dr. Brent Loy of UNH. Avg. weight: $1-1^{1}/4$ lb. AAS winner. Avg. 4,100 seeds/lb. PKT \$5.80; 100 Seeds \$10.65; 250 Seeds \$17.20; 1,000 Seeds \$43.70; 5M @ \$39.99/M; 25M @ \$36.23/M.

C. Tuffy 2054G 90 days. C. pepo

A favorite for baking. Great flavor coupled with dry texture (two elements of a great squash). Thicker, sweeter, and drier flesh than other acorns. Easily identified by its attractive, heavy ribbing and black-green skin. Vining plant habit. NOTE: For sweetest flavor, wait 2+ weeks after harvest. Avg. weight: 2 lb. Avg. 7,300 seeds/lb. PKT \$6.15; Oz. \$19.85; 1/4 Lb. \$49.45; Lb. \$168.95; 5 Lbs. @ \$161.40/Lb.

Learn how long to cure and store winter squash for peak flavor at Johnnyseeds.com/squash-storage-chart

D. Tiptop PMR (F1) 92 days. IR: PM. C. pepo Better-tasting larger acorn. More flavorful than others this size and a real improvement over old standards. Holds its black-green color very well in storage. Vigorous, larger, semibush plant with later maturity. Avg. weight: 2–2¹/₂ lb. 0 **2269G Organic G** Avg. 3,000 seeds/lb. PKT \$5.55: 100 Seeds \$18.25: 250 Seeds \$41.50: 500 Seeds \$51.95: 1,000 Seeds \$93.05; 5M @ \$78.28/M; 25M @ \$77.20/M; 50M @ \$74.10/M. 2269 Conventional Avg. 4,400 seeds/lb. PKT \$5.80; 100 Seeds \$7.50; 250 Seeds \$12.50; 1,000 Seeds \$42.50; 5M @ \$37.48/M; 25M @ \$34.96/M.

E. Jester (F1) 3836 95 days. C. pepo Superb flavor in an eye-catching fruit. Oval and tapered at both ends, featuring splashy green, inter-rib striping that contrasts nicely with the ivory background. High-yielding and widely adapted. Short vines. Avg. weight: 1¹/₂ lb. Avg. 4,500 seeds/lb. PKT \$5.80; 250 Seeds \$16.95; 1,000 Seeds \$52.35; 5M @ \$49.50/M; 25M @ \$46.66/M.

F. Starry Night PMR (F1) 4026G

95 days. IR: PM. C. pepo

Delicious acorn that stores through the **holidays.** Unique, pixelated color pattern. Superior to industry-standard green acorns which typically lack flavor and shelf life. Stays reliably smooth and sweet when stored through the New Year. Bred by Dr. Lindsay Wyatt and Rob Johnston, Jr. Avg. weight: 2-2¹/₂ lb. Avg. 3,000 seeds/lb. 00G

PKT \$6.90; 100 Seeds \$22.35; 250 Seeds \$50.75; 1,000 Seeds \$113.85; 5M @ \$106.44/M; 25M @ \$101.65/M.



G. Night Shift (F1) 4423G

95 days. IR: PM. C. pepo

Premium storage acorn. A high-yielding acorn that keeps its dark color and superior flavor in storage—through the winter holidays and beyond! Ideal when a vining habit is preferred, or if you find bush-type acorns lacking in flavor. Vigorous vines provide excellent cover and hold up well under disease pressure. Avg. weight: 1¹/₂–2¹/₂ lb. Bred by Dr. Lindsay Wyatt at Johnny's. Our thanks to UNH for their help in developing this variety. Avg. 3,700 seeds/lb. **()**

PKT \$6.75: 100 Seeds \$21.50: 250 Seeds \$48.80: 1,000 Seeds \$106.95; 5M @ \$101.15/M; 25M @ \$96.50/M.

H. **NEW Honey Bun (F1)** 4303

95 days. IR: PM. C. pepo

Striking dumpling squash with excellent flavor! Impressive yields of eye-catching variegated fruit, plus strong agronomic qualities. A dramatic improvement over Sweet Dumpling. Fruits turn caramelly-bronze at peak ripeness. Avg. weight: 1–2 lb. Bred by Dr. Lindsay Wyatt at Johnny's. Our thanks to UNH for their help in developing this variety. Avg. 2,000 seeds/lb. PKT \$5.50; 250 Seeds \$14.42; 1,000 Seeds \$44.47; 5M @ \$42.05/M; 25M @ \$39.63/M.

I. Delicata JS 675G 100 days. C. pepo Our distinct, widely grown strain. Unique appearance with cream skin and dark green longitudinal stripes and flecks. Tastes very sweet and skin is tender enough to eat. Excellent for stuffing and baking, even right at harvest! 7-9" long x 3" diam. Avg. weight: $1^{1}/2-2$ lb. Avg. 7,800 seeds/lb. **00**

PKT \$6.15; Oz. \$11.45; 1/4 Lb. \$30.00; Lb. \$99.55; 5 Lbs. @ \$89.50/Lb.









Buttercup

Bonbon (F1) 95 days. C. maxima Tasty, uniform, and high yielding. Looks like the perfect buttercup squash with smooth, deep green skin and a prominent gray "button" at the base. An improvement over the classic OP 'Buttercup (Burgess Strain)' in terms of flavor, uniformity, and yield. Avg. weight: 4-5 lb. AAS winner. NOTE: Treated seed available 250 seeds and larger. Avg. 1,900 seeds/lb. 2996T Treated or 2996 Untreated PKT \$5.80; 100 Seeds \$18.65; 250 Seeds \$31.25; 1,000 Seeds \$112.45; 5M @ \$107.45/M; 25M @ \$99.94/M.

Buttercup (Burgess Strain) 2416

95 days. C. maxima

The classic buttercup. A northern New England favorite. Great culinary attributes for an organic OP variety: creamy, deep orange flesh with rich, sweet flavor. Avg. weight: 3-5 lb. Avg. 2,700 seeds/lb. 06 PKT \$6.15; Oz. \$9.90; 1/4 Lb. \$21.10; Lb. \$60.85; 5 Lbs. @ \$49.87/Lb.

Specialty

Tetsukabuto (F1) 3578

100 days. C. maxima x C. moschata

Adaptable, productive, and long-storing. This innovative kabocha/butternut cross produces high yields even under stress. Unique parentage bestows vine borer resistance and powdery mildew tolerance. Cooks will appreciate its sweet, nutty flavor and versatility in the kitchen. Exceptionally long storage potential. NOTES: 1) Cure 6 weeks before eating. 2) Must be grown near butternut. kabocha, hubbard, or buttercup squash to produce fruit. Avg. weight: 3-5 lb. Avg. 2,200

PKT \$5.80; 100 Seeds \$18.10; 250 Seeds \$43.70; 1,000 Seeds \$149.95; 5M @ \$143.68/M; 25M @ \$139.94/M.

Find more ornamental and specialty varieties on page 94.



North Georgia Candy Roaster 3912

100 days. C. maxima

Curious heirloom with fantastic flavor. This delicious oddity proves that looks aren't everything. Maintains superior eating quality up to 5 months with proper storage. Can be roasted, stuffed, or made into pie filling. Avg. weight: 8–15 lb. Avg. 1,700 seeds/lb. PKT \$6.45; Oz. \$15.15; 1/4 Lb. \$49.55; Lb. \$156.45; 5 Lbs. @ \$148.91/Lb.

Black Futsu 4196G

105 days. C. moschata

Beloved Japanese delicacy. A traditional favorite with bumpy skin that develops an enchanting gray-to-blush, cloudy "bloom" on the surface. Bright orange flesh with fruity flavor and edible skin. Long vines. Stores 4-5 months. Avg. weight: 2–4 lb. Avg. 5,600 seeds/lb. CG PKT \$6.15; 250 Seeds \$16.95; 1,000 Seeds \$42.90; 5M @ \$21.23/M; 25M @ \$19.19/M.

Growing Winter Squash — Cucurbita spp.

CULTURE: Fertile, well-drained soil is best. FROM TRANSPLANTS: Sow 2-3 seeds in 2" containers or plug trays 3 weeks before transplanting outdoors. Thin to 1-2 plants/ cell with scissors. Transplant out after frost danger. Bush and small-fruited: space plants 18" apart, with 4-5' between rows; Large-fruited: space plants 24-36" apart, with 6–12' between rows. Take care not to disturb roots. **DIRECT SEEDING:** Sow in late spring after frost danger when soil is warm, minimum 62°F (17°C) for treated seeds and 70°F (21°C) for untreated seeds; seeds will rot in cool soil, especially cool, wet soil. Sow 1–2 seeds every 12" (24–36" for large-fruited varieties) 1/2–1" deep. Thin to 1 plant per spot. Rows 6' apart, 12' apart for larger fruit. DISEASES: Cucumber beetles can carry bacterial wilt and must be controlled. Gummy stem blight (black rot) causes black, sunken spots to appear on fruits in storage and the tan scabby patches on butternuts in the field. Downy mildew may occur in damp weather. Powdery mildew can occur in hot or cold temperatures, or during dry periods. Consult your local Extension agent for specific fungicide control. Choose well-drained soil to avoid Phytophthora. SPRING COLD PROTECTION: AG-19 (heavier grade) floating row covers will provide about 4° of frost protection and add warmth for vigor and an earlier harvest. INSECT PESTS: Protect young plants with floating row covers. Cucumber beetles, squash bugs, and vine borers can be a challenge. Pyrethrin offers some control. Squash bug eggs laid on the underside of leaves may be located and crushed. Keep borders well mowed. For vine borers, cut out of vines and hill soil over the wound. Clean up refuse in the fall, and spring-plow the ground to bury the pupae. The butternut type has solid vines usually not bothered by borers. FALL FROST: Frost kills leaves and can thus facilitate harvest; however, temperatures below 28°F (-2°C) can also damage fruits and cause spotting and poor storage. Mature fruits can usually tolerate 1 and sometimes 2 or 3 light frosts

without substantial damage. Sprinkler irrigation wards off moderate frost damage to fruits. HARVEST: Before heavy frost, cut stems about 1" from the fruit when stem is drying and skin is hardening. Handle fruits gently, as they can bruise easily. CURING: Cure in the field to dry and toughen skins by exposing fruits to sun for 5-7 days or so, covering in the evening if frost is likely. An indoor method of curing is to expose squash to 80-90°F (27-32°C) with ventilation for 3-5 days. STORAGE: Store at 55-60°F (12-15°C), 50-75% relative humidity, and good air circulation. An accumulation of sub 50°F (10°C) exposure events causes chilling injury, reducing storage life. DAYS TO MATURITY: From direct seeding; subtract about 14 days if transplanting. AVG. DIRECT SEEDING RATES: (At 2 seeds/ft., rows 6' apart.) Group 1: Hubbard, Kuri 50'/oz., 850'/lb., 81/2lb./acre. Group 2: Buttercup, Kabocha, Spaghetti, 75'/oz., 1,250'/lb., 53/4lb./acre. Group 3: Butternut, Acorn, 155'/oz., 2,500'/lb., 3lb./acre. Group 4: Delicata 225'/oz., 3,750'/lb., 2 lb./acre. **SEED SPECS:** See individual varieties. **PACKET:** 30 seeds.



Winter Squash Resistance Codes

HR = High Resistance IR = Intermediate Resistance

PM Powdery Mildew



Kabocha

Winter Blush (F1) 4029G

95 days. C. maxima

A welcome splash of color at winter markets. A beautiful complement to our mainstay kabocha, Winter Sweet, and an exceptional squash in its own right. Sweet, flaky, and delicious with long storage potential and gorgeous color. Fruits are pale pink at harvest, with variable levels of sky blue in a star shape on the blossom end which fades to solid pink in storage. Bred by Dr. Lindsay Wyatt at Johnny's. NOTE: Best eating quality 2–5 months after harvest. Avg. weight: 3-4 lb. Avq. 1,500 seeds/lb. **()**

PKT \$6.15; 100 Seeds \$18.80; 250 Seeds \$38.40; 1,000 Seeds \$115.15; 5M @ \$95.95/M; 25M @ \$88.27/M.

Cha-Cha (F1) 2187G

95 days. C. maxima

Standard kabocha bred for flavor and storage. Beautiful, bright orange flesh that cooks up dry, flaky, sweet, and delicious. Resists rotting in storage longer than most standard green kabochas. Avg. weight: 4–5 lb. Avg. 2,300 seeds/lb. **()**

PKT \$6.15; 100 Seeds \$18.80; 250 Seeds \$38.40; 1,000 Seeds \$108.75; 5M @ \$102.35/M; 25M @ \$98.52/M.



SCAN THIS CODE to

see how we developed Marmalade to meet market demands for colorful. delicious kabochas that store later into the fall.

Sweet Jade (F1) 4030G

95 days. C. maxima

Delicious personal-size kabocha. Cute, seagreen squash sized perfectly for single servings, soup bowls, and more, with little to no wasted fruit. Great for small families and singles. Heavy yields and exceptional storage make it a market grower and CSA favorite. Fruits are about twice the size of the Shokichi series, with very few culls. Bred by Dr. Lindsay Wyatt at Johnny's. Avg. weight: 1–2 lb. AAS winner. Avg. 1,900 seeds/lb. 🐧 🔾

PKT \$6.15; 100 Seeds \$18.80; 250 Seeds \$38.40; 1,000 Seeds \$115.15; 5M @ \$95.95/M; 25M @ \$88.27/M.

Winter Sweet (F1) 3034G

95 days. C. maxima

Unparalleled eating quality and extra-long storage. Winter Sweet delivers a winning combination of sweetness, flaky texture, and depth of flavor that has made it a favorite on our Research Farm. Not only that, this reliable producer keeps very well and improves with storage. Distinctive, with light gray skin and charcoal mottle. NOTE: Best eating quality from 2–5 months after harvest. Avg. weight: 4–5 lb. Avg. 2,050 seeds/lb. 000 PKT \$5.25; 100 Seeds \$16.00; 250 Seeds \$32.65; 1,000 Seeds \$97.85; 5M @ \$81.55/M; 25M @ \$75.02/M.

Sunshine (F1)

95 days. C. maxima

Deep scarlet and delicious. Smooth, tender flesh that is sweet, bright orange, and excellent for baking, mashing, and pies. Superior appearance and eating quality when compared to other varieties of this type. Can be consumed right at maturity. Vigorous, short vine. Avg. weight: 3-5 lb. AAS winner. NOTE: Treated seed available 1,000 seeds and larger. Avg. 3,000 seeds/lb. 2998G Organic CG

PKT \$6.90; 100 Seeds \$21.50; 250 Seeds \$48.80; 1,000 Seeds \$113.85; 5M @ \$76.76/M; 25M @ \$71.65/M; 100M @ \$70.37/M. 2998T Treated or 2998 Untreated PKT \$6.05; 100 Seeds \$12.50; 250 Seeds \$23.75; 1,000 Seeds \$81.20; 5M @ \$68.72/M; 25M @ \$62.46/M; 100M @ \$56.22/M.

Marmalade (F1) 4424G

100 days. C. maxima

Beautiful coral-colored fruit. Bred to satisfy the demand for smaller, premium-quality kabochas, Marmalade is ideal for small family dinners and tucks nicely into CSA boxes. Higher per-plant yield helps growers achieve better profits in direct-market sales. All the hallmarks of a Johnny's-bred squash. Vibrant color option with improved storage life over Sunshine. Avg. weight: 2-3 lb. Bred by Dr. Lindsay Wyatt at Johnny's. Avg. 2,600 seeds/lb. 000 PKT \$6.50; 100 Seeds \$19.60; 250 Seeds \$40.10; 1,000 Seeds \$120.35; 5M @ \$100.27/M; 25M @ \$92.24/M.

Spaghetti

Angel Hair (F1) 3641 88 days. C. pepo Convenient and personal-sized. Our smallest spaghetti squash variety, perfect for single servings. Highly uniform, egg-shaped, with a slightly darker shell than other varieties. Sweet, nutty flavor. High-yielding plants. Long vines. Avg. weight: $1^{1}/2-2$ lb. Avg. 8,500 seeds/lb. PKT \$5.80; 250 Seeds \$21.40; 1,000 Seeds \$61.80; 5M @ \$54.16/M; 25M @ \$48.63/M.

Pinnacle (F1) 3839 85 days. C. pepo Consistent medium-small size. Smaller and more uniform than OP varieties for a more predictable outcome. Slightly sweet, nutty flavor. Attractive, bright lemon-yellow shell. Highyielding. Semibush plants. Suitable for denser plantings for greater yields. Avg. weight: 3 lb. Ava. 3.100 seeds/lb.

PKT \$5.80; 250 Seeds \$27.60; 1,000 Seeds \$87.35; 5M @ \$78.15/M; 25M @ \$73.54/M.

Spaghetti Squash 679 88 days. C. pepo The classic pasta alternative. This excellent OP strain's flesh has the best noodle-like consistency in our trials. Slightly sweet, nutty flavor. Oblong in shape with ivory skin that changes to pale yellow at maturity. Short vines. Avg. weight: 3-5 lb. Avg. 2,700 seeds/lb. PKT \$5.75; Oz. \$7.40; 1/4 Lb. \$15.65; Lb. \$37.75; 5 Lbs. @ \$32.48/Lb.

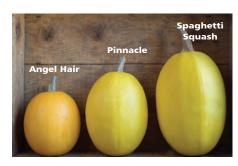
Hubbard

Blue Hubbard 680G 100 days. C. maxima **Decorative farmstand favorite.** A beloved heirloom with a hard, bumpy, blue-green shell. A fall tradition at New England roadside stands. Avg. weight: 12-15 lb., with some larger. Avg. 2,100 seeds/lb. CG

PKT \$6.15; Oz. \$13.55; 1/4 Lb. \$39.45; Lb. \$110.90; 5 Lbs. @ \$100.52/Lb.

Red Kuri 677G 92 days, C. maxima Flashy and tear-drop shaped. Baby red hubbard with appealing color and shape. Flesh is smooth in texture and great for pies and purées because specks of skin (being red) will not show. Also known as Orange Hokkaido. Avg. weight: 3-5 lb. Avg. 2,200 seeds/lb. CG PKT \$6.15; Oz. \$15.50; 1/4 Lb. \$22.55; Lb. \$78.00: 5 Lbs. @ \$75.00/Lb.

Blue Ballet 676G 95 days. C. maxima Sweet, scaled-down hubbard. A more marketable version of the New England classic Blue Hubbard. Same traditional appearance but much smaller with smooth, blue-gray skin. The flesh is sweeter, bright orange, and fiberless. Easier to cut than others of this type, as skin is tender. Avg. weight: 4-6 lb. Avg. 2,000 seeds/lb. 000 PKT \$6.15; Oz. \$15.80; 1/4 Lb. \$44.85; Lb. \$106.35; 5 Lbs. @ \$91.85/Lb.





Learn what makes each type of winter squash a unique and enjoyable eating experience at

Johnnyseeds.com/squash-eating-experience

Туре	Variety	Part #	Days	Wt. Range	Storage Potential (Months)	Vine Length	Disease Resistance
,,	Autumn Delight	4047	80	1 ¹ /2-2 ¹ /2 lb.	2–3	Semibush	IR: PM.
	Delicata JS	675G CG	100	1 ¹ /2-2 lb.	3-4	Medium	_
	Honey Bear	689	85	1-1 ¹ / ₄ lb.	2–3	Bush	IR: PM.
	NEW Honey Bun	4303	95	1-2 lb.	3-4	Short	IR: PM.
Acorn/Delicata	Jester	3836	95	1 ¹ / ₂ lb.	3–4	Short	_
	Night Shift	4423G CG	95	$1^{1}/_{2}-2^{1}/_{2}$ lb.	3-4	Long	IR: PM.
	Starry Night PMR	4026G CG	95	$2-2^{1}/2$ lb.	3–4	Bush	IR: PM.
	Tiptop PMR	2269G CG or 2269	92	2-2 ¹ / ₂ lb.	2-3	Semibush	IR: PM.
	Tuffy	2054G CG	90	2 lb.	3	Medium	_
) , ship was see	Bonbon	2996T or 2996	95	4–5 lb.	5–6	Semibush	_
Buttercup	Buttercup (Burgess Strain)	2416 CG	95	3-5 lb.	5	Long	_
	Butterbaby	4197G CG	100	1-1 ¹ / ₂ lb.	3	Short	IR: PM.
	Butterscotch PMR	3983G CG or 3983	100	1 ¹ /2-2 lb.	3	Short	IR: PM.
	Honeynut	3365G CG	110	¹ /2-1 ¹ /2 lb.	3-4	Medium	_
	JWS 6823 PMR	2604G CG	100	$2^{1}/_{2}-3^{1}/_{2}$ lb.	6	Short	IR: PM.
Butternut	Metro PMR	2867G CG 2867	105	2 ¹ /2-3 ¹ /2 lb.	6+	Medium	IR: PM.
	Waldo PMR	3264G CG or 3264	100	3-4 lb.	6	Medium	IR: PM.
	Waltham Butternut	671G CG , 671T, or 671	105	4–5 lb.	6	Long	_
	Blue Ballet	676G CG	95	4–6 lb.	4–5	Medium	_
Hubbard	Blue Hubbard	680G CG	100	12-15 lb.	4–5	Long	_
	Red Kuri	677G CG	92	3-5 lb.	4–5	Long	_
	Cha-Cha	2187G CG	95	4–5 lb.	5	Long	<u> </u>
	Marmalade	4424G CG	100	2-3 lb.	6+	Long	_
Cabocha	Sunshine	2998G CG , 2998T, or 2998	95	3-5 lb.	3-4	Short	_
abocna	Sweet Jade	4030G CG	95	1-2 lb.	5	Long	_
	Winter Blush	4029G CG	95	3-4 lb.	5	Long	_
	Winter Sweet	3034G CG	95	4-5 lb.	6+	Long	_
	Angel Hair	3641	88	1 ¹ /2-2 lb.	2	Long	
paghetti	Pinnacle	3839	85	3 lb.	2	Semibush	_
-	Spaghetti Squash	679	88	3-5 lb.	2	Medium	_
	Black Futsu	4196G CG	105	2–4 lb.	4–5	Long	_
pecialty	North Georgia Candy Roaster	3912	100	8–15 lb.	4	Extra Long	_
	Tetsukabuto	3578	100	3-5 lb.	6+	Long	_



Butternut

Butterbaby (F1) 4197G

100 days. IR: PM. C. moschata

Highly uniform true mini. An adorable butternut with wonderful flavor and good color. Perfect for CSA boxes and roadside stands for its attractive "true" butternut shape and small size. Fruits are 4–6" long and offer about two servings each. Stores 3-4 months. Short vine. Avg. weight: $1-1^{1}/2$ lb. Avg. 6,100 seeds/lb. \bigcirc PKT \$6.15: 100 Seeds \$19.20: 250 Seeds \$35.85; 1,000 Seeds \$108.75; 5M @ \$102.35/M; 25M @ \$101.07/M.

JWS 6823 PMR (F1) 2604G

100 days. IR: PM. C. moschata

Higher marketable yields per acre. Classic appearance, good mildew resistance, and superior flavor. Higher yielding, more uniform, and shorter vines than Waltham Butternut and even Metro. The ideal choice for large plantings. Our thanks to Cornell University for working with us to develop this variety. Avg. weight: $2^{1}/2-3^{1}/2$ lb. Avg. 5,800 seeds/lb. **10** PKT \$6.15; 100 Seeds \$20.20; 250 Seeds \$41.25; 1,000 Seeds \$123.75; 5M @ \$118.25/M; 25M @ \$111.92/M; 100M @ \$105.88/M.

Butterscotch PMR (F1)

100 days. IR: PM. C. moschata

Tastiest small butternut. Sweet, rich, complex flavor. The perfect size for dinner (no leftovers) and ideal for farmers' market growers. Matures early at 1¹/₂–2 lb. and requires no curing. Stores up to 3 months after harvest. Short vines. Our thanks to Cornell University for working with us to develop this variety. NOTE: If growing for the 1-lb. size, we recommend giving each plant only 6 sq.ft. of space. AAS Winner.

3983G Organic OG Avg. 6,200 seeds/lb. PKT \$6.15; 100 Seeds \$18.80; 250 Seeds \$38.40; 1,000 Seeds \$115.15; 5M @ \$110.03/M; 25M @ \$104.14/M; 100M @ \$98.52/M. 3983 Conventional Avg. 6,400 seeds/lb. PKT \$5.75; 250 Seeds \$17.20; 1,000 Seeds \$53.75; 5M @ \$51.22/M; 25M @ \$47.47/M; 100M @ \$43.73/M.

Waldo PMR (F1)

100 days. IR: PM. C. moschata

Great flavor in a larger market size. Waldo's fruits are uniform in size with rich internal and skin color. Big yields and excellent flavor. Long, vigorous vines with strong PMR. Size between JWS 6823 and Waltham; large enough for a few servings but not so big it goes to waste. Good storage life. Avg. weight: 3–4 lb. • **3264G Organic** Avg. 4,800 seeds/lb. PKT \$6.15; 100 Seeds \$20.20; 250 Seeds \$41.25; 1,000 Seeds \$123.75; 5M @ \$118.25/M; 25M @ \$111.92/M. 3264 Conventional Avg. 4,500 seeds/lb. PKT \$5.80: 250 Seeds \$18.65: 1,000 Seeds \$58.30; 5M @ \$55.57/M; 25M @ \$51.50/M.

Waltham Butternut

105 days. C. moschata

Still the benchmark for large butternuts. Larger fruits with small seed cavities and thick, straight, cylindrical necks. Flesh has smooth texture and sweet flavor, particularly after 2 months of storage. Deservedly the most widely grown, full-size OP butternut. Fruits avg. 9" long. Avg. weight: 4-5 lb. AAS winner. Treated seed available ¹/₄ lb. and larger. Avg. 5,400 seeds/lb. 671G Organic CG

PKT \$6.15; Oz. \$11.45; 1/4 Lb. \$18.75; Lb. \$61.80; 5 Lbs. @ \$55.52/Lb. **671T Treated or 671 Untreated** PKT \$5.75; Oz. \$7.20; 1/4 Lb. \$15.40; Lb. \$37.05; 5 Lbs. @ \$31.82/Lb.



Metro PMR (F1)

105 days. IR: PM. C. moschata

Exceptional flavor and storage life. Enjoy fantastic butternut flavor deep into the winter. Attractive and smaller-sized—just what many markets demand. Very similar in size, flavor, and mildew resistance to JWS 6823, though it will hold longer in storage. Medium vine. Our thanks to Cornell University for working with us to develop this variety, which combines parentage from Cornell and Johnny's. Avg. weight: $2^{1}/2-3^{1}/2$ lb. (1)

NEW 2867G Organic OG Avg. 5,800 seeds/lb. PKT \$6.15; 100 Seeds \$20.20; 250 Seeds \$41.25; 1,000 Seeds \$123.75; 5M @ \$118.25/M; 25M @ \$111.92/M. **2867 Conventional** Avg. 5,600 seeds/lb. PKT \$5.80; 250 Seeds \$18.65; 1,000 Seeds \$58.30; 5M @ \$55.57/M; 25M @ \$51.50/M; 100M @ \$47.44/M.

Honeynut 3365G

110 days. C. moschata

Popular mini butternut. This distinctive, dark tan butternut has a loyal following among customers, who often ask for it by name. Honeynut is later-maturing, so plant early to achieve best tan coloration. If stored green, fruits will eventually ripen to tan in storage. Developed by Cornell University. Avg. weight: ¹/2–1 ¹/2 lb. Avg. 5,600 seeds/lb. **CG** PKT \$6.15; 250 Seeds \$16.10; 1,000 Seeds \$45.15; 5M @ \$27.09/M; 25M @ \$23.25/M.





SWEET POTATOES

We offer certified-organic sweet potato slips (vine cuttings from sprouted sweet potatoes). Our slips are organically grown in North Carolina and inspected for disease and insect pests before shipment.

Mahon Yam™ 3200G

90 days.

EXCLUSIVE! Sweet flavor and no strings.

A unique sweet potato with bright pink skin and extra-sweet, deep orange flesh. A clear favorite in Johnny's taste tests. Very good yields of uniform, blunt-ended roots in a very concentrated set. Excellent storage potential when cured properly. An exclusive selection developed over 20+ years by organic grower John Mahon. Despite the name, this variety is a sweet potato, not a yam. Plant Patent #20,666. QG

25 Slips \$41.75; 50 Slips \$51.00; 100 Slips \$72.00; 500 Slips \$210.00; 1,000 Slips \$280.00.



Covington 4044G

90 davs.

Traditional orange sweet potato.

Copper- and rose-colored skin with sweet, smooth, bright orange flesh. This early strain produces concentrated yields with a high proportion of marketable roots. CG 25 Slips \$39.50; 50 Slips \$49.00; 100 Slips \$70.00; 500 Slips \$190.00; 1.000 Slips \$250.00.

NEW Purple Majesty 4834G 100 davs.

EXCLUSIVE! Purple skin and flesh.

Beautiful dark purple coloration adds diversity to mixed boxes. Standard tapered root shape and size. More uniform and concentrated set than any other purplefleshed varieties we have trialed. Performed well in Maine's short growing season without any row cover. Stores well. Bred by Craig Yencho at NCSU. QQ 25 Slips \$39.50; 50 Slips \$49.00; 100 Slips \$70.00; 500 Slips \$190.00; 1,000 Slips \$250.00.

NEW Luminance 4835G

85 davs.

EXCLUSIVE! Extra-early Japanese type. This early, robust Murasaki-type sweet potato boasts larger roots and improved appearance. Very smooth, bright lavender skins. With its fast-bulking and blunted ends, it's an ideal pair for Mahon Yam. Often outperforms standard orange types in our Maine trials for high early yields. Not suitable for long storage. Bred by LSU. CG 25 Slips \$39.50; 50 Slips \$49.00; 100 Slips \$70.00; 500 Slips \$190.00; 1,000 Slips \$250.00.

Murasaki 4045G

105 days.

Purple skin, white flesh. With more complex, nutty flavor than the traditional orange sweet potato, Murasaki produces good yields of roots with uniform shape and a unique, dry texture. Somewhat slow to mature, Murasaki may not reach full size in the coolest regions of the US. Plant Patent #19,955. QG 25 Slips \$39.50; 50 Slips \$49.00; 100 Slips \$70.00; 500 Slips \$190.00; 1,000 Slips \$250.00.

Growing Sweet Potatoes — Ipomoea batatas

CULTURE: Sweet potatoes grow best in well-drained, sandy loam soil with a pH of about 6.5. You will receive bare-root slips. The slips may be dry, wilted, pale or brown in color, or have wet leaves when they arrive—this is normal. Slips may or may not have visible roots. A lack of visible roots does not negatively impact viability or yield. If planting must be delayed, wrap the root end of the slips in moist paper towels, keeping the leaves and stems dry. Place upright and keep at room temp., out of direct sunlight and wind. Plant out as soon as danger of frost has passed, and soil temp. is at least 60°F (16°C). In cold regions, black plastic mulch may help to warm the soil and is recommended. Plant slips 3-4" deep in raised beds 10-18" apart in rows 36-60" apart. Keep well-irrigated until plants are established. **DISEASES:** Avoid diseases such as scurf with crop

SWEET POTATOES SHIPPING INFORMATION

Our organic sweet potato slips typically ship the last week of May. Pending weather conditions, they may ship one week earlier or later. Physical address required for delivery (no P.O. Boxes). For shipping restrictions, see Johnnyseeds.com.

rotation and by removing all plant debris after harvest. INSECT PESTS: Sweet potatoes are usually free from major insect infestations, but problems may arise from flea beetles, Japanese beetles, wireworms, and sweet potato weevils (in Southern US). HARVEST: Dig roots in fall before hard frost and before soil temps. drop to 50°F (10°C). If plants get frosted, harvest as soon as possible—frost damage will travel from the plants down into the roots, and affect storage quality. STORAGE: Brush soil from roots and cure in a warm 85°F (29°C), dark, humid (85% RH) and well-ventilated place for 4–7 days to toughen skin. Store at 60° (16°C), in a dark, humid place and avoid unnecessary handling.









Bright Lights

SWISS CHARD

Bright Lights 703D 55 days bunching.

The gold standard for multicolored Swiss **chard.** Nicely savoyed and glossy green or bronze leaves with stems of gold, pink, orange, red, and white with bright, pastel, and multicolored variations. Consistent growth rate, leaf shape and texture, and strong bolt resistance across all colors makes this a superior mix. Suitable for production year-round, but somewhat less frost hardy than other chards. The late New Zealand amateur breeder John Eaton developed Bright Lights; Johnny's selects and maintains the different color stocks and produces the seeds. AAS winner. Decorticated (rubbed) seeds. **1** PKT \$5.75; 1,000 Seeds \$8.40; 5M @ \$5.04/M; 25M @ \$4.35/M;



28 days baby; 65 days bunching.

Clean, vibrant leaves. Strong Cercospora resistance and upright habit for a healthy looking bunch. Vigorous plants with good bolt resistance and wide petioles. A premium baby leaf variety for its fast growth; brilliant, deep magenta stems and veins; and heavy, textured

PKT \$5.80; 5M @ \$1.62/M; 25M @ \$0.69/M; 100M @ \$0.66/M: 500M @ \$0.58/M.

Heart of Gold 4614G

30 days baby; 60 days bunching.

Wide, golden-orange petioles. Improved gold chard selected for bolt tolerance, uniform color, and wider petioles. A showy display—deeply savoyed dark green leaves with high lustre contrast beautifully with the rich golden-orange petioles. Vigorous plants and full leaves make for excellent yields of top-quality product. Compared to Oriole, petioles are wider with richer, more uniform color. Bred at Johnny's by Dr. John Navazio. Decorticated (rubbed) seeds. 1005 PKT \$5.90; 1,000 Seeds \$9.95; 5M @ \$7.93/M; 25M @ \$7.13/M; 100M @ \$6.41/M.

Oriole 3122G

60 days bunching.

Golden-orange stems. Lustrous, dark green, moderately savoyed leaves. Beautiful yellow stems become more orange as the plant approaches mature bunching size. \mathbf{G}

PKT \$6.15; Oz. \$9.50; 1/4 Lb. \$18.70; Lb. \$66.15; 5 Lbs. @ \$57.24/Lb.



SCAN THIS CODE to see Johnny's Swiss chard breeder John Navazio in the field and learn how Heart of Gold has excelled in our variety trials.

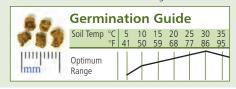


Bright Lights

Growing Swiss Chard — Beta vulgaris

CULTURE: Soil pH should be over 6.0. Cool and mild weather is preferred, though chard has some heat tolerance. Some varieties may experience bolting pressure if seedlings are exposed to prolonged temperatures in the low 50s or below. TRANSPLANTING: Sow seed in a cold frame or indoors in early spring, about 5–6 weeks before transplanting out after heavy frosts become infrequent. Sow 1/2" deep, 2–3 seeds per cell in 72- or 128-cell flats. Thin to 1–2 plants per cell. Transplant out 4–6" apart in rows 12–18" apart. DIRECT SEEDING: Bunching: Sow about 6 seeds/ft., 1/2" deep, rows 12–18" apart from midspring and on into midsummer (fall where winter is mild). Thin to 4–6" apart for larger leaves. Baby Leaf: Sow 1/4-1/2" deep at 1-2 seeds/inch in rows at least 2" apart from midspring into late summer (fall where winter is mild). Planting too densely can lead to overcrowding and stunted growth. When planting more seeds per inch, be sure to plant rows farther apart. HARVEST: Bunching: Cut or snap mature leaves individually. New leaves will grow for multiple harvests. Baby Leaf: Harvest with a knife when leaves reach desired size, about 3-6". Cut about an inch above the soil to allow for clean regrowth, making sure to cut above the basal plate. Cut again when leaves reach desired size (5–14 days, depending on variety). **DAYS TO MATURITY:** From direct seeding.

AVG. DIRECT SEEDING RATE: Bunching: 1 oz./300', 3¹/₄ oz./1,000', 4¹/₂ lb./acre at 6 seeds/ft. in rows 24" apart. Baby Leaf: 4,000 seeds/100', 1 oz./45'. **DECORTICATED SEED:** Decorticated seed has been processed by rubbing to remove angular, corky edges that prevent the seed from flowing evenly through mechanical seeders. **SIZED SEEDS:** "Sized" seeds have been sorted so they are roughly the same size. This consistency allows for more accurate spacing with mechanical seeders and more even germination. Swiss chard seed is sized, except when noted in the product description. SEED SPECS: SEEDS/LB.: 23,700-48,500 (avg. 30,900). PACKET: 200 seeds, sows 33-34'.









Peppermint



Ruby Red or Rhubarb Chard

Fordhook Giant

50 days bunching.

The standard green Swiss chard. Mediumgreen, savoyed leaves with white veins and broad, white stems. Decorticated (rubbed), sized seeds.

701G Organic CG PKT \$6.15; Oz. \$7.55; 1/4 Lb. \$12.90; Lb. \$33.25; 5 Lbs. @ \$30.03/Lb. 701 Conventional PKT \$3.75; Oz. \$6.25; 1/4 Lb. \$9.50;

Lb. \$16.75; 5 Lbs. @ \$14.88/Lb. Peppermint 3066

60 days bunching.

Bright, candy-striped stems. Dark green, glossy leaves with a deep savoy contrast nicely with the pink-and-white petioles. Peppermint's long, strong stems and upright habit make for quick harvesting and higher yields. A top variety for field performance. Plant Variety Protected.

PKT \$5.75; 1,000 Seeds \$8.20; 5M @ \$4.84/M; 25M @ \$4.46/M;

100M @ \$4.04/M.

Find baby leaf Swiss chard varieties on page 46.

Red Chard

Ruby Red or Rhubarb Chard

32 days baby; 59 days bunching.

Standard red chard for bunching or baby leaf. Candy-apple red stems and bronze to dark green, red-veined leaves. Moderate bolt tolerance. NOTE: Young Ruby Red plants may go to seed if exposed to sustained night temperatures in the low 50s; time sowings to avoid these conditions. Decorticated (rubbed), sized seeds.

702G Organic CG

PKT \$6.15; Oz. \$8.40; 1/4 Lb. \$13.45; Lb. \$37.45; 5 Lbs. @ \$33.26/Lb. 702 Conventional PKT \$3.75; Oz. \$6.00; 1/4 Lb. \$8.00; Lb. \$15.30; 5 Lbs. @ \$13.75/Lb.



Pelleted Swiss Chard Seed

Pellets are made of inert NOP-compliant materials, and are size 18.0—suitable for use with Stanhay seeders (belt size 18.0) or many of the precision seeders offered by Johnny's. NOTE: These larger pellets may be too heavy for air or vacuum planters. For best results, we recommend consistent soil moisture during the germination period. Pelleted seed must be kept cool and dry prior to planting, and should be used within one year of purchase.

Seeding Rate: For 12" rows: 261,360–522,700 pellets/acre @ 6–12 pellets/ft. For 18" rows: 174,240-348,480 pellets/acre at 6-12 pellets/ft. **PKT:** 100 pellets.

Conventional Seed/NOP-Compliant Pellet

Bright Lights 703JP

PKT \$7.25; 1,000 Seeds \$8.60; 5M @ \$6.96/M; 25M @ \$5.94/M; 100M @ \$5.17/M.

What Our Growers Are Saying...

"Johnny's rigorous testing of seeds really shows during the growing season. We've found many staple mainland crops to be temperamental here in the tropics. With Johnny's, we can expect the seeds to have a high germ rate and excellent disease packages, which helps us trial new varieties with confidence.

"Our sales rep is also helpful and prompt. We love his enthusiasm for growing and understanding of the challenges of farming.

"Wesley reviews our seed orders and provides ideas on additional varieties that he thinks are likely to succeed in our specific high-humidity, high-heat tropical environment. Because the tropics have such high disease pressures, he has suggested several disease-resistant market varieties we have found great success with, like Cool Customer cucumbers and Lemon Boy Plus tomatoes. Fantastic customer service!"

Jes Meléndez-Rosa and Dylan Lunney Finca Jevana Cayey, Puerto Rico



We want to hear from you! Join the Johnny's community. #growwithjohnnys













HIGH TUNNEL & GREENHOUSE TOMATOES

Large-Fruited

RuBee Dawn (F1) 4733

60 days. HR: AS, F (1–2), FOR, LM, TOMV, V. IR: GLS, N. A great start to tomato season. First-early tunnel tomato with sweet, tangy flavor and impressive size. Smooth, rich red fruits avg. 6–8 oz. Medium-vigor plant best for stake and weave systems. NOTE: Fruit size decreases on later clusters, but flavor holds well. Grafting may lengthen production cycles and increase fruit size. Indeterminate.

PKT \$7.90; 50 Seeds \$21.30; 100 Seeds \$31.20; 250 Seeds \$57.20; 500 Seeds \$105.05; 1,000 Seeds \$174.70; 5M @ \$166.40/M.

NEW Caiman (F1) 5872G

76 days. HR: F (1–2), LM, TOMV, V. IR: N, TSWV. **Workhorse variety.** From its excellent disease resistance package to its compact but highvigor plant and consistent fruit set, Caiman is a strong performer in the tunnel. Beautiful, clean fruit on nicely sized trusses. Compared to Bigdena, Caiman is earlier, a bit more variable in size, and produces fruits with a more traditional beefsteak shape. Earlier maturity than Geronimo with good size potential. Indeterminate. **CG** TKT \$14.95; 50 Seeds \$35.00; 100 Seeds \$50.00; 250 Seeds \$94.50;

Geronimo (F1) 2794

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78 days. HR: F (1, 2), LM, TMV, V. IR: PM. **Good flavor and mildew tolerance.** High yields of firm, 8–10 oz. fruits produced on balanced plants. Geronimo has stood up well to powdery mildew pressure in our hoophouse trials. Indeterminate.

1,000 Seeds \$295.00; 5M @ \$270.00/M.

PKT \$13.25; 50 Seeds \$42.10; 100 Seeds \$82.85; 250 Seeds \$200.70; 500 Seeds \$382.05; 1,000 Seeds \$730.70.

Rebelski (F1) 3017

75 days. HR: F (1, 2), FOR, LM, PM, TMV, V. **Greenhouse tomato for fresh market.**Rebelski combines flavor, texture, presentation, and strong vigor. Bright red, shiny, ribbed fruits avg. 7–8 oz., are very crack-resistant, and firm enough to withstand some handling. Strong indoor disease package includes powdery mildew and leaf mold resistance. Also known as DRW 7749. Indeterminate.

PKT \$23.10; 50 Seeds \$65.85; 100 Seeds \$113.55; 250 Seeds \$261.15; 500 Seeds \$482.60; 1,000 Seeds \$925.40.

Enroza (F1) 4329G

75 days HR: F (1, 2), FOR, LM, ToANV, TOMV, V. IR: GLS. **Strong, balanced, high-yielding plant.**Smooth, 6–8 oz., pink beefsteak with lightly ribbed shoulders. Exceptional flavor, aroma, and texture. A strong disease resistance package keeps the plants healthy. Tidy clusters set fruit consistently up the vine for a sustained harvest and high yield potential. Indeterminate. **OG** ••• PKT \$18.15; 50 Seeds \$56.00; 100 Seeds \$89.00; 250 Seeds \$210.00; 1,000 Seeds \$650.00; 5M @ \$640.00/M.

Beorange (F1) 3090

75 days. HR: F (1, 2), FOR, LM, TOMV, V.

Orange slicer for the greenhouse. Great flavor with a better balance of acid and sweetness than most orange tomatoes.

Beorange is productive over a long season. 6–8 oz. fruits are firm but not hard, nor prone to cracking or other blemishes. Eye-catching deep orange color. Indeterminate.

PKT \$24.70; 50 Seeds \$66.40;

PKT \$24.70; 50 Seeds \$66.40; 100 Seeds \$126.40; 250 Seeds \$292.40; 500 Seeds \$561.00.

Hot Streak (F1) 4760

70 days. HR: F (1–2), FOR, GLS, LB, LM, TOMV, TSWV, V. EXCLUSIVE! Vibrant striped fruit. Firm red fruit with yellow stripes and outstanding flavor. Fruits avg. 6–12 oz., and have good shelf life. Balanced plant with excellent fruit set over a long season. Broad disease resistance gives protection from North to South, in both the field and the tunnel. Indeterminate. PKT \$9.40; 50 Seeds \$26.60; 100 Seeds \$39.00; 250 Seeds \$72.80; 1,000 Seeds \$249.60; 5M @ \$223.60/M.

Cauralina (F1) 3327

72 days. HR: F (1), FOR, TOMV.

EXCLUSIVE! Heirloom-like oxheart for the greenhouse. Early, with heavy yields of beautiful, 8–14 oz. heart-shaped fruit on large clusters. Improved disease resistance over true heirlooms of similar type. Rich flavor and meaty texture for paste or fresh eating. Indeterminate. PKT \$14.50; 50 Seeds \$46.80; 100 Seeds \$91.05; 250 Seeds \$213.05; 500 Seeds \$407.40; 1,000 Seeds \$802.10.

Kakao (F1) 3178 70 days. HR: F (1), TOMV. *EXCLUSIVE!* Delicious brown cocktail tomato. Kakao has the brown tomato look and flavor in a smaller package. Round fruits are mostly between 4¹/2−5¹/2 oz. Soft flesh and a savory flavor, almost like it has been sea-salted. Distinctive look is suitable for branding by name. Indeterminate. ♠ PKT \$14.95; 50 Seeds \$48.50; 100 Seeds \$88.75; 250 Seeds \$214.70; 500 Seeds \$427.05; 1,000 Seeds \$840.80.

Bigdena will not be available for 2024. Our recommended substitutes are Caiman and Geronimo. We apologize for any inconvenience.



Dimensions may vary significantly due to culture and environmental conditions.







Marbonne (F1) 3225 69 days. HR: F (1), TOMV. EXCLUSIVE! Classic Marmande type with modern performance. A hybrid version of the French heirloom Marmande, bred in France for improved disease resistance, vigor, and fruit quality. Deep red 7–9 oz., ribbed tomatoes. Flavor is among the best with smooth, soft texture. Very early and high-yielding. Indeterminate.*

PKT (15 seeds) \$19.00; 100 Seeds \$108.40; 250 Seeds \$231.65; 1,000 Seeds \$872.85; 5M @ \$834.22/M.

Margold (F1) 3177 75 days. HR: LM, TOMV, V. EXCLUSIVE! Bicolor for sustained harvest.

Margold preserves the look and flavor of bicolor heirlooms like Striped German, while improving upon resistance to disease and fruit defects. Works well following Ginfiz, with more vigorous plants for a sustained harvest. Sweet flavor and meaty texture. Leaf mold resistance is an added benefit for indoor growers. 7–10 oz. fruit. Indeterminate.*

PKT \$24.70; 50 Seeds \$80.35; 100 Seeds \$148.45; 250 Seeds \$292.40; 500 Seeds \$560.95; 1,000 Seeds \$1101.65.

Marnero (F1) 3176

72 days. HR: F (1), FOR, TOMV, V.

EXCLUSIVE! Purple heirloom-type with hybrid performance. The flavor and texture of the "black" heirloom tomatoes, with improved disease resistance and yield. Strong early production, with enough vigor to last through a typical unheated tunnel season. Fruits avg. 7–10 oz. Indeterminate.*

PKT \$24.70; 50 Seeds \$80.35; 100 Seeds \$148.45; 250 Seeds \$292.40; 500 Seeds \$560.95; 1,000 Seeds \$1101.65.

*Requires a minimum of 13 hours of daylight, starting at emergence. This light requirement can be achieved using supplemental lighting.

Marnouar (F1) 4594

85 days. HR: F (1), FOR, LM, TOMV, V. IR: N, TYLCV. **High-performance purple beefsteak.** Firm, uniform, crack-resistant 10–16 oz. fruit combine a beautiful heirloom look with improved shelf life and impressive plant vigor. Vegetative early growth gives way to bountiful yields over a long haul. A significant improvement over Marnero in marketable yield and longevity, though less rich in flavor. Performs well in shorter daylength conditions. Indeterminate.

PKT \$26.20; 50 Seeds \$85.20; 100 Seeds \$157.30; 250 Seeds \$333.80; 500 Seeds \$624.50; 1,000 Seeds \$1209.30.

GinFiz (F1) 4605G

72 days. HR: FOR, LM, TOANV, TOMV, V. **Early bicolor to kick off the season**. Protected culture tomato that offers traditional heirloom character plus leaf mold resistance, reduced stem scarring, and tolerance to shoulder cracking. Provides a strong early flush of fruit to complement Margold's later, more sustained production. Nice balance of sweetness and acidity. Fruits avg. 8–12 oz. Indeterminate. **OG**PKT \$15.20; 50 Seeds \$46.50; 100 Seeds \$78.10; 250 Seeds \$162.80; 1,000 Seeds \$558.10; 5M @ \$534.85/M.

Find our new beefsteak, PinklD, at ${\bf Johnnyseeds.com}$



Growing High Tunnel & Greenhouse Tomatoes

Solanum lycopersicum

CULTURE: Tomatoes thrive in a tunnel or greenhouse environment, which increases your control over fruit quality and extends the harvest season, both early and late. Growing info is similar to field tomatoes, but transplants are typically started earlier and may need additional development time (6–7 weeks) and supplemental lighting to maintain strong seedlings. **TRANSPLANTING INDOORS:** Provide 4–6 sq.ft. growing area per leader depending on variety, climate, disease pressure, and pruning methods. Plant deeply like field tomatoes unless grafted, in which case, plant with union above soil. For 5–7 days after transplanting, maintain 73–77°F (23–25°C) day and night temperature to promote rapid foliar and root growth. At fruit set, lower night temps to 62–66°F (17–19°C) and begin monitoring plants to manage them towards season-long productivity. **TRELLISING/PRUNING:** Train plants to 1–2 branchless leaders onto separate vertical strings with trellis clips roughly 1" below every third leaf. Keep taut and reuse bottom clips, keeping at least 3–4 per string. Consider a lower-and-lean system if you have a long season, capable structure, and enough labor. Pruning leaves and clusters can help to manage diseases and steer towards maximum production. Keep grafted plants free from scion roots and rootstock suckers. **DISEASES & INSECT PESTS:** A slightly different set of pests attack indoor crops than outdoor crops, but similar management strategies apply. The use of beneficials

and grafting is generally more successful in tunnels/ greenhouses than open field. HARVEST/STORAGE: Same as field, plus potential for truss harvesting. TRANSPLANTS: Avg. 950 plants/1,000 seeds. SEED SPECS: Avg. 11,000—13,000 seeds/oz. PACKET: 15 seeds, plants about 20 feet.





Dimensions may vary significantly due to culture and environmental conditions.









Small-Fruited

Sakura (F1) 3853G

55 days. HR: F (1, 2), LM, TOMV. IR: N.

Early, delicious, attractive cherry. Real sweet tomato flavor and firmness without being hard. Among the first to ripen, Sakura keeps going all season long because of its disease resistance. Very tidy, compact plant fits well in tight spaces. Prolific yielder of bright red, mediumlarge cherry tomatoes that avg. 20-22 gm. Indeterminate. Qq 📥 🜢

PKT \$7.40; 50 Seeds \$21.55; 100 Seeds \$36.95; 250 Seeds \$69.95; 500 Seeds \$125.00; 1,000 Seeds \$232.85.

Edox (F1) 3462

55 days. HR: F (1, 2), LM, TOMV. IR: N.

Leaf mold-resistant truss cherry. Very early, with even ripening for whole-cluster harvest. A standout in this class for its rich, sweet flavor. Attractive calyx, tight cluster spacing, firm fruit attachment, and exceptional shelf life make it ideal for marketing on the vine. 15-20 gm. Indeterminate. NOTE: For unheated tunnels, we recommend pruning to 10-16 fruits per cluster for best results.

PKT \$7.00; 50 Seeds \$22.10; 100 Seeds \$30.55; 250 Seeds \$57.70; 500 Seeds \$103.20; 1,000 Seeds \$192.05.

Favorita (F1) 2854

58 days. HR: F (1, 2), LM, N, TMV. **Delicious and productive.** This multipledisease-resistant variety produces loads of round, deep red cherries with great flavor on long trusses. Grow outdoors or in the greenhouse. 15–20 gm. fruits. Indeterminate. PKT \$13.15; 50 Seeds \$36.40; 100 Seeds \$66.15; 250 Seeds \$161.00; 500 Seeds \$317.95; 1,000 Seeds \$556.20.

Amai (F1) 4321

58 days. HR: F (1, 2), LM, TOMV. IR: GLS, N. Highly productive grape with leaf mold resistance. Abundant yields of 15–20 gm. fruits with classic grape shape and addictive flavor. Moderately sized plants are easy to manage. Strongly branched, yet tidy clusters can regularly set impressive fruit loads without bending. The high yields, however, do not sacrifice any rich grape flavor. A must-try for any grape tomato lover! Indeterminate. PKT \$13.25; 50 Seeds \$35.50; 100 Seeds \$59.00; 250 Seeds \$104.75; 500 Seeds \$180.50; 1,000 Seeds \$331.00; 5M @ \$318.96/M.

Santorange (F1) 3979

60 days. HR: F (1, 2), TOMV, V.

Orange grape tomato for the greenhouse.

Attractive 15–20 gm. fruits are thin-skinned and meaty with excellent flavor. Vigorous, open plant with short leaves for dense spacing. Plants may be grown with three heads ungrafted or four heads grafted to get more out of each plant and improve plant balance. Crackresistant. Indeterminate. PKT \$23.55; 50 Seeds \$71.00; 100 Seeds \$127.15; 250 Seeds \$300.90;

Mochi (F1) 4750

60 days. HR: LM.

EXCLUSIVE! An entirely new texture.

500 Seeds \$567.75; 1,000 Seeds \$1078.70.

Unusual cherry that does not burst in the mouth and evokes a gumdrop-like eating experience. Large, 20-25 gm. fruits are thin-skinned and uniquely glossy. Very compact indeterminate plant, easy to train. Harvest regularly but allow fruits to hang as long as possible for best sweetness. NOTE: Handle carefully, as fruits are sensitive to damage. Indeterminate. PKT \$13.15; 50 Seeds \$40.00; 250 Seeds \$154.00; 1,000 Seeds \$503.00; 5M @ \$411.80/M.

Tomato Rootstock Seeds

DRO141TX (F1) 3195

HR: CRR, F (1, 2), FOR, LM, TOMV, V. IR: N. Highest vigor, with better balance.

DRO141TX puts a higher proportion of energy into the fruit than other vegetative rootstocks, without compromising on vigor. For growers who tend to have excessively vegetative plants early in the season, this may be easier to balance. Known for exceptional vigor, DRO141TX can carry a crop through high temperatures and a long season just as well as Maxifort. For use as rootstock only. Primed seed.

100 Seeds \$43.00; 250 Seeds \$98.80; 500 Seeds \$187.20; 1,000 Seeds \$353.60.

Find essential grafting supplies including starter kits, knife, blades, and clips at Johnnyseeds.com

Maxifort (F1) 2700

HR: CRR, F (1, 2), FOR, TOMV, V. IR: N.

Vigorous, vegetative rootstock for longseason cropping. When grafted to large-fruited (over 100 gm.) tomatoes, Maxifort has the potential to greatly boost yield and vigor. Longtime standard rootstock in the greenhouse industry. For use as rootstock only. Primed seed. 250 Seeds \$102.85; 1,000 Seeds \$363.80.



Top-Grafting Starter Kit (available online)

Estamino (F1)

HR: F (1-3), FOR, LM, TOMV, V. IR: CRR, N, TSWV. Generative rootstock. Estamino is a strong, generative rootstock that puts a high proportion of energy into fruit. Especially useful for tomatoes in cultivation for less than six months, in unheated hoophouses, or with small-fruited (less than 100 gm.) varieties. Also pairs well with the French Heritage series. For use as rootstock only. Seed has been primed to improve germination.

3088G Organic CG 50 Seeds \$25.75; 250 Seeds \$110.00; 500 Seeds \$182.00; 1,000 Seeds \$391.15. 3088E Conventional 50 Seeds \$26.45; 250 Seeds \$96.80; 1,000 Seeds \$343.75; 5M @ \$324.98/M.

Determinate — Bush

Glacier 3750G

55 days.

Tasty first-early variety. Cocktail-sized, 1–2 oz. red fruits borne on a compact. determinate plant. Sweetness combines with moderate acidity to create a wonderfully complex flavor. Smooth internal texture characteristic of the finer heirlooms. Generally the first tomato to ripen in the field. Tolerant of cooler spring temperatures. CG

PKT (25 seeds) \$4.95; 250 Seeds \$9.55; 1.000 Seeds \$18.10: 5M @ \$15.93/M.

Defiant PhR (F1) 2525G

65 days. HR: F (1, 2), LB, V. IR: EB.

Bred for earliness, disease resistance, and flavor. This mid-size slicer has high resistance to late blight and intermediate resistance to early blight combined with great flavor and early maturity. The 6-8 oz. fruit are smooth and medium-firm with good texture. Deep red internal and external color. High-yielding, mediumsize plants are widely adaptable. Defiant was traditionally bred to inherit the Ph-2 and Ph-3 major genes for late blight (Phytophthora) resistance. Our thanks to NCSU for collaborating with us to develop this variety. **O**GG

PKT (15 seeds) \$6.85; 100 Seeds \$38.50; 250 Seeds \$73.00; 1,000 Seeds \$254.30; 5M @ \$220.02/M.

Grow healthier plants by improving air flow with tomato cages. See page 195

Celebrity Plus (F1) 4508

78 days. HR: AS, F (1-2), FOR, GLS, TOMV, V. IR: N, TSWV. Improved disease resistance. Everything you love about Celebrity, plus added resistance to TSWV. Fusarium, and Stemphylium, Fruits avg. 7–9 oz. with more uniform shoulder ripening and better crack tolerance than the original Celebrity. Vigorous, healthy plants.

PKT (30 seeds) \$5.80; 100 Seeds \$15.95; 250 Seeds \$24.00; 1,000 Seeds \$78.55; 5M @ \$68.64/M.

Galahad (F1) 4055G

69 days. HR: F (1-3), GLS, LB, N, TSWV, V. IR: EB. Delicious early determinate beefsteak. Galahad boasts fantastic flavor and an impressive disease resistance profile, which extends much-needed protection to regions ranging from the Midwest to the Deep South. Early maturity and early blight resistance make Galahad a strong contender in the North. The

round, 7–12 oz. fruits can be harvested with green shoulders and ripened red in storage, or ripened on the vine. Vigorous plants. AAS Regional Winner for the Heartland, West/Northwest regions. CG PKT (15 seeds) \$6.60; 50 Seeds \$19.15; 100 Seeds \$30.40; 250 Seeds \$68.90;

1,000 Seeds \$246.60; 5M @ \$226.35/M.

BHN 871 (F1) 3089

74 days. HR: F (1, 2), FOR, TMV, V.

High yields of attractive, golden orange tomatoes. Compared to Orange Blossom, BHN 871 is a larger, later plant with improved disease resistance, higher yield potential, and larger fruit size. 10–12 oz. flattened-globe-shaped tomatoes have good flavor but, like most yellow/orange tomatoes, less acid than most reds.

PKT \$8.25; 100 Seeds \$17.85; 250 Seeds \$42.00; 1,000 Seeds \$107.05; 5M @ \$100.29/M.











Growing Field Tomatoes — Solanum lycopersicum

CULTURE: Medium-rich soil with pH 6.0–6.8 preferred. Fertilize accurately since excess nitrogen causes rampant growth, rot, and delayed ripening. For short determinates, succession-plant every 4-6 weeks. Tomatoes typically germinate in 5-7 days. DAYS TO MATURITY: From transplant. TRANSPLANTING: Don't start too early—leggy, root-bound, or flowering transplants can cause stunting and reduce early production. About 5-6 weeks before transplanting, sow 1/4" deep in 20-row flats with 20 seeds/ row, or in 200-cell trays with 1 seed/cell; lightly cover. Keep mix at 75–85°F (24–29°C) with moderate moisture. At first true leaf, pot-up to 50-cell trays or 4" pots, depending on expected transplant timing. Grow at constant 60–70°F (16–21°C) temp and use complete fertilizer until hardened-off. Supplemental lights and lower night temps control stretching. For earliest crop, plant under row cover around last frost date. Avoid exposing unprotected plants to consecutive nightly temperatures below 45°F (7°C). In rows 4-6' apart, space determinates 12-24" and indeterminates 24-36". Plant deeply to encourage adventitious rooting. Water

seedlings with a high-phosphate fertilizer solution at planting to help boost early yields. TRELLISING: Basket-weave by pounding 5-6' stakes every 2-3 plants, using heavier t-posts intermittently and at ends of beds. For tall indeterminates, consider short extensions or pruning once they outgrow a manageable size for easy harvest. PRUNING: Indeterminates likely benefit by removing all suckers under the first strong branch directly below the first flower cluster. The lower bottom suckers often miss trellis supports, set fruit closer to soil, take energy from upper parts, and encourage spread of disease from soil. If needed later in season, consider thinning out leaves to increase airflow or topping plants to help finish ripening last fruits. DISEASES & INSECT PESTS: Learn your common pests and options for control, including resistant cultivars and pesticides. Avoid wet leaves and handling when wet or using tobacco products. Manage plant debris and crop rotations.

HARVEST: Fruits ripen gradually from the blossom end to shoulders and from the base of clusters to the tips. Harvest softer fruit unstacked into shallow, padded trays. Use fully ripe fruit only for local retail or home-use. To deliver sound fruit, pick less ripe the further the distance and the longer the time between field and customer. Any fruit breaking color will still ripen post-harvest. Calyx can be removed or kept to prove freshness. If staking larger fruit with calyx on, consider trimming below shoulders when harvesting. STORAGE: Store blemish-free, near-ripe fruit 4-7 days at room temperature in darkness. Store longer with proper variety selection, picking less-ripe, and keeping at cooler temperatures 45-60°F (7-16°C). Colder and picking too green will sacrifice end-quality. TRANSPLANTS: Avg. 850 plants/1,000 seeds, 10,200 plants/oz. SEED SPECS: Avg. 11,000-13,000 seeds/oz. PACKET: 40 seeds, unless otherwise noted; plants about 60 feet.

Tomatoes Resistance Codes

TOTTIAL	des mesistance codes
${\sf HR} = {\sf High}$	Resistance IR = Intermediate Resistance
AS	Alternaria Stem Canker
CRR	Corky Root Rot
EB	Early Blight
F	Fusarium Wilt
FOR	Fusarium Crown and Root Rot
GLS	Gray Leaf Spot
LB	Late Blight
LM	Leaf Mold
N	Nematodes
PM	Powdery Mildew
TMV	Tobacco Mosaic Virus
ToANV	Tomato Apex Necrosis Virus
ToMV	Tomato Mosaic Virus
TSWV	Tomato Spotted Wilt Virus
TYLCV	Tomato Yellow Leaf Curl Virus
\/	Verticillium Wilt



BHN 589 (F1) 3226

75 days. HR: F (1, 2), TMV, V.

Best determinate tomato for hoophouse growing. If you are going to grow a determinate tomato in a hoophouse or greenhouse, try BHN 589. Plant is well adapted to hoophouse conditions, and offers a surprising combination of fruit quality, shelf life, and really good flavor. Semi-determinate plants are larger than compact determinates. Use tall stakes to basket-weave. Very high yield potential. 8–10 oz. fruit.

PKT (15 seeds) \$5.80; 100 Seeds \$19.55; 250 Seeds \$35.30: 500 Seeds \$59.00: 1.000 Seeds \$118.75: 5M @ \$111.81/M.

Mountain Fresh Plus (F1) 3808 75 days. HR: F (1, 2), N, V.

The most widely grown market tomato in the East and Midwest. Able to tolerate cool and wet conditions, this big red tomato produces attractive 8-16 oz. slicers with good flavor. Developed by Dr. Randy Gardner at NCSU. Vigorous plants provide plenty of leaf cover. PKT \$5.80; 100 Seeds \$13.20; 250 Seeds \$23.40; 1,000 Seeds \$75.80; w5M @ \$72.80/M.

Mountain Merit (F1) 3080

75 days. HR: F (1-3), GLS, N, TSWV, V. IR: LB. Late blight-resistant slicer. Mountain Merit is an 8-10 oz., red slicer with an excellent disease package. Larger than Defiant PhR, though flavor is not quite as good. Mountain Merit's disease package is well suited to all temperate regions, extending into the South. AAS Regional (Heartland) winner.

PKT (15 seeds) \$5.80; 100 Seeds \$20.75; 250 Seeds \$38.25; 1,000 Seeds \$131.15; 5M @ \$121.70/M.



Jolene (F1) 4778

79 days. HR: F (1-2), FOR, TYLCV, V. Excels in the Southern US. Smooth, deep red beefsteak sets fruit in heat when other tomatoes will not. Round, clean, 8-10 oz., lightly ribbed fruits for mature-green and vine-ripe markets. Improved plant health, production, and fruit quality over Grand Marshall, which it replaced. Strong TYLCV resistance for growers in the Deep South. PKT (15 seeds) \$6.75; 100 Seeds \$19.25; 250 Seeds \$39.50; 500 Seeds \$64.50; 1,000 Seeds \$98.80; 5M @ \$93.60/M; 25M @ \$88.40/M.

Skyway (F1) 3204G 78 days. HR: F (1-3), ToANV, V. IR: N, TSWV, TYLCV. Large beefsteak type with broadest disease package for the entire South. Attractive red, moderately ribbed 8-12 oz.

tomatoes. Resistance to TYLCV, TSWV, and Fusarium race 3 enables success all the way down to the Deep South. Very good flavor and fruit quality. CG

PKT (15 seeds) \$7.00; 100 Seeds \$29.05; 250 Seeds \$53.60; 1,000 Seeds \$184.15; 5M @ \$153.20/M; 25M @ \$130.23/M.





Indeterminate — Climbing

Red

Early Girl (F1) 3995

60 days. HR: F (1, 2), V.

Classic extra-early slicer that works great for dry farming. A longtime early favorite, Early Girl produces heavy yields of full-flavored, 4–6 oz. tomatoes. One of the first varieties to ripen each year. Also prized for its performance as a "dryfarmed" tomato, owing to its extreme tolerance to drought and blossom end rot.

PKT \$5.55; 250 Seeds \$19.50; 500 Seeds \$35.00; 1,000 Seeds \$49.50; 5M @ \$45.00/M.

Big Beef Plus (F1) 4471

72 days. HR: AS, F (1, 2), FOR, GLS, TOMV, V. IR: N, TSWV. An even better Big Beef. One of the best-loved beefsteaks, now with improved flavor, color, and adaptability. Sweeter than the original, with added TSWV resistance for protection in warmer climates. Crimson gene lends a richer red internal color. Very similar in size, shape, and yield to Big Beef. PKT (30 seeds) \$5.55; 250 Seeds \$23.15; 1,000 Seeds \$79.25; 5M @ \$69.26/M.

Estiva (F1) 2087

70 days. HR: F (1, 2), TMV, V.

EXCLUSIVE! Delicious slicer with impressive heat tolerance. 7–9 oz. tomatoes resist cracking and are remarkably uniform. High production and premium flavor in a mid-size fruit. Balanced plant habit is well suited for high tunnel production. Well known in hot, dry regions for its ability to set fruit in excessive heat.

PKT \$7.00; 100 Seeds \$15.80; 250 Seeds \$30.20; 1,000 Seeds \$86.30; 5M @ \$77.21/M.

Red Field Tomato Comparison Chart

Variety	Part #	Days	Fruit Size	Firmness	Disease Resistance	Features
Determinate – Bus	h					
BHN 589	3226	75	8–10 oz.	Firm	HR: F (1, 2), TMV, V.	Best for hoophouses and best flavor.
Celebrity Plus	4508	78	7-9 oz	Med. Firm	HR: AS, F (1–2), FOR, GLS, TOMV, V. IR: N, TSWV.	Easy to grow.
Defiant PhR	2525G CG	65	6-8 oz.	Medium	HR: F (1, 2), LB, V. IR: EB.	Late blight resistant and extra early.
Galahad	4055G CG	69	7–12 oz.	Medium	HR: F (1-3), GLS, LB, N, TSWV, V. IR: EB.	Early, big, tasty, and widely adapted.
Glacier	3750G CG	55	1–2 oz.	Soft	_	Early cocktail tomato with fantastic flavor.
Jolene	4778	79	8-10 oz.	Firm	HR: F (1-2), FOR, TYLCV, V.	Sets fruit in heat, excels in the South.
Mountain Fresh Plus	3808	75	8-16 oz.	Firm	HR: F (1, 2), N, V.	Strong producer of larger fruits.
Mountain Merit	3080	75	8-10 oz.	Firm	HR: F (1-3), GLS, N, TSWV, V. IR: LB.	Late blight-resistant slicer.
Skyway	3204G CG	78	8–12 oz.	Firm	HR: F (1-3), ToANV, V. IR: N, TSWV, TYLCV.	Most complete disease package for the South.
Indeterminate – C	limbing					
Big Beef Plus	4471	72	10-12 oz.	Med. Firm	HR: AS, F (1, 2), FOR, GLS, TOMV, V. IR: N, TSWV.	Added disease resistance and improved fruit color.
Early Girl	3995	60	4-6 oz.	Med. Firm	HR: F (1, 2), V.	First-early tomato. Tolerance to drought and blossom end rot
Estiva	2087	70	7–9 oz.	Med. Firm	HR: F (1, 2), TMV, V.	Delicious, beautiful, productive, and uniform.







Specialty

NEW Marmalade Skies (F1) 4498G 75 days. HR: LB.

Orange tomato with late blight resistance. Clean, blemish-free fruit ripen uniformly, with no green shoulder. Slightly flattened shape with dark orange color and medium ribbing. Good fruit set on tall, healthy plants. Fruits avg. 7–8 oz., and are consistent in size. Earlier and more productive than Chef's Choice Orange, which it replaces. Bred by Emily Rose Haga at Johnny's. OCG
PKT (15 seeds) \$6.50; 100 Seeds \$34.70; 250 Seeds \$65.50; 1,000 Seeds \$230.00; 5M @ \$198.00/M.

Damsel (F1) 3774G

73 days. HR: LB, N, V.

Late blight resistance and excellent flavor. Damsel produces 8–12 oz., slightly flat-round fruits with pink skin and light ribbing. Shares flavor qualities (sweet, rich, and tangy) with traditional pink heirlooms, but is more resistant to disease. Compact indeterminate plants require minimal pruning. While bred specifically for organic field conditions, it also performs well in the hoophouse.

PKT (15 seeds) \$7.40; 100 Seeds \$37.50; 250 Seeds \$76.00; 1,000 Seeds \$245.00; 5M @ \$230.00/M.

Green Zebra 2276

72 days.

Green-striped salad specialty. A delicious, tangy salad tomato, ripe just as the green fruit develops a yellow blush, accentuating the darker green stripes. The 3–4 oz. fruits are the ideal size for slicing into wedges for salads. Productive over a long season. Developed by Tom Wagner. **OG**

PKT (25 seeds) \$4.95; 250 Seeds \$8.75; 1,000 Seeds \$16.60; 5M @ \$15.15/M.

NEW Harvest Moon (F1) 4499G

75 days. HR: LB.

Full moon rising. Firm, consistently sized (7–10 oz.), golden fruits. Fewer defects and oversized fruits than the heirlooms it imitates. Offers a sustained harvest with terrific fruit set all the way up the plant. Beautiful red blush internal color. Compact indeterminate plants with a more balanced habit, well-suited for basket-weave systems. Bred by Emily Rose Haga at Johnny's.

PKT (15 seeds) \$6.50; 100 Seeds \$34.70; 250 Seeds \$65.50; 1,000 Seeds \$230.00; 5M @ \$198.00/M.

Abigail (F1) 4014G 75 days. HR: LB. Nearly perfect pink heirloom type.

Consistently high yields of marketable fruit with the beautifully ribbed shoulders, meaty texture, and rich flavor of our favorite pink heirlooms. Early maturity, late blight resistance, and a balanced plant offer even more benefits to growers. Attractive 10–16 oz. fruit with less cracking and stem scarring than true heirlooms. Our thanks to NCSU for working with us to develop this variety. Bred by Emily Rose Haga at Johnny's. OCG PKT (15 seeds) \$6.50; 100 Seeds \$34.70; 250 Seeds \$65.50; 500 Seeds \$127.70; 1,000 Seeds \$230.00; 5M @ \$198.00/M.





NEW Strawberry Fields (F1) 4501G

75 days. HR: LB, N.

Improved late blight-resistant pink slicer. Reminiscent of the best pink heirlooms, but thoughtfully bred for healthier plants, fewer defects, and higher marketable yields. Wonderfully balanced flavor—sweet and acidic with a juicy texture. Compared to Damsel, more tolerant to blossom end rot and less shoulder cracking. Similar to Martha Washington, but with late blight resistance. Fruits avg. 7–10 oz. Bred by Emily Rose Haga at Johnny's. OG PKT (15 seeds) \$6.50; 100 Seeds \$34.70; 250 Seeds \$65.50; 1,000 Seeds \$230.00; 5M @ \$198.00/M.

Lemon Boy Plus (F1) 4477

75 days. HR: AS, F (1–3), FOR, GLS, TOMV, V. IR: LM, N. A delicious yellow tomato. An updated version of the classic Lemon Boy tomato with added disease resistance and sweet, tangy flavor. The 7–8 oz. beefsteak fruits are consistent in size, shape, and quality with very few blemishes. A high-yielding variety with good firmness. Comprehensive disease package offers wide adaptability and keeps the plants healthy and the fruits clean. Harvest underripe for a more acidic flavor profile.
PKT \$5.80; 100 Seeds \$13.80; 250 Seeds \$27.55; 1,000 Seeds \$92.60;

Captain Lucky 3861 75 days.

5M @ \$88.19/M.

Psychedelic interior. An heirloom-like green bicolor with incredible flavor. Beefy, 10–16 oz. fruit with gorgeous internal color—green and yellow with streaks of bright red and pink. Fruits are clean, dense, and have a silky smooth texture. Open-habit, potato-leaf plants. Bred in North Carolina by independent breeder Millard Murdock

PKT \$6.50; 100 Seeds \$11.60; 250 Seeds \$15.30; 1,000 Seeds \$48.00; 5M @ \$40.97/M.



Heirloom - Indeterminate

HEIRLOOM TOMATO PRICING — unless otherwise listed

PKT (25 seeds) \$4.95; 250 Seeds \$8.75; 1,000 Seeds \$16.60; 5M @ \$15.15/M.

Moskvich 756

60 days.

One of the most appealing extra-early tomatoes. Fruits are early, deep red, and cold tolerant. Rich flavor. Smooth and globe-shaped. 4–6 oz. with a small stem scar. CG

Nepal 748

78 days.

Smooth and flavorful in late season. The 10-12 oz. medium-large, globe-shaped, bright red fruits are rather soft but meaty with plenty of old-fashioned tomato flavor.

Pruden's Purple 712

67 days.

Early Brandywine type. Large to very large (many over 1 lb.) fruits are flattened and smooth (except for shoulder ribbing on some), and resist cracking. Vivid, dark pink skin with crimson flesh. Medium-tall, potato-leaf plants. CG

German Johnson 3815G

75 days.

More vigorous, higher-yielding Brandywine type. Recommended for higher productivity in a pink heirloom. Earlier, more uniform, and slightly smaller than Brandywine at 8–16 oz. Fruits have lots of deep, acidic tomato flavor and a rich, creamy texture. This is the regular-leaf strain, which is earlier and more productive than the potato-leaf strain. CG

Valencia 749

76 days.

Sunny orange fruits with full tomato flavor. Round, smooth fruits average 8–10 oz. Their meaty interiors have few seeds. This midseason tomato is among the best for flavor and texture. Our own selection of a Maine family heirloom with a Spanish accent. CG

Striped German 2372

78 days.

Bicolor red-and-yellow fruit. The flat, medium-to-large tomatoes with variable shoulder ribbing are shaded yellow and red. The marbled interior looks beautiful sliced. Complex, fruity flavor and smooth texture. Medium-tall vines bear 12+ oz. fruit. 🂢 🖺

Brandywine 2845

78 days.

One of the most flavorful tomatoes. We describe Brandywine's luscious flavor as "rich, loud, and distinctively spicy." The large fruits, often over 1 lb., have a deep pink skin and smooth, red flesh. The medium-tall, potato-leaf plant is best staked or caged. Our Quisenberry strain is considered among the best. CG

Heirloom Tomato Collection 3229G EXCLUSIVE! Our favorite heirlooms in one

collection. Includes Brandvwine. Striped German, Cherokee Purple, and Amish Paste. Varieties are subject to change depending on availability. One packet (25 seeds) of each. CG \$15.20.

Dr. Wyche's Yellow 4809G

75 days.

Robust flavor. Yellow to golden fruits with meatier flavor and fewer blemishes than others in its class. Larger and more oblate than Valencia at 10-16 oz. Compared to Yellow Brandywine, which it replaces, it produces notably earlier, heavier yields on stronger plants. CG

Cherokee Green 821G

Unique color, great flavor. Craig LeHoullier sent us this seed as a selection out of Cherokee Purple, and we think it is one of the best green tomatoes. Medium-size, 8+ oz. green fruits acquire some yellowish-orange color on the blossom end when ripe. Lots of bold, acidic, complex tomato flavor. CG

Cherokee Purple 753G

Truly superlative fruit quality. Famously rich flavor and texture make this a colorful favorite among heirloom enthusiasts. Interior ranges from purple, to brown, to green. Medium-large, 8-12 oz. flattened globes. Relatively short vines. Of







Black Prince 2971G

74 days.

Mahogany brown with good flavor.

Unusual brown shoulders become orange-red at the blossom end. Color will be deeper and more pronounced in sunnier locations. Distinctively rich, fruity tomato flavor. Relatively smooth, 3-5 oz., 3" globes show less cracking than typically seen in most heirlooms. CG

Japanese Black Trifele 2795G

74 days.

Unusual pear shape and burgundy color. Good yields of 4–6 oz. fruit with excellent, rich flavor. Harvest when shoulders are still green for best flavor. Potato-leaf plants. CG

Carbon 3763G

76 davs.

Delicious, highly productive black heirloom. Resists cracking and cat-facing better than other large black heirlooms, producing a higher proportion of marketable fruit. Blocky-round, 10–14 oz. fruit with dark olive shoulders fading into a very dark, brick red. Boasts the signature rich flavor and meaty texture of a classic black tomato. Productive over a longer period than similar types. CG PKT (25 seeds) \$4.95; 250 Seeds \$8.50; 1,000 Seeds \$16.15; 5M @ \$15.15/M.

Black Krim 3814G

Russian heirloom. Black Krim combines bold, smoky flavor and good texture with an unusual appearance. Deep brown/red, 8-16 oz. tomatoes have brown/green shoulders that get darker with more heat and sunlight. Highyielding. 🂢 🖫

Paste

Cipolla's Pride 4180G

82 days.

EXCLUSIVE! Large, refined sauce tomato. Tough plants produce impressive yields of 10-16 oz. fruits in a concentrated set, which is ideal for canning and sauce. Selected by the Cipolla family and submitted to us by Larry Cipolla of Minnesota. The original seeds were brought to Brooklyn, NY from Sicily in 1906 by Larry's great grandfather, Emilio. The variety was then grown for decades on the 20-acre family homestead in Connecticut, where it was lovingly referred to as "Grandpa's Tomato." Larry continued to select the variety, renaming it Cipolla's Pride. 🂢 🖫 PKT (25 seeds) \$5.95; 100 Seeds \$14.35; 250 Seeds \$19.65; 1,000 Seeds \$60.45; 5M @ \$51.16/M.

San Marzano II 3405G

78 days.

EXCLUSIVE! High-quality strain of this classic paste tomato. One of the best paste tomatoes of all time, with Old World look and taste. Whole 4–6 oz. tomatoes peel easily and cook down quickly. This strain was selected by breeder Emily Rose Haga and originates from Parma, Italy, where it was developed for the 1950's canning industry. This strain has a very traditional San Marzano shape and appearance as well as a vibrant red color. Indeterminate. 🂢 🖫

Prune while you trellis! Find our favorite hands-free pruning shears on page 197, and trellis clips on page 195.



Blue Beech 3412G

82 days.

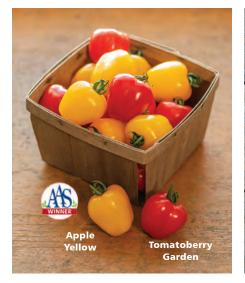
High-yielding paste tomato. Produces large, 8–10 oz., elongated "sausage" type fruits that are easy to process into sauce. An excellent canning tomato, it also tastes great when eaten fresh. Well-adapted to northern climates, and resists disease and blossom end rot better than others of its type. This strain of Blue Beech was originally brought to Vermont from Italy during WWII. Indeterminate. CG

Amish Paste 3817G

85 davs.

A longtime favorite heirloom plum. Large for a sauce tomato, Amish Paste's slightly irregular plum to strawberry-shaped fruits avg. 8–12 oz. with excellent flavor. These meaty tomatoes are good in salads and great for processing. A Slow Food USA Ark of Taste variety. CG







Specialty Small-Fruited

Apple Yellow (F1) 4461

62 days HR: TMV, TOMV. IR: FOR, LB, TYLCV. A great match for Tomatoberry Garden. Adorable, bright yellow tomato with incredible split tolerance, yields, and shelf life. Plants are easy to grow, easy to harvest, and offer disease resistance for a wide range of regions, including the South. Avg. 20-25 gm. fruits have great,

balanced flavor—a rare find in a yellow tomato. Attractive, dimpled-bell shape. AAS winner. Indeterminate.

PKT (15 seeds) \$7.00; 50 Seeds \$14.60; 100 Seeds \$24.75; 250 Seeds \$47.90; 1,000 Seeds \$140.75; 5M @ \$119.91/M.

Tomatoberry Garden (F1) 2760 60 days.

Unique strawberry-shaped fruits. Highyielding plants. Deep red fruits have broad shoulders which taper to a blunt point at the blossom end, giving them a heart-like appearance. Firm, meaty texture with excellent, sweet flavor. Fruits avg. 1" x 1" and weigh 10-15 gm. Indeterminate. We regret that we are not able to ship this item outside of North America. PKT (15 seeds) \$8.25; 100 Seeds \$44.05; 250 Seeds \$87.85; 1,000 Seeds \$304.70; 5M @ \$263.63/M.

Juliet (F1) 707 60 days. IR: EB, LB. Great flavor, fresh or cooked. Juliet is one of the most disease resistant in our trials. Shiny, deep red fruits avg. $2-2^{1}/4$ " x $1^{3}/8-1^{1}/2$ ", weighing 1¹/₂–2 oz. Typically 12–18 fruits per cluster. Delicious, rich tomato flavor for salads, great salsa, and fresh pasta sauce. Good crack resistance, vine storage, and shelf life. AAS winner. Indeterminate.

PKT (15 seeds) \$5.80; 250 Seeds \$23.90; 1,000 Seeds \$62.00; 5M @ \$55.00/M.

Verona (F1) 3811G 67 days. HR: F (1), V. IR: EB. Larger, more flavorful Juliet type. Similar to Juliet, but with even tastier, somewhat more plump, deep red fruits averaging 2¹/₂ oz. Long clusters on a medium-vigorous vine. Indeterminate. 1005 PKT (15 seeds) \$5.85; 100 Seeds \$22.00; 250 Seeds \$45.00; 1,000 Seeds \$150.00; 5M @ \$138.00/M.

Red Torch (F1) 4152 65 days.

Early, striped snacking tomato. Delicious, beautiful, small saladette in the Juliet size class, avg. 1¹/₂ oz. This prolific early producer is crackresistant and performs well even under heavy disease pressure. A dramatic offering at market and a great addition to specialty mixes. AAS winner. Indeterminate. PKT (15 seeds) \$6.50; 50 Seeds \$13.80; 100 Seeds \$23.50; 250 Seeds \$45.40; 1,000 Seeds \$134.00; 5M @ \$113.33/M; 25M @ \$104.83/M.

NEW Magic Bullet 5854G 70 days. Green, yellow, pink! With streaks of indigo. Very productive and tasty multicolored snacking tomato with dark indigo shoulders. Strong plants produce throughout the season. Pairs well with Red Torch and Blush. An Open Source Seed Initiative (OSSI) variety bred by Steve Peters and Kanti Agarwal. Indeterminate. 💢 PKT (25 seeds) \$5.50; 100 Seeds \$8.50; 250 Seeds \$16.00; 1,000 Seeds \$40.00; 5M @ \$35.00/M.

Indigo Kumquat (F1) 3769 75 days. Eye-catching beauty for quart sales. Highyielding plants produce 15-20 gm. orange fruits with dark indigo-colored shoulders. Very sweet flavor with a surprising, tart kick of acidity. Compact indeterminate plant requires minimal pruning and yields well, even in unfavorable conditions. Harvest when background color fills in uniformly orange and fruits begin to soften. PKT (15 seeds) \$7.50; 100 Seeds \$44.00; 250 Seeds \$99.95; 1,000 Seeds \$360.00; 5M @ \$350.00/M.

Green Bee (F1) 4604 75 days.

EXCLUSIVE! Unlike any cherry tomato on the market. A favorite for chefs and growers for its tangy flavor, firm texture, and long shelf life. The perfect tomato for grilling or roasting. Pick when skin develops a clear yellow hue (or later). Holds a long time on the vine, or can be stored for a few weeks at room temperature. Fruits avg. 25-30 gm. Indeterminate. PKT (15 seeds) \$7.00; 100 Seeds \$20.60; 250 Seeds \$39.95; 1,000 Seeds \$117.40; 5M @ \$99.94/M.

Mountain Magic (F1) 2513G

66 days. HR: F (1-3), LB, V, IR: EB.

Excellent flavor and late blight resistance. Mountain Magic produces high yields of 2 oz., bright red, round salad tomatoes with very sweet flavor. The uniform, crack-resistant fruits may be truss harvested. Great in salads or right off the vine. Indeterminate. **G** PKT (15 seeds) \$7.65; 100 Seeds \$44.40;

250 Seeds \$89.50; 1,000 Seeds \$295.45; 5M @ \$277.80/M.

Clementine (F1) 3991G 68 days. HR: F (1), V. **Unique orange cocktail tomato.** Clementine's tangerine-colored, oval-round fruits avg. 2 oz. Plants produce high yields with appealing, sweettart flavor. Exceptional when halved and roasted! Can be picked to ripen when shoulders are green. Balanced plant works well indoors. Crack resistant. Indeterminate. 000 PKT (15 seeds) \$4.95; 100 Seeds \$16.25;

250 Seeds \$29.15; 1,000 Seeds \$97.65; 5M @ \$83.76/M.



















Artisan™

Mountain Magic and

Clementine (L to R)

Purple Bumble Bee 3521G 70 days. Dramatic color contrast. Metallic green stripes on a red background create a rich purple effect. One of the most visually striking of the Artisan Series. 20–25 gm. fruits. Indeterminate. CG PKT (25 seeds) \$6.90; 100 Seeds \$8.80; 250 Seeds \$16.00; 1,000 Seeds \$35.50; 5M @ \$31.32/M.

Blush 3517G 70 days.

Sweet, fruity flavor has universal appeal. Beautiful, bright yellow snacking tomato—one of the most popular of the Artisan Series. Red striping appears at ripening. 25–30 gm. fruits. Indeterminate. GG

PKT (25 seeds) \$5.50: 100 Seeds \$8.80: 250 Seeds \$16.00; 1,000 Seeds \$35.50; 5M @ \$31.32/M.

Pink Bumble Bee 3520G 70 days. Pink cherry streaked with gold. Excellent sweet flavor. An alluring pink background with orange and yellow striping. 20–25 gm. fruits. Indeterminate. CG

PKT (25 seeds) \$5.50; 100 Seeds \$8.80; 250 Seeds \$16.00; 1,000 Seeds \$35.50; 5M @ \$31.32/M.

Sunrise Bumble Bee 3112G 70 days. The sweetest cherry in the Artisan collection. Gorgeous combination of yellows and reds, inside and out. Excellent flavor, sweet and tangy. 20-25 gm. fruits. Indeterminate. 💢

PKT (25 seeds) \$5.50; 100 Seeds \$8.80; 250 Seeds \$16.00; 1,000 Seeds \$35.50; 5M @ \$31.32/M.

Artisan Tomato™ Collection 3980G

EXCLUSIVE! This collection includes ten seeds each of the Artisan Tomato[™] varieties, individually packaged, so you can select how many plants of each variety you want. Includes Lucky Tiger, Blush, Sunrise Bumble Bee, Pink Bumble Bee, and Purple Bumble Bee. Indeterminate. QG \$18.10.

Grape

Valentine (F1) 3371G 55 days. IR: EB. **Delicious high-lycopene grape.** Massive early yields, deep red color, and unusually rich flavor. Developed in collaboration with Dr. Majid Foolad at Penn State University, Valentine marries the best of wild-type tomato genetics with flavorful, high-performing strains. Avg. weight 12-14 gm. Long shelf life. AAS winner. US Patent #8,524,992. Indeterminate. NOTE: For best flavor, harvest when fruits are deep red. ፃ 🔾 PKT (15 seeds) \$6.15; 100 Seeds \$25.15; 250 Seeds \$46.50; 1,000 Seeds \$159.45; 5M @ \$135.42/M.

Red Pearl 97G 58 days. IR: LB.

Tender and nearly seedless. Fruits weigh 15–20 gm., and have good flavor and a meaty texture. Resists cracking and stores well on and off the vine, Tall, healthy plants, Plant Variety Protected. Indeterminate. **903** PKT (15 seeds) \$5.25; 100 Seeds \$19.10; 250 Seeds \$42.90; 1,000 Seeds \$121.25; 5M @ \$102.86/M.

Nova (F1) 3889 60 days. HR: F (1). IR: N. EXCLUSIVE! Beautiful orange grape tomato. Borne on long trusses, Nova is a bright orange color with excellent, sweet flavor. Firm, meaty, 20–22 gm. fruits resist cracking. Makes a great mix with red, pink, and yellow grape tomatoes. Indeterminate. PKT (15 seeds) \$6.90; 100 Seeds \$21.20; 250 Seeds \$38.05; 500 Seeds \$63.15; 1,000 Seeds \$128.05; 5M @ \$109.41/M.

Golden Sweet (F1) 2622

60 days. HR: F (1), LM.

Tasty yellow grape with leaf mold resistance. Crack-resistant 15-20 gm., deep yellow fruits grow in long clusters on tall, healthy plants. Mild, sweet flavor. Leaf mold resistance is a plus for indoor culture. Indeterminate. PKT (15 seeds) \$6.90; 100 Seeds \$21.20; 250 Seeds \$38.05; 1,000 Seeds \$128.05; 5M @ \$109.41/M.



NEW Candy Bell (F1) 4942

65 days. HR: F (1-2), V.

Delicious determinate grape. We finally found a labor-saving determinate grape with great taste and a manageable plant. Candy Bell maintains a good fruit size and has mediumhigh crack tolerance. The ideal size (15 gm.) and shape for a grape. Slightly open plant habit makes harvests easier, and little to no pruning is required.

PKT (15 seeds) \$6.95; 50 Seeds \$18.00; 100 Seeds \$30.00; 250 Seeds \$64.00; 1,000 Seeds \$185.00; 5M @ \$160.00/M.

Five Star Grape (F1) 62 days.

Our sweetest grape tomato. Five Star Grape has excellent, sweet flavor and firm, meaty texture with few seeds and little juice. Healthy plants bear high yields of bright red 15-20 gm., crack-resistant grape tomatoes. Indeterminate.

2527G Organic CG

PKT (15 seeds) \$7.95; 100 Seeds \$24.40; 250 Seeds \$58.40; 1,000 Seeds \$211.35; 5M @ \$179.56/M.

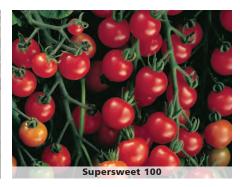
2527 Conventional

PKT (15 seeds) \$6.60; 100 Seeds \$28.05; 250 Seeds \$51.85; 1,000 Seeds \$177.85; 5M @ \$151.06/M.











Cherry

Indeterminate — Climbing

A. Citrine (F1) 4025G

60 days. HR: F (1, 2).

Tantalizing, crack-resistant orange cherry. Exceptional snacker with rich, balanced flavor, a meaty bite, and resistance to the splitting and cracking common to many similar market varieties. With a vigorous indeterminate plant selected for low-input systems under heavy disease pressure, Citrine produces reliable crops in harsh conditions. Beautiful orange color and ideal cherry size (20 gm.) make it a great match for Cherry Bomb. Our thanks to NCSU for working with us to develop this variety. **90** PKT (15 seeds) \$6.45; 100 Seeds \$31.70; 250 Seeds \$58.65; 1,000 Seeds \$201.20; 5M @ \$170.88/M.



B. Cherry Bomb (F1) 3263G

64 days. HR: F (1-3), LB. IR: EB.

Late blight-resistant field cherry. Perfect for the organic grower who needs strong late blight protection. Vigorous plants produce high yields of uniform, vivid red fruits with ideal cherry size (15-20 gm.) for harvest and snacking. Classic cherry tomato flavor—firm, sweet, and well-balanced. Unique calyx makes an attractive display when left attached to fruit. 000 PKT (15 seeds) \$6.85; 100 Seeds \$36.45; 250 Seeds \$68.85.

Matt's Wild Cherry 732

60 days.

The wild tomato with great flavor. These small cherry tomatoes are deep red, tender, smooth, and full-flavored with a high sugar content. Though the flavor is superior, it doesn't yield as well as modern varieties, and the fruits are soft. Fantastic in salsa and for fresh eating. Some resistance to early blight and late blight. The story of how we obtained Matt's Wild Cherry seeds can be traced back to Teresa Arellanos de Mena, who brought them to Maine from her family's home state of Hidalgo in Eastern Mexico (the region where these tomatoes grow wild). Avg. fruit size 5 gm. 🖶 PKT (25 seeds) \$5.50; 250 Seeds \$8.30; 1,000 Seeds \$15.75; 5M @ \$12.39/M.

Find resources and tips for tomato pruning in our Grower's Library at Johnnyseeds.com/tomato-library

Jasper (F1) 3812G

60 days. HR: LB. IR: EB.

Small, deep red cherry resists late blight. Round, 7-10 gm. fruits are crack-resistant, borne on small trusses, and store on the plant well, resisting cracking and rot. The texture is pleasantly chewy, and the flavor is sweet and rich. Plants are extra vigorous and tall, staying healthy for a long picking period. AAS winner. 100 PKT (15 seeds) \$5.55; 100 Seeds \$35.50; 250 Seeds \$81.55; 1,000 Seeds \$285.00; 5M @ \$247.02/M.

Supersweet 100 (F1) 3981

60 days. HR: F (1), V.

The classic sweet red cherry tomato. Reliable cherry with prolific yields of greattasting, 15-20 gm. fruits produced in large clusters. Widely adapted. PKT \$5.80; 250 Seeds \$17.55; 1,000 Seeds \$45.15; 5M @ \$43.01/M.

Sun Gold (F1) 770

57 days. HR: F (1), TMV.

Intense fruity flavor. Exceptionally sweet, bright tangerine-orange cherry tomatoes leave everyone begging for more. Vigorous plants start yielding early and bear right through the season. Tendency to split precludes shipping, making these an exclusively local treat. The taste can't be beat. 15-20 gm. fruits. PKT \$5.80; 100 Seeds \$13.50; 250 Seeds \$26.00; 1,000 Seeds \$85.00;

5M @ \$70.00/M.















Yellow Mini (F1) 2770

57 days HR: TMV.

Bright yellow fruits with less splitting.

Excellent sweet, juicy flavor. Fruits are round and average 15–20 gm. Compared with other cherry tomatoes, Yellow Mini resists the splitting that is caused by too much rain or inconsistent watering. PKT \$8.25; 100 Seeds \$18.25;

250 Seeds \$38.85; 1,000 Seeds \$130.50; 5M @ \$111.56/M.

Sungreen 4029 (F1) 4132

58 days. HR: TOMV. IR: TMV.

Flavorful green cherry for mixed pints. A delicious green-ripe cherry—sweet with a tangy kick. The strong plants deliver uniform yields of clean, neat clusters with 15–20 gm. fruit. Our top green choice for mixed cherry sales, Sungreen 4029 also stands alone as a tasty snack. NOTE: Ripe when green with a yellowish tinge. PKT (15 seeds) \$6.80; 50 Seeds \$21.20; 100 Seeds \$37.20; 250 Seeds \$70.40; 500 Seeds \$130.60; 1,000 Seeds \$245.90; 5M @ \$216.83/M.

White Cherry 2977G

59 davs

Pale yellow fruits. Appealing cherry tomatoes average 15–20 gm. and have a good, mild taste. Plants are compact and easy to pick. A good combination with Jasper (red), Yellow Mini (yellow), Sun Gold (orange), and Black Cherry (black) in a mixed container. GPKT \$5.70; 250 Seeds \$8.50; 1,000 Seeds \$16.15; 5M @ \$12.69/M.

Sunpeach (F1) 3084

60 days. HR: LM, TOMV.

Delicious, pink, and leaf mold resistant.

Productive, crack-resistant cherry with incredible flavor and a loyal following. Shiny, 15–20 gm. cherries are borne on long trusses. Vigorous, healthy, high-yielding plants. Resistance to leaf mold helps it stay healthy in high tunnels. Indeterminate.

PKT \$7.00; 100 Seeds \$37.20; 250 Seeds \$70.40; 1,000 Seeds \$245.90; 5M @ \$216.83/M.

Black Cherry 88G

64 days.

Sweet and robust. Bred in Florida by the late Vince Sapp, the round, 20 gm. fruits are a pleasant purple-brown color. Regarded as one of the best-tasting tomatoes. High-yielding. Try as we may, we haven't found a hybrid that can beat Black Cherry. Of

PKT \$6.15; 250 Seeds \$8.50; 1,000 Seeds \$16.15; 5M @ \$12.69/M.

Indigo Cherry Drops 3233G

71 davs.

Tasty Indigo type. Striking, dark blue anthocyanin coloration and red flesh. A vigorous indeterminate with significantly better yield and flavor than Indigo Rose, and larger clusters of 1–2 oz. fruit. Plant Variety Protected. CG

PKT \$6.90; 100 Seeds \$16.50;
250 Seeds \$29.90; 1,000 Seeds \$82.30;
5M @ \$71.36/M.

Determinate — Bush

Gold Nugget 738 56 days.

An early, prolific, golden cherry tomato.

to slightly oval cherry tomatoes with a deep yellow color. The flavor is well-balanced and delicious, and a majority of the early fruits are seedless. Healthy, compact plants with a concentrated early set. Developed by the late Dr. James Baggett, OSU. CG

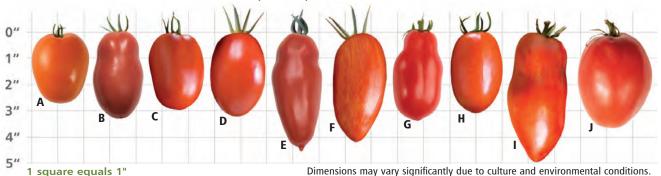
PKT \$5.70; 250 Seeds \$8.50;
1,000 Seeds \$16.15; 5M @ \$12.69/M.

Washington Cherry 764 60 days. First-early determinate red cherry tomato. High-yielding, compact plants. Globe-shaped, 20–25 gm. fruits have a deep red color. Thick-walled, meaty, and flavorful, with good keeping quality on or off the vine. Widely adapted. Developed by Washington State University.

PKT \$6.15; 250 Seeds \$8.75; 1,000 Seeds \$16.60; 5M @ \$13.04/M.



Paste, Plum, and Roma Varieties



Paste Tomatoes

Determinate — Bush

A. Sunrise Sauce (F1) 3376

57 days. HR: F (1), V.

Low-maintenance orange paste tomato. Much sweeter flavor than others in its class. Sunrise Sauce produces high yields of 4-6 oz. squat, Roma-shaped fruits within a concentrated period, which makes it perfect for saucing. Not to mention it has exceptional fruit quality and flavor and cooks down quickly. The perfect patio tomato. ¥

PKT (15 seeds) \$5.60; 100 Seeds \$19.05; 250 Seeds \$39.00; 1,000 Seeds \$135.70; 5M @ \$131.74/M.

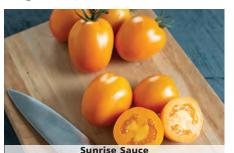
B. Paisano (F1) 3849

EXCLUSIVE! High-yielding bush San Marzano. Thick-walled 4-5 oz. fruits in the true San Marzano shape. Good flavor and high solids for sauce or canning. Concentrated sets of paste tomatoes midseason. Most of the bright red fruits are blunt tipped, so they don't crush during harvesting.

PKT \$5.80; 250 Seeds \$18.85; 1,000 Seeds \$49.15; 5M @ \$43.20/M.

C. Plum Regal (F1) 2537

75 days. HR: F (1, 2), LB, TSWV, V. IR: EB. Productive late blight-resistant plum. Medium-size plants with good leaf cover produce high yields of blocky, 4 oz. plum tomatoes. Fruits have a deep red color and good flavor. Good disease resistance package. PKT (15 seeds) \$6.10; 100 Seeds \$16.50; 250 Seeds \$40.00; 1,000 Seeds \$125.00;



Indeterminate — *Climbing*

D. Granadero (F1) 2584G

75 days. HR: F (1, 2), TOMV, V. IR: N, PM, TSWV. Our most prolific plum. Granadero produces very high yields of uniform, attractive, bright red 4-5 oz. tomatoes with very good flavor. The thick-walled fruits are ideal for fresh tomato sauces, salsas, and salads. Broad disease resistances and low susceptibility to blossom end rot keep Granadero healthy even under heavy disease pressure. CG PKT (15 seeds) \$8.45; 100 Seeds \$30.20; 250 Seeds \$63.20; 1,000 Seeds \$209.95; 5M @ \$199.93/M.

E. Tiren (F1) 3998 75 days. HR: F (1), TOMV, V. EXCLUSIVE! Early San Marzano type. Bred in Italy, Tiren produces 5–6 oz. fruits with the classic San Marzano shape. Their dry interior makes them especially quick to boil down into sauce. Can be harvested with green shoulders to fully ripen in storage, or left to ripen on the vine.

PKT \$5.80; 250 Seeds \$18.85; 1,000 Seeds \$49.15; 5M @ \$43.20/M.

F. Speckled Roman 3816G 85 days. Striking red sauce tomato with yellow streaks. Speckled Roman is an elongated plum tomato, (avg. 6-8 oz.), with bright red skin and golden streaks. Meaty red flesh has little juice, is good for fresh eating, and cooks guickly into sauce. Excellent flavor. Developed by Seed Savers Exchange member John Swenson. CG PKT (25 seeds) \$4.95; 250 Seeds \$8.75; 1,000 Seeds \$16.60; 5M @ \$15.15/M.



G. San Marzano II 3405G

EXCLUSIVE! High-quality strain of this classic paste tomato. One of the best paste tomatoes of all time, with Old World look and taste. Whole 4-6 oz. tomatoes peel easily and cook down quickly. This strain was selected by breeder Emily Rose Haga and originates from Parma, Italy, where it was developed for the 1950's canning industry. This strain has a very traditional San Marzano shape and appearance as well as a vibrant red color. Indeterminate. PKT (25 seeds) \$4.95; 250 Seeds \$8.75; 1,000 Seeds \$16.60; 5M @ \$15.15/M.

H. Amish Paste 3817G

85 days.

A longtime favorite heirloom plum. Large for a sauce tomato, Amish Paste's slightly irregular plum to strawberry-shaped fruits avg. 8-12 oz. with excellent flavor. These meaty tomatoes are good in salads and great for processing. A Slow Food USA Ark of Taste variety. CG

PKT (25 seeds) \$4.95; 250 Seeds \$8.75; 1,000 Seeds \$16.60; 5M @ \$15.15/M.

Find more paste tomatoes in our heirloom section on page 119.

I. Blue Beech 3412G

J. Cipolla's Pride 4180G





5M @ \$122.00/M.







TOMATILLO

K. NEW Pancho (F1) 4808 60 days.

Large, uniform fruits. Impressive yield and fruit size for a semi-early tomatillo. Similar to Super Verde in size and yield, but produces rounder, more uniform fruits earlier and has a more open plant habit. Strong, vigorous plants.

PKT \$5.80; 100 Seeds \$7.55; 250 Seeds \$11.40; 1,000 Seeds \$36.40; 5M @ \$33.28/M; 25M @ \$31.20/M.

L. Toma Verde 791 60 days.

Early green tomatillo. Early maturing, large, flatround green fruits. Use in salsa or Mexican cooking. PKT \$5.75; 1/4 Oz. \$8.95; Oz. \$24.95; 1/4 Lb. \$61.45.

M. De Milpa 2075 70 days.

Purple heirloom with long storage. In Mexico, these grow unattended in family corn fields and are harvested for home use and for selling in town on market day. High dry matter, small to mediumround fruits store fresh for several weeks, handy for fresh salsa. Portions of the fruits blush with purple, especially after harvest. CG

PKT \$6.15: 1/4 Oz. \$16.45: Oz. \$50.90: 1/4 Lb. \$134.65.

HUSK CHERRY

Goldie 773

75 days.

Small orange berry with a husk.

A conversation piece at markets, wellliked by children. This old-fashioned tomato family member bears 1/2-3/4" sweet, golden berries inside papery husks, resembling small, straw-colored Japanese lanterns. The flavor is quite sweet and a bit wild. Plants are profusely branching, prolific, and drop ripe fruits. Fruits can be eaten raw, dried like raisins, frozen, canned, or made into preserves, cooked pies, and desserts. 0G

PKT \$6.15; 1/8 Oz. \$25.90; 1/4 Oz. \$47.45; Oz. \$132.15; 1/4 Lb. \$395.60.

Harvest delicate crops without damage using our adjustable Harvest Bucket. See page 196.

TURNIPS

Hakurei (F1) 706 38 days.

This salad turnip sets the standard for flavor. The smooth, flat-round, white roots mature early and are best harvested young, up to 2" diameter. Eaten raw, the flavor is sweet and fruity, and the texture is juicy and tender. The tops may be eaten raw or lightly cooked. Avg. 181,650 seeds/lb. PKT \$5.60; 1/4 Oz. \$19.50; Oz. \$33.80; 1/4 Lb. \$77.30; Lb. \$276.00; 5 Lbs. @ \$229.62/Lb.

Scarlet Queen Red Stems (F1) 2374 43 days.

Beautiful red salad turnips. These slightly flattened turnips have sweet, crisp white flesh and spicy skin. Splashes of red internal color add to the appeal when sliced. The dark green tops have attractive red stems and may be used in salads or lightly cooked. Best when harvested at 2-3". Avg. 136,300 seeds/lb.

PKT \$5.80; 1/4 Oz. \$11.10; Oz. \$30.00; 1/4 Lb. \$75.95; Lb. \$253.15.

Purple Top White Globe 705G 50 days. The traditional American turnip. Selected strain of this popular Southern US variety. Smooth, round roots avg. 3-4" in diameter and are white below the soil line and bright purple above. Large, lobed greens suitable for cooking. Avg. 276,650 seeds/lb. CG PKT \$5.90; 1/4 Lb. \$10.05; Lb. \$16.85; 5 Lbs. @ \$12.61/Lb.

Growing Turnips — Brassica rapa

CULTURE: Turnips are tolerant of moderate frost and prefer a fertile, well-drained soil, with a pH of 6.0-7.5. Sow early spring through late summer in a 2–4" wide band, seeds 1" apart (35 seeds/ft.) for small turnips or 2" apart (and half this rate) for larger turnips. Sow 1/4-1/2" deep in rows 12–18" apart. **INSECT PESTS:** Floating row covers installed at the time of sowing will keep the turnips free of insect pests, including flea beetles and root maggots. **HARVEST:** Young, radish-size turnips are ready in about 30 days, full-size in 40-50 days. Roots are smoothest when small. **STORAGE:** Turnips with greens store at 32°F (0°C) and 95% relative humidity for 10-14 days. Fall-harvested Purple Top White Globe turnips can be topped at harvest and stored at 32-40°F (0-4°C) with 90-95% relative humidity for 4-6 months. AVG. DIRECT **SEEDING RATE:** 1 oz./320', 3.1 oz./1,000', 5 ²/₃ lb./ acre at 35 seeds/ft. in rows 18" apart. SEED SPECS: See individual varieties. PACKET: 400 seeds, sows 11'.

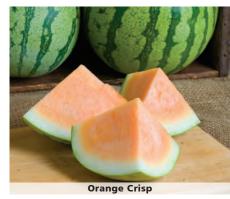
Growing Tomatillos & Husk Cherries

Tomatillo: Physalis philadelphica Husk Cherry: Physalis pruinosa

CULTURE: Same as tomatoes, but once established, more tolerant to stress from drought, heat, cold, and low nutrients. Well adapted to growing in most regions in the US. Typically germinates within 7–10 days (up to 14 days for husk cherries). DAYS TO MATURITY: From transplant. TRANSPLANTING: Sow in 50-cell trays 4–5 weeks before transplanting for tomatillos, 6–7 weeks for husk cherries. Can also sow tightly in flats and pot-up (see "Growing Field Tomatoes"). Keep moist until emergence. Transplant outdoors after danger of frost, about 1–2 weeks later than your earliest tomatoes. Plant tomatillos deeply for adventitious rooting, spaced at 24–36" apart, depending on amount of plant training, and husk cherries 18–24". At least two tomatillo plants required for successful pollination and fruit-set. CROP MAINTENANCE: Black plastic mulch and row covers will accelerate growth in cooler regions. Short, yet sprawling plants can grow wild but do benefit from some support, similar to determinate tomatoes. Tomatillos and husk cherries can both thrive in containers, but additional mulching under husk cherries and a trellis that elevates the plants but still allows plants to remain open will increase harvest efficiency. DISEASE & PESTS: See "Growing Field Tomatoes." HARVEST: Pick weekly (with husks attached) into containers or 10-lb flats. Husk Cherries: Harvest when fruit turns golden in color, husk is partially dry, and fruits fall or easily detach from plant. Collect blemish-free fruit from plants or from the ground. **Tomatillos**: Harvest when fruit is still firm, bright green, and filling the papery husk. Best marketed with husks attached but split open enough to reveal the sticky fruit. If needed, cool rapidly to preserve husk quality. Once softening and yellowing, the fruit is overmature and highly prone to splitting. **STORAGE:** Sensitive to cold injury and ethylene gas (affects fruit color). Store dry and in husks at room temperature for 1-2 weeks, or at 41-50°F and 80-90% RH for 3-4 weeks. Husks will naturally dry within 2 weeks, but high humidity is recommended for best freshness. Tomatillos can be held even longer in the refrigerator, either in a paper bag with husks attached, or peeled and washed and put into a plastic bag. Tomatillos can also be frozen for later processing. **SEED SPECS: SEEDS/OZ.:** Husk Cherry: avg. 40,000. Tomatillo: avg. 18,300. PACKET: 40 seeds. 30–90' depending on germination, thinning, and final spacing.









WATERMELONS **Triploid/Seedless**

Ocelot (F1) 4130 82 days.

A true mini. Our smallest seedless watermelon at 3-5 lb., Ocelot has a striking, tiger-striped rind. Mouth-watering flesh and firm, dense texture combine for an excellent eating experience tastes like summer! Holds in the field for an extended harvest window. Flesh is rich red. Round/oval shape, avg. 7". Avg. 2–3 fruits/plant. PKT (15 seeds) \$10.60; 50 Seeds \$33.60; 100 Seeds \$55.00: 250 Seeds \$114.50: 500 Seeds \$222.20; 1,000 Seeds \$349.00; 5M @ \$330.00/M.



Gentility (F1) 3248 80 days. Sweet flavor with crisp, red flesh. Like Sorbet, Gentility is an early producer of 6–7 lb. watermelons with good rind contrast. A slightly larger option for those seeking a watermelon in the mini class. Avg. 2-3 fruits/plant. PKT \$10.20; 50 Seeds \$33.10; 100 Seeds \$59.50; 250 Seeds \$112.85; 500 Seeds \$210.60; 1,000 Seeds \$358.15.



Cracker Jack (F1) 4644G 87 days. Organic seedless watermelon. Attractive dark green, striped rind and very sweet, rich red flesh. Fruits are slightly oblong and consistently sized around 45-count. Vigorous, healthy vines support strong yields. 😘 PKT (10 seeds) \$11.15; 50 Seeds \$38.00; 100 Seeds \$67.50; 250 Seeds \$128.70; 1,000 Seeds \$409.35.

Century Star (F1) 4468 80 days. Beautiful constellation pattern. Yellow spots on a dark rind invoke a starry summer night, much like the cherished heirloom, Moon and Stars. Round, red-fleshed fruits average 10 lb. and yield heavily on vigorous vines, even in the North. NOTE: Leaves will also be covered in small yellow spots. AAS Regional (Great Lakes) winner. PKT (15 seeds) \$10.30; 50 Seeds \$27.25; 100 Seeds \$47.65: 250 Seeds \$90.85: 500 Seeds \$170.30; 1,000 Seeds \$289.55; 5M @ \$272.51/M.

Tropical Sunshine (F1) 3617 80 days. Our best-tasting yellow triploid. Bright flesh with crisp, melt-in-your-mouth texture. Dark tiger-striped rind—almost Sugar Baby type. Icebox-sized fruits avg. 11–13 lb. Improved flavor and sweetness over Amarillo, which it replaced. PKT (10 seeds) \$10.45; 50 Seeds \$41.85; 250 Seeds \$146.15; 500 Seeds \$276.00; 1,000 Seeds \$530.55.

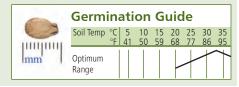
Orange Crisp (F1) 3841 87 days. Orange seedless watermelon with great flavor. 11" round, light green fruits with dark green stripes avg. 17-19 lb. Crisp flesh and healthy vines. Avg. 1-2 fruits/plant. PKT (15 seeds) \$10.20; 50 Seeds \$33.10; 100 Seeds \$59.50: 250 Seeds \$112.85: 500 Seeds \$210.60; 1,000 Seeds \$358.15.

Growing Watermelons — Citrullus Ianatus var. Ianatus

CULTURE: See "Melons." RIPENESS: There are 3 ways to tell when a watermelon is ripe: 1) the tendril nearest the point on the vine where fruit stem attaches is browning/ dead; 2) the spot where the fruit rests on the ground is yellow; and 3) the classic mystery — you hear "punk," as opposed to "pink" or "pank," when you flick the melon with your fingers. TRIPLOID/SEEDLESS: Start indoors under favorable conditions to ensure proper germination. A pollenizer watermelon, or normal seeded watermelon, is required

for fruit set. Seeds of a pollenizer and complete growing instructions are included with each order. Although the fruits are practically seedless, a few seeds may form under stressful conditions. STORAGE: Hold at 45°F (7°C) and 85% relative humidity 2-3 weeks. **DAYS TO MATURITY:** From transplanting; add about 10 days if direct-seeded. **AVG. DIRECT SEEDING RATE:** 1 oz./340', 1,000 seeds/500', 3 oz./1,000', 1¹/₃ lb./acre at 3 seeds every 18", in rows 6' apart. TRANSPLANTS: Avg. 550 plants/oz. SEED SPECS: SEEDS/LB.: Avg. 9,700.

PACKET: See individual varieties.





Diploid

Natsu Cocoa (F1) 4359 65 days. Flavorful early mini. Very uniform fruit with exceptional sweetness and dark green, tigerstriped rind. Stronger crack resistance than Little Baby Flower, which it replaced, as well as improved texture, and a longer harvest period. In our trial, fruits that ripened a month later were just as delicious as those that ripened first. The epitome of summer—natsu means "summer" in Japanese.

PKT (15 seeds) \$9.65; 50 Seeds \$19.35; 100 Seeds \$34.65; 250 Seeds \$65.60; 500 Seeds \$121.40; 1,000 Seeds \$228.60.

Dark Belle (F1) 3766 75 days.

Unique shape, size, and rind color. Oblong, 5-7 lb. fruits attract attention at market. Dark green skin, bright red flesh, thin rind, and very sweet flavor. An excellent mini companion to Mini Love or Sorbet. Widely adapted, with reliable performance in the northern US. Avg. 1–2 fruits/plant. PKT (15 seeds) \$7.20; 1/4 Oz. \$28.85; 1/2 Oz. \$45.80; Oz. \$83.50; 1/4 Lb. \$309.95;

Mini Love (F1) 3457 70 days.

Lb. \$1145.55.

Personal-sized, early, and delicious. Sweet and firm, oval-round fruits avg. 5-7 lb. Distinctive, bright green rind with dark green stripes and dense, bright red flesh. Very productive, with very few seeds and excellent field-holding ability. Avg. 2-4 fruits/plant. AAS winner. PKT (15 seeds) \$10.20: 50 Seeds \$20.50: 100 Seeds \$36.75; 250 Seeds \$69.50: 500 Seeds \$128.65; 1,000 Seeds \$242.30.

Starlight (F1) 2493

75 days.

EXCLUSIVE! Round "icebox" watermelon with sweet red flesh. 8"-diameter fruits avg. 10–12 lb. Deep green rind with highly contrasting black stripes. Starlight's flavor continues to come out on top in our trials. Fruits may grow larger with generous spacing. Avg. 1–2 fruits/plant.

PKT (30 seeds) \$8.25; 1/4 Oz. \$40.50; Oz. \$133.60; 1/4 Lb. \$374.15.

Sugar Baby 476

76 days.

The standard of small watermelons. Round fruits, 6-8" in diameter, averaging 8-10 lb. Ripe melons are almost black. Good flavor. Tough rinds resist cracking. The standard of "icebox" melons for many years. Avg. 1-2 fruits/plant. PKT (30 seeds) \$5.75; Oz. \$8.95; 1/4 Lb. \$22.50; Lb. \$54.90.

New Orchid (F1) 479

80 days.

Sweet, bright orange flesh. Beautiful appearance inside and out. New Orchid's outstanding, sherbet-like taste makes it a real people pleaser. The fruits are a medium-large "icebox" size, avg. 7–9 lb., and oval-round. The skin has dark green, high-contrast stripes. Avg. 1–2 fruits/plant.

PKT (15 seeds) \$7.20; 1/4 Oz. \$39.80; Oz. \$131.00; 1/4 Lb. \$366.90.

Bacterial Fruit Blotch and Cucumber Green Mottle Mosaic Virus

Bacterial Fruit Blotch (BFB) is a serious disease of watermelons. BFB can be introduced into a field by infected seeds, infected transplants, volunteer watermelon, mechanical means, or alternate hosts. All of Johnny's watermelon seed lots have tested negative for BFB by minimum 10,000 seed lab test.

Cucumber Green Mottle Mosaic Virus (CGMMV) is a pathogen host-specific to cucurbit species. CGMMV can be seed-borne. We only stock seed lots that have been tested free of CGMMV in a sample of 2,000 seeds.

NOTE: A disease-free test result does not guarantee a seed lot to be disease-free, only that in the sample tested, the pathogen was not found.



Crimson Sweet 2133

85 davs.

Classic large watermelon with excellent flavor and texture. Dark and light yellowgreen striped, 10" x 12" blocky-oval fruits weigh in at 15-25 lb. Crisp, sweet, pink flesh and vigorous vines. Avg. 1-2 fruits/plant. PKT (30 seeds) \$5.75; Oz. \$11.00; 1/4 Lb. \$22.30; Lb. \$55.40.

Sureness (F1) 3562

75 davs.

Superior yellow-flesh watermelon. An improvement over Sunshine, this sweet and crisp "icebox" melon is more widely adapted and performs better under adverse conditions. Mostly oval, with some rounds, avg. 8–10 lb. Avg. 1-2 fruits/plant.

PKT (15 seeds) \$7.20; 1/4 Oz. \$28.10; Oz. \$81.55; 1/4 Lb. \$302.65; Lb. \$1118.70.







Fruit Plant Collections

Strawberry Plant Collection 249 EXCLUSIVE! Extend your strawberry season. We selected these 3 strawberry varieties because they are easy to grow and provide a long harvest window. Collection includes 1 bunch (25 plants) each of Earliglow (early season), Jewel (midseason), and Sparkle (mid-to-late season). Varieties produce fruit in their second year and can be harvested through the June-bearing or summer-fruiting season. Grows best in Zones 3-8. \$59.30.

Blueberry Plant Collection 2503 Selected for a continuous harvest.

A collection of 3 popular highbush blueberry varieties that grow vigorously under diverse conditions. Collection includes 1 plant each of Patriot (early season), Northland (midseason), and Jersey (late season) to provide you with an extended harvest. Our blueberry plants are 18 months old and produce large, tasty berries in the second or third year after planting. Grows best in Zones 4-7. \$76.95.

Red Raspberry Collection 40 EXCLUSIVE! Harvest fresh raspberries all season. Our collection of early, mid, and late-season varieties includes 5 plants each of Prelude (early, summer-bearing), Encore (midto-late season, summer-bearing), and Polana (early, fall-bearing). Varieties begin fruiting in their second year and are typically harvested mid-June through early August. Grows best in Zones 3-8. \$74.90.

NOTE: Please check individual varieties within collections for specific hardiness zone information. Collection varieties are subject to change, depending on availability.







Rhubarb

Victoria

Excellent cooking quality in this early, abundant producer. Victoria is well-adapted to most regions and is widely grown commercially. The large, tender stalks are sweeter and milder than other rhubarb varieties. Grows best in Zones 4–8.

Harvest sparingly first year after planting. 3 Crowns \$30.70: 6 Crowns \$43.70: 25 Crowns \$139.25: 50 Crowns \$253.00. Seeds 2577

Harvest second year after planting. Avg. 31,700 seeds/lb. PKT (100 seeds) \$5.55; 500 Seeds \$7.45; 1,000 Seeds \$11.70; 5M @ \$10.40/M; 25M @ \$8.81/M.

Blackberry Plants

Prime Ark® Freedom 3287

Everbearing.

Improved blackberry. Prime Ark Freedom is thornless and has larger berries with improved flavor compared to other varieties. New canes form berries the first year. Suitable for Zone 5 but grows best in Zones 6-9. Bred by the University of Arkansas.

5 Plants \$64.50; 25 Plants \$189.25; 100 Plants \$603.00.

Strawberry Seeds

Elan (F1) 3893

100-120 days to fruit.

Most flavorful day-neutral variety. Elan has a vigorous habit and produces many runners. Suitable for field, greenhouse, and container production. Strawberries are medium-size, conical in shape, and have intensely sweet flavor. Grows best in Zones 5–8. The state of the state PKT (15 seeds) \$7.00; 50 Seeds \$21.85; 100 Seeds \$39.95; 250 Seeds \$95.25; 500 Seeds \$169.05; 1,000 Seeds \$322.35; 5M @ \$283.61/M.

Visit our Grower's Library for fruit growing information and planting programs to help extend your harvest season at Johnnyseeds.com/fruit-library







Raspberry Plants

Fruiting Type	Variety	Part #	Maturity	Fruit Color	Growing Zones	Description	5 Plants	25 Plants	100 Plants	150 Plants†
71	Encore	2745	Mid/Late	Red	4–7	Extended summer harvest.	\$41.10	\$93.00	_	\$457.60
C	Jewel	2600	Midseason	Black	5–8	Hardy black-fruited variety.	\$53.55	\$156.00	\$499.00	_
Summer	Nova	2982	Midseason	Red	3–8	Hardy plants with few thorns.	\$41.10	\$93.00	_	\$416.00
	Prelude	3285	Early	Red	4–8	Very early, summer-bearing raspberry.	\$41.10	\$93.00	_	\$457.60
	Anne	134	Mid/Late	Yellow	4–7	Best-tasting yellow-fruited variety.	\$41.10	\$93.00	\$277.00	_
Everbearing	Caroline	2980	Midseason	Red	4–7	High-yielding variety.	\$41.10	\$93.00	_	\$416.00
Everbearing	Double Gold	4254	Midseason	Blush	5–7	Beautiful, unique, and delicious.	\$42.65	\$104.00	_	\$598.00
	Polana	2979	Early	Red	3–8	Best for an early fall harvest.	\$41.10	\$93.00	_	\$457.60

[†] To qualify for volume discounts, plants selected must be of the same variety.







Strawberry Plants

Fruiting							Growing		
Type [†]	Variety	Part #	Maturity	Best Use	Flavor	Fruit Size	Zones	Description	Pricing ^{††}
Day-Neutral	Albion	3289 📤	Early to Late	Field	Good	Very Large	4–7	Very large-fruited, productive day-neutral.	
Day-Neutrai	Seascape	246	Early to Late	Field/Container	Excellent	Large	4–7	Productive day-neutral.	
	AC Valley Sunset	3284	Late	Field	Good	Large	4–7	Vigorous variety for an extended harvest.	25 Plants \$37.00:
	Earliglow	2432	Early	Field	Excellent	Medium	4-8	The standard for early harvest.	100 Plants \$59.00;
Summer	Galletta	3288	Early	Field	Excellent	Large	4–7	Large berries and excellent flavor.	500 Plants \$185.00;
Summer	Honeoye	2502	Early to Late	Field	Good	Large	3-8	Highly productive.	1,000 Plants \$300.00*.
	Jewel	2407	Midseason	Field	Excellent	Large	4-8	Popular and vigorous.	
	Sparkle	2500	Mid/Late	Field	Excellent	Medium	3–8	Known for great flavor.	

[†] Day-neutral, or "everbearing" strawberry varieties produce fruit mid summer through fall. Summer-fruiting, or "June-bearing" varieties produce one harvest, typically in June.

FRUIT PLANTS & CROWNS SHIPPING INFORMATION

Fruit plants ship in the spring. You may select the ship week designated for your hardiness zone or choose your desired ship week; however, choosing a ship date earlier than recommended may cause product to freeze in transit. Shipments may be delayed due to inclement weather. Please provide a physical address for shipment (no P.O. Boxes). Fruit plants cannot be shipped out of the U.S. or to U.S. territories. Rhubarb crowns cannot be shipped to HI. AK and HI customers: Additional shipping charges apply; please call or visit us online for charges.

 $^{^{\}dagger\,\dagger}$ To qualify for volume discounts, plants selected must be of the same variety.

^{*}Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.







Cover Crop Mixes

Peas and Oats Mix (A) 3685G **Easy-to-manage cover crop.** Mix contains 70% peas, 30% oats. Sow in early spring for a spring/summer cover crop. For a winter cover, sow in late summer or early fall. Winterkills for easy incorporation in spring without the need for specialized equipment. An easy choice for home gardeners. Avg. 5,200 seeds/lb. CG Lb. \$8.00; 5 Lbs. \$22.35; 25 Lbs. \$57.75*; 50 Lbs. \$105.00*.

Spring Green Manure Mix (A) 976G EXCLUSIVE! Enrich the soil with both nitrogen and organic matter. Mix contains field peas, oats, and hairy vetch. For green manure, incorporate into the soil anytime. Good for weed suppression. Avg. 14,000 seeds/lb. CG Lb. \$10.70; 5 Lbs. \$29.65; 25 Lbs. \$83.50*; 50 Lbs. \$150.00*.

Fall Green Manure Mix (A) 2613 EXCLUSIVE! Versatile choice for latesummer and fall planting. This fast-growing green manure mix is comprised of winter rye, field peas, ryegrass, crimson clover, and hairy vetch. Vigorous late-summer growth provides winter erosion control. Avg. 40,000 seeds/lb. ** 1/4 Lb. \$6.75; Lb. \$10.10; 5 Lbs. \$28.00; 25 Lbs. \$78.50*; 50 Lbs. \$140.00*.







Green Manures

Ryegrass (A) 988

Lolium multiflorum

For quick cover. Sow from early spring through fall. As winter cover, ryegrass will winterkill but still help protect the soil. Sow, then rake to lightly cover. Avg. 153,700 seeds/lb. 1/4 Lb. \$5.20; Lb. \$7.75; 5 Lbs. \$19.60; 25 Lbs. \$56.25*; 50 Lbs. \$95.50*.

Oilseed Radish (A) 2906

Raphanus sativus

Alleviate compaction. The extra-long taproot breaks up and aerates the soil in addition to drawing up nutrients. When turned under just before flowering, its decomposition helps to control soilborne pests, especially cyst and sting nematodes. Avg. 31,350 seeds/lb. Lb. \$10.95; 5 Lbs. \$40.50; 25 Lbs. \$125.50*; 50 Lbs. \$229.00*.

Mustard (A)

Fast-growing weed and pest control.

Produces 4–5 tons of organic matter per acre. Contains glucosinolates, which suppress fungi and nematodes. For use as a soil biofumigant, mow at flowering stage before seed set and incorporate immediately. 漸

Yellow Mustard 3522 Guillenia flavescens Avg. 66,200 seeds/lb.

Lb. \$8.20; 5 Lbs. \$23.25; 25 Lbs. \$83.75*; 50 Lbs. \$156.50*.

Mighty Mustard® Pacific Gold 2821

Plant Variety Protected. Avg. 182,800 seeds/lb. Lb. \$11.70; 5 Lbs. \$43.45; 25 Lbs. \$130.50*; 50 Lbs. \$244.50*.

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for *all* items and shipping locations. See page 133 for more details.

Legumes

New Zealand White Clover (P) 979

Trifolium repens

An improved pasture white clover. More heat tolerant than other clovers, this is a lowgrowing (to 12") perennial that can be sown into long-season row crops during the season to provide a "living mulch." Also used for green manure and pasture. Can produce up to 130 lb. nitrogen per acre. For best performance, inoculate with Alfalfa/True Clover Inoculant. See page 132. Avg. 664,300 seeds/lb. ** 1/4 Lb. \$7.05; Lb. \$13.25; 5 Lbs. \$53.00; 25 Lbs. \$208.50*; 50 Lbs. \$355.50*.

Crimson Clover (A)

Trifolium incarnatum

An upright winter annual legume. Grows to 1-3' and sports striking crimson blossoms in abundance. Where winter lows fall above -10°F (-23.3°C), it is sown in late summer, lies dormant in winter, resumes growth in spring, and flowers in May. For best performance, inoculate with Alfalfa/True Clover Inoculant. See page 132. **

982G Organic Avg. 85,300 seeds/lb. 1/4 Lb. \$7.40; Lb. \$18.05; 5 Lbs. \$72.75; 25 Lbs. \$260.50*; 50 Lbs. \$454.50*. 982 Conventional Avg. 84.300 seeds/lb. 1/4 Lb. \$6.25; Lb. \$11.20; 5 Lbs. \$41.35; 25 Lbs. \$128.75*; 50 Lbs. \$231.50*.

Mammoth Red Clover (B) 980G

Trifolium pratense

The best clover for poor soils. A tall (2-3'), quick-growing clover. Exceptionally cold tolerant. Will fix between 70-110 lb. of nitrogen per acre. The long taproots loosen soils and mine phosphorus and other nutrients from deep in the soil. Avg. 247,660 seeds/lb. 0G必煮 1/4 Lb. \$7.40; Lb. \$14.00; 5 Lbs. \$55.75; 25 Lbs. \$237.75*; 50 Lbs. \$421.00*.

Medium Red Clover (B) 3192G

Trifolium pratense

Low-growing multicut clover. Fast to establish, tolerates most soil types, and is suitable for hay or silage. Often used as a cover crop between rows of vegetable crops if mowed to maintain manageability. Can fix up to 150 lb. of nitrogen per acre. Avg. 239,200 seeds/lb. OG** 1/4 Lb. \$8.90; Lb. \$15.40; 5 Lbs. \$60.50; 25 Lbs. \$191.25*; 50 Lbs. \$357.50*.

Sweet Clover (B) 977G

Melilotus officinalis

A tremendous green manure and honey plant. Grow as an annual, or let grow the next year over 6' tall. Deep roots break up compacted soils. Fixes as much nitrogen as alfalfa and requires nonacid soil. Mostly yellow with some white flowers. Avg. 197,800 seeds/lb. CG** 1/4 Lb. \$7.70; Lb. \$13.50; 5 Lbs. \$50.15; 25 Lbs. \$156.25*; 50 Lbs. \$281.50*.

Hairy Vetch (A) 987G

Vicia villosa

Short-term green manure for nitrogen fixation. Sow spring to late summer with or without grain, grass, or field peas. When sown in late summer, spring regrowth is vigorous and nitrogen-producing. Selected hardy strain is widely adapted and withstands all but severe winters if sown in late summer or fall. Will perform poorly in clay or wet fields but will do well in soils too acidic for many clovers and alfalfas. For best performance, inoculate with Garden Combination Inoculant or Pea, Vetch. and Lentil Inoculant. See page 132.

Avg. 14,200 seeds/lb. **G**紫 1/4 Lb. \$6.80; Lb. \$13.50; 5 Lbs. \$51.60; 25 Lbs. \$132.50*; 50 Lbs. \$249.00*.

Summer Alfalfa (P) 2808

Medicago sativa

Fast-growing alfalfa with high forage and **biomass yield.** Summer alfalfa is a non-dormant type which grows fast and produces both forage and large amounts of nitrogen for subsequent crops. Long taproots break up compacted soil and bring up subsurface minerals. Great bee forage. Avg. 216,000 seeds/lb. ** 1/4 Lb. \$10.80: Lb. \$24.25: 5 Lbs. \$107.70: 25 Lbs. \$274.50*; 50 Lbs. \$462.50*.

Field Peas (A)

Pisum sativum

Grow alone or in mixes as a short-term green manure. In spring or fall, sow alone or mixed with vetch and/or oats, winter rye, or ryegrass. 3–4' tall peas smother weeds better than spring-sown clover. Pea tendrils add a flair of color to your salad mixes, and dried yellow peas can be used in soups. For best performance, inoculate with Garden Combination Inoculant or Pea, Vetch, and Lentil Inoculant. See page 132.

DS Admiral Pea 238G Organic CG Avg. 2,000 seeds/lb.

Lb. \$8.00; 5 Lbs. \$22.35; 25 Lbs. \$57.75*; 50 Lbs. \$105.00*.

4010 Field Pea 92G Organic CG

Avg. 3,100 seeds/lb.

1/4 Lb. \$4.95; Lb. \$9.25; 5 Lbs. \$29.65; 25 Lbs. \$101.75*; 50 Lbs. \$131.00*.

Maxum 2340 Conventional

Ava. 2.600 seeds/lb.

1/4 Lb. \$5.55; Lb. \$7.85; 5 Lbs. \$21.85; 25 Lbs. \$56.50*; 50 Lbs. \$102.50*.

LIFE CYCLE CODES

(in parentheses after the part name) (A) Annual

- (B) Biennial
- (P) Perennial









Crop Type	Sowing Season	Minimum Germ. Temp.	Hardiness Zone	Growth Rate	Sow Per 1,000 sq.ft.	Sow Per Acre	Seeding Depth	Nitrogen Fixation	Bees/Beneficial Insects	Compaction Control	Erosion Control	Weed Suppression	Green Manure	Forage	Biomass (Organic Matter
Alfalfa, Summer	Early Spring to Late Summer	45°F (7°C)	5	Fast	¹ / ₂ Lb.	15–25 Lb.	1/4-1/2"	•	•	•		•		•	•
Barley	Early Spring to Late Summer	38°F (3°C)	7	Fast	2 Lb.	80–125 Lb.	3/4-2"					•	•		•
Buckwheat	Spring to Summer	50°F (10°C)	NFT	Fast	2-3 Lb.	50-90 Lb.	¹ /2-1 ¹ /2"		•			•	•		
Clover, Crimson	Anytime	45°F (7°C)	7	Medium	² /3 Lb.	22-30 Lb.	1/4-1/2"	•	•		•	•	•	•	
Clover, Mammoth Red	Anytime	41°F (5°C)	4	Fast	¹ / ₂ Lb.	5–15 Lb.	1/4-1/2"	•	•	•	•	•	•	•	
Clover, Medium Red	Anytime	41°F (5°C)	4	Medium	¹ / ₂ Lb.	5–15 Lb.	1/4-1/2"	•	•	•	•	•	•	•	
Clover, New Zealand White	Spring to Summer	40°F (4°C)	4	Slow	¹ /4 Lb.	5–15 Lb.	1/4-1/2"	•	2Y		•	•	•	•	
Clover, Sweet	Spring to Summer	42°F (6°C)	4	Medium	¹ / ₂ Lb.	10-20 Lb.	¹ /4-1"	•	2Y	•	•	•	•	•	•
Manure Mix, Fall Green	Summer to Fall	45°F (7°C)	Various	Medium	1 ¹ /2 Lb.	50 Lb.	¹ /2-1 ¹ /2"	•	•			•	•		•
Manure Mix, Spring Green	Spring to Summer	38°F (3°C)	Various	Medium	5 Lb.	200 Lb.	¹ /2-1 ¹ /2"	•				•	•		•
Mustard	Spring to Summer	40°F (4°C)	7	Fast	1 Lb.	15–20 Lb.	1/4-3/4"		•		•	•	•	•	•
Oats, Common	Spring to Summer	38°F (3°C)	8	Medium	4 Lb.	110-140 Lb.	¹ /2-1 ¹ /2"				•	•	•		•
Oats, Hulless	Spring	38°F (3°C)	8	Medium	4 Lb.	110–140 Lb.	¹ /2-1 ¹ /2"				•	•	•		•
Peas and Oats Mix	Spring or Fall	41°F (5°C)	8	Medium	5 Lb.	120–200 Lb.	11/2-2"	•			•	•	•		•
Peas, Field	Spring or Fall	41°F (5°C)	7	Fast	3 Lb.	120 Lb.	1 ¹ /2-3"	•				•	•		•
Radish, Oilseed	Late Summer	45°F (7°C)	6	Fast	1 Lb.	10-20 Lb.	1/4-1/2"			•	•	•			
Rye, Winter	Anytime (Fall for Grain)	34°F (1°C)	3	Medium	4 Lb.	60-120 Lb.	3/4-2"				•	•	•		•
Ryegrass	Anytime	40°F (4°C)	6	Fast	1 Lb.	40 Lb.	0-1/2"				•	•	•		•
Sunflower	Spring	70°F (21°C)	NFT	Medium	1,500 seeds	20,000 seeds	¹ /2-1"		•						•
Vetch, Hairy	Anytime	60°F (16°C)	4	Slow	1 Lb.	25-40 Lb.	1/2-11/2"	•	2Y		•		•		
Wheat, Spring	Early Spring	38°F (3°C)	7	Fast	4 Lb.	60-150 Lb.	¹ /2-1 ¹ /2"				•	•			

NFT = Not Frost Tolerant. 2Y = 2nd Year.

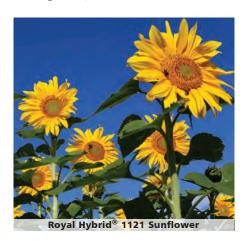
Grains

Royal Hybrid[®] 1121 Sunflower (F1) (A) 2603

Helianthus annuus

Gray-striped edible seeds. High-yielding, early sunflower produces delicious seeds for snacking and bird food. Single stem/bloom plants are 7′ in height with a flower diameter of 8″. Space plants 8–12″ apart in rows 18–36″ apart. 68–71 days to flower. 100–110 days for seed. The estimated yield under average growing conditions is 1,800 lb./acre. Avg. 2,600 seeds/lb. ★

PKT (250 seeds) \$5.75; 1,000 Seeds \$9.20; 5M @ \$6.40/M; 25M @ \$5.30/M*; 100M @ \$4.52/M*.



Barley (Quest) (A) 4170G

Hordeum vulgare

Six-row barley with improved disease resistance. Avg. 13,000 seeds/lb. **G**

Lb. \$8.25; 5 Lbs. \$16.25; 25 Lbs. \$28.50*; 50 Lbs. \$53.50*.

Spring Wheat (Bolles) (A) 4169G

Triticum aestivum

Outstanding baking quality. Plant Variety Protected. Avg. 14,000 seeds/lb.
Lb. \$8.20; 5 Lbs. \$23.35; 25 Lbs. \$65.25*; 50 Lbs. \$110.00*.

Winter Rye (Common) (A) 968G

Secale cereale

Hardiest winter cover crop to prevent soil erosion and add organic matter. Avg. 17,200 seeds/lb. **GG**

Lb. \$7.60; 5 Lbs. \$16.65; 25 Lbs. \$30.50*; 50 Lbs. \$55.00*.

Hulless Oats (Streaker) (A) 967G

Avena nuda

No hulls to remove. Avg. 16,450 seeds/lb. **C** Lb. \$9.60; 5 Lbs. \$26.75; 25 Lbs. \$75.00*; 50 Lbs. \$134.00*.

Oats (Common) (A) 2509G

Avena sativa

Standard choice with multiple uses. Avg. 14,660 seeds/lb. CG

Lb. \$7.90; 5 Lbs. \$18.35; 25 Lbs. \$46.75*; 48 Lbs. \$76.80*.

Buckwheat (Common) (A)

Fagopyrum esculentum

Fast summer green manure. **

966G Organic Avg. 14,800 seeds/lb. Lb. \$7.90; 5 Lbs. \$23.05; 25 Lbs. \$59.75*; 50 Lbs. \$109.00*.

966 Conventional Avg. 15,600 seeds/lb. Lb. \$7.00; 5 Lbs. \$18.20; 25 Lbs. \$51.75*; 50 Lbs. \$88.00*.

INOCULANTS encourage the formation of nitrogen-fixing nodules on plant roots for richer soil, bigger plants, and better yields. Cannot ship to Canada or outside the U.S. OMRI Listed[®].

EXCEED Garden Combination Inoculant 7531

For beans, peas, and peanuts. Treats 8 lb. of seed. \$6.75.

EXCEED Soybean Inoculant 7533 For soybeans. Treats 300 lb. of seed. \$6.75.

EXCEED Pea, Vetch, and Lentil Inoculant 7534

For peas, sweet peas, vetch, and lentils. Treats 100 lb. of seed. **\$6.75**.

EXCEED Alfalfa/True Clover Inoculant 7535

Treats 50 lb. of seed. \$6.75.

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Prices and delivery charges are subject to change without notice.

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\$30.01-\$50.00	\$11.50	\$17.00
\$50.01-\$100.00	\$15.00	\$20.00
\$100.01-\$150.00	\$17.50	\$22.50
\$150.01-\$200.00	\$22.50	\$28.50
\$200.01-\$400.00	FREE	\$40.00
\$400.01-\$600.00	FREE	\$51.00
\$600.01-\$800.00	FREE	\$63.00
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BASIL

Downy Mildew Resistant

NEW Lihi Prospera® Active DMR (A) 5468G

74 days. HR: DM. IR: F. O. basilicum

EXCLUSIVE! Highly resistant to downy mildew. Compact Genovese basil with dense, slow-bolting plants produce large, 3–4", dark green, glossy, heavily cupped leaves. Uniform plants with short spaces between leaves produce high yields. Excellent for live-plant, container, and hydroponic production, as well as gardens. Well-suited for leaf and tip harvest. Patent pending; PCT/IL2023/050064. Ht. 16–18". Avg. 18,700 seeds/oz.

PKT \$5.90; 1/2 Oz. \$16.90; Oz. \$32.00; 1/4 Lb. \$93.00; Lb. \$315.00; 5 Lbs. @ \$290.00/Lb.; 25 Lbs. @ \$270.00/Lb.; 50 Lbs. @ \$210.00/Lb.

NEW Noga Prospera® Active DMR (A) 5467G

68 days. HR: DM. IR: F. O. basilicum

PKT \$5.90; 1/2 Oz. \$16.90; Oz. \$32.00; 1/4 Lb. \$93.00; Lb. \$315.00; 5 Lbs. @ \$290.00/Lb.; 25 Lbs. @ \$270.00/Lb.; 50 Lbs. @ \$210.00/Lb.

Prospera® Compact DMR (PL4) (F1) (A) 4168G

74 days. IR: DM, F. O. basilicum

Prospera® DMR (CG1) (F1) (A) 3597G

68 days. IR: DM, F. O. basilicum

Fast-growing, classic Genovese. 3" long, medium green, cupped leaves. Uniform plants have long stems. Suitable for field, greenhouse, and container production. Very similar to Aroma 2 but with intermediate downy mildew resistance. Ht. 20–24". Avg. 19,800 seeds/oz. Of FKT \$5.90; 1/2 Oz. \$14.00; Oz. \$25.00; 1/4 Lb. \$74.00; Lb. \$250.00; 5 Lbs. @ \$230.00/Lb.; 25 Lbs. @ \$215.00/Lb.





Downy Mildew-Resistant Basil Comparison Chart

		Downy Mildew				
Variety	Part #	Resistance	Туре	Plant Type	Leaf Size	Leaf Color
NEW Lihi Prospera® Active DMR	5468G CG	High	Genovese	Compact	Large	Dark Green
NEW Noga Prospera® Active DMR	5467G CG	High	Genovese	Tall	Large	Dark Green
Prospera® Compact DMR (PL4)	4168G CG	Intermediate	Genovese	Compact	Very Large	Dark Green
Prospera® DMR (CG1)	3597G CG	Intermediate	Genovese	Tall	Medium	Medium Green
Prospera® Italian Large Leaf DMR (ILL2)	4589G CG	Intermediate	Italian Large Leaf	Tall	Very Large	Medium Green
Prospera® Red DMR	4650G CG	Intermediate	Red Genovese	Tall	Medium	Dark Red







Prospera® Italian Large Leaf DMR (ILL2) (F1) (A) 4589G

74 days. IR: DM, F. O. basilicum

Fast-growing with large leaves. Plants produce high yields of 4" long leaves. Highly uniform plants have a sweet aroma with notes of anise. Suitable for field and greenhouse production. Very similar to Nufar but with intermediate downy mildew resistance. Ht. 24–30". Avg. 20,400 seeds/oz. **CGA*** MINI (100 seeds) \$3.95; PKT \$5.90; 1/2 Oz. \$15.50; Oz. \$28.00; 1/4 Lb. \$81.00; Lb. \$274.00; 5 Lbs. @ \$253.00/Lb.; 25 Lbs. @ \$236.00/Lb.; 50 Lbs. @ \$185.00/Lb.

Prospera® Red DMR (F1) (A) 4650G

74 days. IR: DM, F. O. basilicum

First purple basil with resistance to downy mildew and Fusarium. Genovese aroma and leaf shape. 3" long, gently cupped, dark purple leaves. Upright plant habit, very similar to that of Amethyst Improved. Suitable for field, greenhouse, and container production. Ht. 18–24". Avg. 19,900 seeds/oz. **CG**▲¥≫♦ PKT \$5.90; 1/2 Oz. \$15.50; Oz. \$28.00; 1/4 Lb. \$81.00; Lb. \$274.00; 5 Lbs. @ \$253.00/Lb.; 25 Lbs. @ \$236.00/Lb.; 50 Lbs. @ \$185.00/Lb.



Genovese

Aroma 2 (A) 2946G 68 days. IR: F. O. basilicum Fusarium-resistant Genovese type. A good choice for greenhouse or field production. Classic basil appearance with glossy, dark green, 3" long leaves, long stems, and traditional aroma. Ht. 20–24". Avg. 19,500 seeds/oz. **CG**♠¥♦ PKT \$5.75; 1/2 Oz. \$10.50; Oz. \$16.50; 1/4 Lb. \$48.50; Lb. \$153.00; 5 Lbs. @ \$145.00/Lb.; 10 Lbs. @ \$140.00/Lb.; 25 Lbs. @ \$130.00/Lb.

Genovese (A) 68 days. O. basilicum Classic Italian variety. Standard strain of Genovese. Authentic flavor and appearance. Tall plants with large, dark green leaves about 3" long. Ht. 24-30". **911G Organic OG** Avg. 17,900 seeds/oz. PKT \$4.75; Oz. \$11.50; 1/4 Lb. \$24.00; Lb. \$64.00; 10 Lbs. @ \$61.50/Lb. 911 Conventional Avg. 19,300 seeds/oz. PKT \$4.75; Oz. \$7.85; 1/4 Lb. \$10.40; Lb. \$28.60; 5 Lbs. @ \$25.00/Lb.;

10 Lbs. @ \$23.75/Lb.; 25 Lbs. @ \$19.90/Lb.

Basil Resistance Codes

HR = High Resistance IR = Intermediate Resistance

DM Downy Mildew

Fusarium Wilt

All basil seed lots are lab tested to confirm the absence of seedborne Fusarium



Compact Genovese

Everleaf (A) 3334 74 days. IR: F. O. basilicum Productive, compact, and slow-bolting. 2–3" long glossy, cupped leaves with Genovese aroma. Best for live-plant or pot production and leaf/tip harvest. Compact plants produce high yields of leaves. Harvesting for bunches is not recommended as dense plants and short internodes make bunching difficult. Slower to flower than other varieties by up to 8 weeks. 5-10% of plants flower earlier. Ht. 16-24". Avg. 19,700 seeds/oz. ▲¥♦

PKT (50 seeds) \$5.45; 100 Seeds \$7.75; 500 Seeds \$19.95; 1,000 Seeds \$34.15; 5M @ \$29.50/M; 25M @ \$23.20/M; 100M @ \$22.10/M; 500M @ \$21.00/M; 1,000M @ \$20.50/M.

Genovese Compact, Improved (A)

2922 74 days. O. basilicum

Standard Genovese type for containers. Similar flavor, appearance, and leaf size as

Genovese with more compact and uniform plants. Ht. 16-18". Avg. 16,800 seeds/oz.

AY

PKT \$5.90; 5M @ \$2.90/M; 25M @ \$2.16/M; 100M @ \$1.61/M; 500M @ \$1.40/M; 1,000M @ \$1.11/M.



Genovese Compact, Improved

Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones	
Basil Ocimum spp.	5-10 days	Spring through Summer	Direct or Transplant	Sun	Varies	4-8"	Annual	







Pelleted Basil Seed

Save time and labor with pelleted basil seeds. Made of inert NOP-compliant materials, pellets increase sowing precision. Our basil pellets are size 13.0, and can be planted with Stanhay seeders (belt size 13.0) or any of the precision seeders offered by Johnny's (see page 186). For best results, we recommend consistent soil moisture during the germination period. Pelleted seed must be kept cool and dry prior to planting, and should be used within one year of purchase.

Organic Seed/NOP-Compliant Pellet

Variety	Part #	
Genovese	911GP	Œ
Nufar	2178GP	Œ
Prospera® Compact DMR (PL4)	4168GP	Œ
Prospera® DMR (CG1)	3597GP	Œ

PKT \$5.90; 1,000 Seeds \$7.35; 5M @ \$5.28/M; 25M @ \$4.10/M; 100M @ \$3.30/M; 500M @ \$3.05/M.

Genovese Compact, Improved Multi-Seed Pellet (A) 3188P 74 days. O. basilicum

EXCLUSIVE! For precise and convenient sowing. Ideal for retail container or hydroponic production. Simply sow one pellet per 2¹/₂" container or growing media cube. Pellets contain 5-6 seeds each and are approximately size 8.0-10.0 (3.5-4.0 mm diameter). Conventional pellets; pelleting is not NOP-compliant. Ht. 16-18". Avg. 2,000 seeds/oz. A Y 6

PKT (100 seeds) \$5.90; 250 Seeds \$12.25; 500 Seeds \$22.05; 1,000 Seeds \$39.95; 5M @ \$34.32/M; 25M @ \$30.10/M; 100M @ \$27.23/M; 500M @ \$26.35/M; 1,000M @ \$25.71/M.

HERB SEEDS/PACKET

All packet sizes for herbs average 200 seeds/PKT unless otherwise noted in the packet pricing.

Italian Large Leaf

Nufar (A) 2178G 74 days. IR: F. O. basilicum Fusarium-resistant Italian Large Leaf type. For field or greenhouse growing. Leaves up to 4" long. Sweet scent and flavor with notes of anise. Ht. 24-30". Avg. 18,400 seeds/oz.

PKT \$5.75; 1/2 Oz. \$10.50; Oz. \$16.50; 1/4 Lb. \$48.50; Lb. \$153.00; 5 Lbs. @ \$145.00/Lb.

Newton (A) 3452 74 days. IR: F. O. basilicum Fusarium-resistant Italian large-leaf with improved flavor. Consistently produces a classic basil flavor without the strong notes of anise typically found in basil of this type. Uniform plants. Very similar to Nufar in plant/ leaf type and appearance, but slightly later to flower. Leaves up to 4" long. Ht. 24-30". Avg. 17,400 seeds/oz.

PKT \$4.75; 1,000 Seeds \$6.90; 5M @ \$2.43/M; 25M @ \$1.75/M; 100M @ \$1.32/M; 1,000M @ \$0.93/M.

Lettuce Leaf

Tuscany (A) 3719 75 days. O. basilicum Attractive and uniform lettuce-leaf type. Very large, 3-5" long, ruffled and puckered, bright green leaves. Mild basil flavor with hints of anise. Upright habit. Has shown better-thanaverage downy mildew tolerance in our field trials. Ht. 12-16". Avg. 16,300 seeds/oz. * PKT \$5.45; Oz. \$11.50; 1/4 Lb. \$24.00; Lb. \$64.00; 5 Lbs. @ \$64.00/Lb.; 25 Lbs. @ \$60.60/Lb.



Purple

Prospera® Red DMR (F1) (A) 4650G

74 days. IR: DM, F. O. basilicum

First purple basil with resistance to downy mildew and Fusarium. See page 135 for description and pricing.

A. Dark Opal (A) 902 70 days. O. basilicum **Fast-growing red basil.** Slightly ruffled plants are mostly purple, with 10% variegated or all green for a great color combo. Leaves avg. $1^{1}/2-3$ " at full size. AAS winner. Ht. 16–18". Avg. 21,800 seeds/oz. >< PKT \$4.75; Oz. \$9.35; 1/4 Lb. \$19.30; Lb. \$56.90; 5 Lbs. @ \$53.60/Lb.; 25 Lbs. @ \$49.90/Lb.

B. Amethyst Improved (A) 228

74 days. O. basilicum

Genovese-type purple basil. Large 2-3" long, turned-down leaves. This stunning basil is nearly black in color. Ht. 16-20". Avg. 15,200 seeds/oz. *><

PKT \$5.90; 1/4 Oz. \$14.85; Oz. \$48.50; 1/4 Lb. \$135.00; Lb. \$475.00.

C. Red Rubin (A) 72 days. O. basilicum Dark purple Italian Large Leaf type. High yields and great flavor. Flat, 3" long leaves stand out horizontally and are a copper-tinged purple color. Ht. 18–24". ¥><6₺ **924G Organic OG** Avg. 20,500 seeds/oz. PKT \$5.75; 1/2 Oz. \$10.50; Oz. \$16.50; 1/4 Lb. \$42.00; Lb. \$142.50; 5 Lbs. @ \$130.00/Lb. 924 Conventional Avg. 18,300 seeds/oz. PKT \$5.45; Oz. \$14.50; 1/4 Lb. \$30.90; Lb. \$90.25; 10 Lbs. @ \$83.06/Lb.







Asian

Sweet Thai (A) 64 days. O. basilicum Authentic Thai basil flavor. Try it as a flavorful garnish for sweet dishes. Green, 2" long leaves have a spicy anise/clove flavor. Attractive purple stems and blooms. Ht. 16–20". ¥≫**◊**Ø **945G Organic OG** Avg. 29,100 seeds/oz. PKT \$5.75; 1/4 Oz. \$8.65; Oz. \$22.70; 1/4 Lb. \$55.70; Lb. \$185.50. 945 Conventional Avg. 29,500 seeds/oz. PKT \$5.45; 1/2 Oz. \$8.25; Oz. \$14.50; 1/4 Lb. \$31.50; Lb. \$102.50; 5 Lbs. @ \$93.50/Lb.

Everleaf Thai Towers (A) 4308

65 days. O. basilicum

Exceptional Thai basil. Very slow-bolting, incredibly productive plant with vibrant Thai flavor. Purple stems are densely packed with dark green leaves with a purple blush. Tall, upright, tower-like plants are excellent for bunching from field or garden plantings and for growing in pots. Flowers/bolts 10–12 weeks later than standard Thai basil. Ht. 20-24". Avg. 46,700 seeds/oz. PKT (50 seeds) \$5.45; 250 Seeds \$12.25; 1,000 Seeds \$34.15; 5M @ \$29.50/M; 25M @ \$23.20/M; 100M @ \$22.10/M.

Cinnamon (A) 906 65 days. O. basilicum Sweet cinnamon aroma. Tall, fast-growing plants have distinctive violet stems, veining, and flower bracts with lavender blooms and 2" long leaves. Beautiful in casual flower bouquets. Ht. 26–30". Avg. 16,100 seeds/oz. PKT \$4.75; Oz. \$7.85; 1/4 Lb. \$16.40; Lb. \$46.70.

Cardinal (A) 3732G 80 days. O. basilicum Thai basil with larger leaves. Edible ornamental with showy flowers. Very uniform, upright habit. Flat, 2-3" long leaves. Cinnamon/ clove flavor with hints of anise. Slow to bolt. Ht. 14–20". Avg. 14,300 seeds/oz. CG *> & PKT \$5.90; 1,000 Seeds \$12.55; 5M @ \$10.90/M; 25M @ \$9.22/M.

Fine Leaf

Spicy Bush (A) 907 50-55 days. O. minimum Mid-size, dome-shaped plants with tiny leaves. Spicy/sweet basil flavor packed into 1" long leaves. Plants can be grown in pots or garden beds. Ht. 8-14". Avg. 22,800 seeds/ oz. 🕶

PKT \$5.75; 1/4 Oz. \$8.65; 1/2 Oz. \$10.50; Oz. \$15.00; 1/4 Lb. \$42.00; Lb. \$140.35.

Citrus

Mrs. Burns' Lemon (A) 774

60 days. O. basilicum var. citriodora

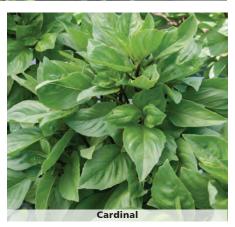
Sweet and tangy lemon basil. Very bright green, 2¹/₂" long leaves with white blooms make this basil both attractive and intensely flavorful. Ht. 20-24". Avg. 16,300 seeds/oz. **#**><6//>

PKT \$4.75; Oz. \$7.75; 1/4 Lb. \$16.40; Lb. \$46.70.

STORAGE TIP

Store above 50°F (10°C) after harvest. If exposed to temperatures lower than 50°F (10°C), basil can suffer from cold damage. Use a separate cooler space for cut basil, where you can control the temperature, or store in a cool, dark place.





















Anise Hyssop

Anise Hyssop (TP) 75-80 days.

Popular bedding plant and edible flower. Very aromatic with a sweet, licorice-mint flavor. Leaves and flowers can be used fresh or dried for salads, teas, and garnishes. Attracts bees. **

933 Organic Avg. 86,500 seeds/oz.

PKT \$6.15; 1/4 Oz. \$28.45; Oz. \$89.20; 1/4 Lb. \$215.75; Lb. \$647.30. 3123 Conventional Avg. 87,600 seeds/oz.

PKT \$5.75; 1/4 Oz. \$11.45; Oz. \$21.90; 1/4 Lb. \$56.20; Lb. \$191.15.

Bee Balm

Wild Bergamot (P) 827 365 days.

Bright lavender blooms with a spicy scent. Traditionally used by Indigenous Americans to soothe bronchial complaints and ease colds. Plants produce flowers in the second year after planting. Edible petals are minty, and can be used in salads or as a garnish. Avg. 87,200 seeds/oz. PKT \$5.75; 1/8 Oz. \$13.15; 1/4 Oz. \$21.75; 1/2 Oz. \$36.15; Oz. \$63.80; 1/4 Lb. \$172.40; Lb. \$660.00.

Borage

Borage (A) 50-60 days.

Edible flower with mild cucumber flavor. Large plants bear hundreds of small edible flowers, mostly blue and some pink. Use for salads and garnishes. Long harvest period. 必紊

912G Organic G Avg. 1,450 seeds/oz.

PKT \$6.15; Oz. \$9.60; 1/4 Lb. \$20.45; Lb. \$63.95.

912 Conventional Avg. 1,400 seeds/oz.

PKT \$5.45: Oz. \$8.25: 1/4 Lb. \$15.10: Lb. \$44.80.

Catnip

Catnip (P) 916 75-85 days.

Vigorous, high-yielding plants. Cat-attracting perennial with gray-green leaves and white flowers. Markets for catnip include cat toy crafters, herbal tea companies, and retail plant sales. Avg. 45,450 seeds/oz.

PKT \$5.75; 1/2 Oz. \$11.20; Oz. \$20.20; 1/4 Lb. \$48.15; 1/2 Lb. \$91.25; Lb. \$168.95.

Chamomile

Common Chamomile (A) 914 60-65 days.

Standard variety. Good yields of small, daisy-like flowers. Tea made from the sweet-smelling flowers aids digestion and acts as a gentle sleep inducer. Avg. 314,950 seeds/oz. > PKT \$5.75; 1/2 Oz. \$13.45; Oz. \$19.50; 1/4 Lb. \$42.05; 1/2 Lb. \$67.40; Lb. \$120.70.

Roman (P) 881 60-65 days.

Aromatic, perennial ground cover. Low-growing plant with creeping rhizomes tolerates light foot traffic. Similar uses for teas and medicine as annual chamomile varieties, but produces fewer blossoms. Avg. 189,000 seeds/oz. PKT \$5.45; 1/16 Oz. \$7.10; 1/8 Oz. \$11.90; 1/4 Oz. \$18.90; Oz. \$59.85; 1/4 Lb. \$172.10.

Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Anise Hyssop <i>Agastache foeniculum</i>	7-16 days	Spring	Transplant	Sun	24-36"	6-12"	Zones 5-9
Bee Balm Monarda fistulosa	7-14 days	Spring	Transplant	Sun/Part Shade	36-48"	12-18"	Zones 4-10
Borage Borago officinalis	7-14 days	Spring	Direct	Sun	18-30"	12"	Annual
Catnip Nepeta cataria	7-10 days	Spring or Fall	Transplant	Sun	24-48"	12-18"	Zones 3-9
Chamomile Matricaria recutita	10-14 days	Spring	Transplant	Sun	15-24"	8"	Annual
Chamomile, Roman Chamaemelum nobile	10-14 days	Spring or Fall	Transplant	Sun/Part Shade	10-16"	8-12"	Zones 5-8

Chervil

Vertissimo (A) 2441 60 days.

Brussels Winter type with dark green leaves. Excellent performance in our trials. Slow-bolting, vigorous plants. Mild, sweet anise flavor. Popular PKT \$5.45; Oz. \$7.65; 1/4 Lb. \$10.15; Lb. \$27.40;

5 Lbs. @ \$23.56/Lb.; 25 Lbs. @ \$20.70/Lb.

Fine Curled (A) 3523G 60 days.

Organic chervil. Similar to Vertissimo. Variety also known as Fijne Krul. Avg. 12,500 seeds/oz. **CG** *

PKT \$5.60; 1/2 Oz. \$8.90; Oz. \$13.70; 1/4 Lb. \$32.30; Lb. \$106.70; 5 Lbs. @ \$96.06/Lb.





Chives

Dolores (P) 3290 75-85 days.

Uniform, slender leaves for fresh use. Highly consistent upright habit with fine, dark green leaves. Ideal for gourmet use. Avg. 22,150 seeds/oz. *** PKT \$5.75; Oz. \$21.10; 1/4 Lb. \$50.95; Lb. \$175.55; 5 Lbs. @ \$166.82/Lb.

Purly (P) 793 75-85 days.

EXCLUSIVE! Medium-size leaves. Compared to Staro, Purly has a more upright plant habit with a slightly straighter leaf. Avg. 20,200 seeds/oz. Y//

PKT \$5.75; Oz. \$15.00; 1/4 Lb. \$38.40; Lb. \$129.20; 10 Lbs. @ \$108.00/Lb.

Staro (P) 75-85 davs.

Heaviest leaf for processing and freezing. Best for markets demanding a thicker leaf for freezing, drying, or fresh use. *** ** **840G Organic OG** Avg. 20,100 seeds/oz.

PKT \$6.15; 1/2 Oz. \$12.90; Oz. \$15.75; 1/4 Lb. \$45.95; Lb. \$178.30. 840 Conventional Avg. 19,400 seeds/oz.

PKT \$5.45; 1/2 Oz. \$9.15; Oz. \$14.40; 1/4 Lb. \$39.00; Lb. \$116.95.

Dolores

Chinese Leeks/Garlic Chives

Chinese Leeks/Garlic Chives (P) 3299 90 days.

Thin, flat leaves with delicate garlic flavor. Attractive white flowers in midsummer. Flowers are edible and make a great addition to bouquets. The budded flower stalks are sold as "gow choy" in Chinese grocery stores. Avg. 6,300 seeds/oz. ¥分潔

PKT \$5.45; 1/2 Oz. \$7.10; Oz. \$10.90; 1/4 Lb. \$25.20; Lb. \$67.85; 5 Lbs. @ \$62.54/Lb.



Our catalog is just a snapshot of the many herb varieties we offer.

- Angelica
- Goldenseal
- Caraway
- Salad Burnet
- Hyssop Dandelion
 - Milk Thistle Savory

Find our full listing at Johnnyseeds.com





Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Chervil Anthriscus cerefolium	10-14 days	Spring or Fall	Direct	Sun/Part Shade	10-16"	6"	Annual
Chives Allium schoenoprasum	7-14 days	Spring or Fall	Direct	Sun/Part Shade	12-18"	2-8"	Zones 3-9
Chinese Leeks/Garlic Chive	es 7-14 days	Spring	Direct	Sun/Part Shade	12-18"	2-8"	Zones 4-9









Cilantro/Coriander

Cilantro is popular in many cuisines and can be sold in bunches or as microgreens. The flowers are a strong attraction for beneficial insects. Direct seed every two weeks for a continuous supply of fresh leaves. We test all our cilantro/coriander seed lots for the presence of *Pseudomonas*.

Santo (A) 50-55 days to leaf harvest; 90-105 days to seed.

Standard cilantro. A slow-bolting selection grown for its leaves. 919G Organic CG Avg. 2,500 seeds/oz.

PKT \$5.75; Oz. \$10.60; 1/4 Lb. \$14.65; Lb. \$40.50;

5 Lbs. @ \$38.50/Lb.; 25 Lbs. @ \$36.00/Lb.

919 Conventional Avg. 2,400 seeds/oz.

PKT \$5.45; Oz. \$7.25; 1/4 Lb. \$8.35; Lb. \$15.90; 5 Lbs. @ \$14.00/Lb.; 10 Lbs. @ \$13.50/Lb.; 25 Lbs. @ \$12.75/Lb.; 50 Lbs. @ \$12.25/Lb.

Calypso (A) 3803 50-55 days to leaf harvest; 120-150 days to seed. Slowest to bolt. Full, bulky plants. In our trials, Calypso is 3 weeks slower to bolt than Santo. Avg. 3,400 seeds/oz. ¥ PKT \$5.45; Oz. \$7.25; 1/4 Lb. \$9.35; Lb. \$17.60; 10 Lbs. @ \$13.45/Lb.; 25 Lbs. @ \$12.10/Lb.

Cruiser (A) 50-55 to leaf harvest; 120-150 days to seed.

Bolt-resistant variety with uniform plants. Compared to Calypso, Cruiser has a tidier, more upright plant habit and similarly excellent bolt resistance. Large leaves and sturdy stems make it an ideal bunching variety for fresh-market sales. Utility Patent #9,363,958. 🏋 PKT \$5.45; Oz. \$7.50; 1/4 Lb. \$10.75; Lb. \$24.95; 5 Lbs. @ \$24.96/Lb.; 25 Lbs. @ \$20.70/Lb.

Cruiser 3755 Avg. 3.800 seeds/oz.

Cruiser Monogerm 4787 Avg. 5,200 seeds/oz.

Cumin

Cumin (A) 2931 100-115 days.

Traditionally used to flavor Mexican and Indian dishes. Fragrant, ferny foliage is similar to dill. Young leaves make a nice addition to salad mixes. Grows best in warmer climates, but will produce seeds in northern areas if started early. Avg. 8,500 seeds/oz.

PKT \$5.70; Oz. \$10.25; 1/4 Lb. \$17.30; Lb. \$40.90.

Cutting Celery

Cutting Celery (A) 80-85 days.

Leafy herb with bold celery flavor. Easier to grow than standard celery. Use fresh in salads or cooked in soups, stews, or with mixed vegetables.

922G Organic Avg. 68,800 seeds/oz.

PKT \$6.15; 1/2 Oz. \$10.15; Oz. \$19.00; 1/4 Lb. \$58.00; Lb. \$207.85; 5 Lbs. @ \$189.90/Lb.; 25 Lbs. @ \$168.80/Lb.

922 Conventional Avg. 76,200 seeds/oz.

PKT \$4.05; 1/2 Oz. \$6.45; Oz. \$8.85; 1/4 Lb. \$18.20; Lb. \$53.65; 5 Lbs. @ \$50.44/Lb.

Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Cilantro/Coriander Coriandrum sativum	7-10 days	Spring through Summer	Direct	Sun	12-18"	1/4-1/2"	Annual
Cumin <i>Cuminum cyminum</i>	7-14 days	Spring	Direct	Sun	6-12"	4-6"	Annual
Cutting Celery Apium graveolens	7-14 days	Spring	Direct	Sun/Part Shade	18"	6"	Annual



Dill

Bouquet (A) 40-45 days to leaf harvest; 85-105 to seed.

Most widely grown. Good seed and leaf yields. Early flowering plants produce large blooms, seed umbels, and foliage on long stems, making Bouquet the preferred dill for cut-flower use and pickling. Also an economical, fast-growing choice for baby-leaf production. Ht. 38–42". 》《多本等920G Organic 《G Avg. 16,900 seeds/oz.

PKT \$5.50; Oz. \$7.85; 1/4 Lb. \$11.15; Lb. \$29.60; 5 Lbs. @ \$25.58/Lb.; 25 Lbs. @ \$23.21/Lb.

920 Conventional Avg. 17,400 seeds/oz.

PKT \$4.85; Oz. \$7.05; 1/4 Lb. \$9.10; Lb. \$21.20; 5 Lbs. @ \$18.72/Lb.; 25 Lbs. @ \$16.33/Lb.

Thalia (A) 4010G 40-50 days to leaf harvest; 95-105 to seed.

Slow-bolting dill for bunching and leaf harvest. Thalia is very similar to Hera, which it replaced, but is slower to bolt. Uniform habit and blue-green foliage. Wide, flat fronds. Ht. 36–48". Avg. 21,600 seeds/oz. CGPKT \$5.75; Oz. \$9.95; 1/4 Lb. \$19.00; Lb. \$63.25; 5 Lbs. @ \$57.20/Lb.; 25 Lbs. @ \$53.20/Lb.

Teddy (A) 3293 45-55 days to leaf harvest; 95-115 to seed.

For field, container, and hydroponics. Productive, slow-bolting dill with full, densely packed leaves. Compact spirals of thick leaflets surround each stem, providing a lush appearance. Faster growing and more productive than Fernleaf, the standard container variety. Teddy also produces a fuller plant that is more vibrant in color and only slightly faster to bolt than Fernleaf. Excellent for full-size and baby-leaf production. Ht. 10–16". Avg. 20,000 seeds/oz.

PKT \$5.75; Oz. \$9.95; 1/4 Lb. \$17.75; Lb. \$49.50; 5 Lbs. @ \$45.00/Lb.; 25 Lbs. @ \$44.00/Lb.

Fernleaf (A) 921 55-60 days to leaf harvest; 95-115 to seed.

Our slowest-bolting dwarf dill. Abundant, dark blue-green foliage. Great in containers or in small spaces. AAS winner. Ht. 6–8". Avg. 13,400 seeds/oz. ¥ ♠ PKT \$5.75; 1/8 Oz. \$10.80; 1/4 Oz. \$17.25; 1/2 Oz. \$30.35; Oz. \$52.20; 1/4 Lb. \$131.35; Lb. \$468.80.

All packet sizes for herbs average 200 seeds/PKT unless otherwise noted in the packet pricing.







Leaf Fennel

Bronze (TP) 784 50-60 days.

Bronze-red color. Vigorous and uniform strain is slow to bolt. Avg. 9,800 seeds/oz. **公**實實

PKT \$5.25; 1/2 Oz. \$11.45; Oz. \$20.05; 1/4 Lb. \$51.40; Lb. \$176.15.

Grosfruchtiger (TP) 2395 50-60 days.

Vigorous leaf production and sweet flavor. The most flavorful and productive leaf fennel in our trials. Avg. 3,900 seeds/oz. ②素 PKT \$5.75; Oz. \$9.55; 1/4 Lb. \$18.40; Lb. \$45.40; 5 Lbs. @ \$36.18/Lb.

Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Dill Anethum graveolens	7-21 days	Spring through Summer	Direct	Sun	Varies	1/4-1/2"	Annual
Leaf Fennel Foeniculum vulgare	7-14 days	Spring through Summer	Direct	Sun	24-36"	1/4-1/2"	Zones 7-10





Ellagance Purple







Ginseng

American Ginseng (P) 900 5-6 years to root harvest.

A woodland plant native to eastern North America. Ginseng favors well-drained, humus-rich soil on north and east-facing slopes. Grow in 70%+ shade. Harvest roots in fall of 5th or 6th year. Stratified seeds are shipped in September for fall planting. NOTE: Because this item is considered an endangered species in some states, it cannot be shipped outside the US. Avg. 500 seeds/oz.

PKT (50 seeds) \$5.90; 1/2 Oz. \$17.30; Oz. \$28.00; 1/4 Lb. \$83.45; Lb. \$270.25.

Lavender

Ellagance Purple (P) 72 100-110 days.

First-year flowering lavender. Deep purple flowers bloom the first year on large, dense spikes. Plants are bushy, uniform, and well-branched. Winter hardy in Zones 5–7. Avg. 32,200 seeds/oz. ¥>€ 🗸 🌋 MINI (25 seeds) \$3.95; PKT (50 seeds) \$6.05; 500 Seeds \$33.25; 1,000 Seeds \$60.60; 5M @ \$51.86/M; 25M @ \$45.31/M.

Munstead-Type (P) 100-110 days.

Compact English lavender. A strain of English lavender with a compact, bushy habit. Nice range of bloom colors, from pale blue to dark violet. Usually begins flowering in the second year. Hardy in Zones 5-8, but can survive Zone 4 winters when mulched or grown in a well-drained, south-facing location. ¥≫Ø**

943G Organic G Avg. 26,100 seeds/oz.

PKT \$6.15; 1/16 Oz. \$13.00; 1/8 Oz. \$24.80; 1/4 Oz. \$46.10; 1/2 Oz. \$77.50: Oz. \$139.00: 1/4 Lb. \$481.85. 943 Conventional Avg. 26,300 seeds/oz.

PKT \$5.75; 1/8 Oz. \$21.05; 1/4 Oz. \$39.25; 1/2 Oz. \$65.95; Oz \$120.75

Lemon Balm

Lemon Balm (P) 70 days.

Distinct lemon flavor. Fresh leaves for tea and salads. Easy to grow. Mulch if winter goes below 0°F (-18°C).

PKT \$6.15; 1/2 Oz. \$11.65; Oz. \$22.10; 1/4 Lb. \$66.45; Lb. \$247.90. 766 Conventional Avg. 45,700 seeds/oz.

PKT \$5.75; Oz. \$18.40; 1/4 Lb. \$44.60; Lb. \$156.00.

Lemon Grass

Lemon Grass, East Indian (Cleaned Seed) (TP) 4074 75-85 days. Aromatic grass from India. Our seeds have been carefully cleaned to remove the chaff (seed coat material), resulting in a higher germination rate. A delicious addition to soups, curries, teas, and any other dish calling for lemon grass. Essential oil distilled from this variety contains large amounts of citral and geraniol and can be used for flavorings, perfumes, and insect repellent. Avg. 74,300 seeds/oz. \footnote{*} PKT (50 seeds) \$9.70; 500 Seeds \$85.65; 1,000 Seeds \$136.25; 5M @ \$125.01/M; 25M @ \$112.38/M; 100M @ \$105.33/M.

Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Ginseng Panax quinquefolius	180+ days	Fall	Direct or Transplant	Shade	8-16"	3-6"	Zones 4-8
Lavender <i>Lavandula angustifolia</i>	14-21 days	Spring	Transplant	Sun	12-18"	12-18"	Varies
Lemon Balm <i>Melissa officinalis</i>	7-14 days	Spring	Transplant	Sun	18-26"	12"	Zones 4-9
Lemon Grass Cymbopogon flexuosus	7-14 days	Spring	Transplant	Sun	18-48"	8-12"	Zones 9-11

Lovage

Lovage (P) 90 days.

Specialty culinary herb. Young leaves taste like celery and are used in spring salads and with potato, rice, and poultry dishes. Roots and young stems are also edible. 常

927G Organic OG Avg. 8,900 seeds/oz.

PKT \$6.15; 1/2 Oz. \$17.45; Oz. \$30.50; 1/4 Lb. \$90.95; Lb. \$230.10. **927 Conventional** Avg. 10,100 seeds/oz.

PKT \$5.75; 1/2 Oz. \$12.05; Oz. \$18.75; 1/4 Lb. \$40.20; Lb. \$129.20.

Marjoram

Zaatar (TP) 2997 85-90 days. O. syriacum

An oregano relative with zesty flavor. Grow and treat as you would Sweet Marjoram. Native to the Mediterranean, where it has flavored meals for thousands of years. Flavor combines those of sweet marjoram, thyme, and oregano. Harvest stems when they reach at least 4–6". Avg. 133,800 seeds/oz. Of FPKT (50 seeds) \$5.90; 250 Seeds \$8.60; 500 Seeds \$12.25; 1,000 Seeds \$19.70; 5M @ \$16.30/M; 25M @ \$13.92/M.

Sweet Marjoram (TP) 928G 80-95 days. *O. majorana* Common variety. Compact plant. Aroma is similar to oregano, but sweeter and more balsam-like. Avg. 125,000 seeds/oz. ○ ♥ PKT \$5.60; 1/16 Oz. \$8.85; 1/8 Oz. \$15.35; 1/2 Oz. \$53.70; Oz. \$83.15; 1/4 Lb. \$223.65; Lb. \$792.45.

Wild Marjoram (P) 2923G 85-90 days. O. vulgare

Light, sweet flavor for teas, cooking. Use leaves fresh or dried for culinary purposes. Blooms in shades of pink to purple from midsummer through fall. For cut-flower use, harvest flowers in bud stage for best color. Avg. 405,400 seeds/oz. **OG** > **QG** ***

PKT \$6.15; 1/4 Oz. \$15.10; 1/2 Oz. \$25.65; Oz. \$49.95; 1/4 Lb. \$121.55; Lb. \$461.70.

Mexican Mint Marigold

Mexican Mint Marigold (TP) 80-90 days.

Aromatic leaves are a substitute for French tarragon. Sweet licorice flavor brightens salads and main dishes. Edible golden-yellow flowers bloom all summer. Thrives in warmer climates where French tarragon will not grow.

2273G Organic G Avg. 28,100 seeds/oz.

PKT \$5.25; 1/16 Oz. \$11.15; 1/8 Oz. \$17.65; 1/4 Oz. \$29.40; Oz. \$92.45; 1/4 Lb. \$247.95; Lb. \$815.55.

2273 Conventional Avg. 33,200 seeds/oz.

PKT \$5.75; 1/16 Oz. \$11.20; 1/8 Oz. \$17.60; 1/4 Oz. \$29.70; Oz. \$92.50; 1/4 Lb. \$247.90.

Mint

Common Mint (P) 831 70-80 days.

A zesty, versatile herb. Use to flavor salad mix, main dishes, ice cream, and drinks. Variety not stated since mint does not grow true-to-type from seed. Avg. 311,700 seeds/oz. ¥♦☑

PKT \$5.75; 1/4 Oz. \$20.75; 1/2 Oz. \$35.95; Oz. \$61.80; 1/4 Lb. \$158.75; Lb. \$542.95.









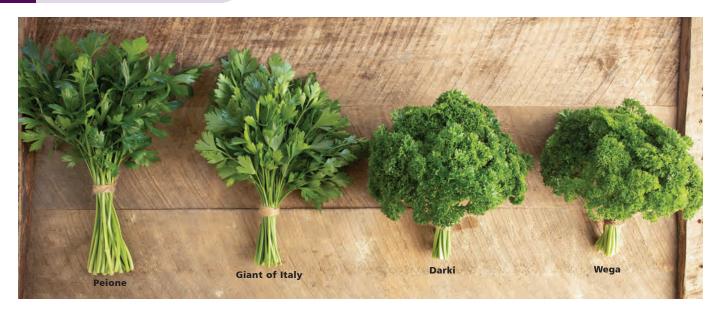




Mexican Mint Marigold

Common Mint

Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Lovage Levisticum officinale	10-14 days	Spring	Transplant	Sun/Part Shade	48-78"	18-24"	Zones 4-8
Marjoram, Sweet Origanum spp.	7-14 days	Spring	Transplant	Sun	8-24"	6-8"	Zones 9-11
Marjoram, Wild Origanum vulgare	7-14 days	Spring	Transplant	Sun	18-40"	12"	Zones 4-8
Mexican Mint Marigold Tagetes lucida	5-15 days	Spring	Transplant	Sun	16-20"	8-12"	Zones 8-11
Mint Mentha son	10-14 days	Spring	Transplant	Sun/Part Shade	18-36"	12-18"	Zones 4-9



Parsley

Peione (B) 3400 75 days.

Improved Giant of Italy type with intermediate resistance to **downy mildew.** High leaf mass on thick, upright stems for easier harvest. Compared to the standard parsley Giant of Italy, Peione has larger and darker green leaves, a more uniform plant habit, and sweeter flavor. Ht. 18-20". Avg. 17,500 seeds/oz. ¥

PKT \$5.50; Oz. \$9.10; 1/4 Lb. \$15.50; 1/2 Lb. \$25.00; Lb. \$44.00; 5 Lbs. @ \$36.00/Lb.; 25 Lbs. @ \$32.00/Lb.

Giant of Italy (B) 75 days.

The preferred culinary variety. Huge, dark green leaves with great flavor. Strong, upright stems make Giant of Italy one of the best parsley varieties for fresh-market sales. Very high yielding. Ht. 18–20". **2390G Organic** Avg. 15.300 seeds/oz.

MINI (100 seeds) \$3.95; PKT \$5.75; Oz. \$10.50; 1/4 Lb. \$22.65; Lb. \$60.35; 5 Lbs. @ \$53.50/Lb.; 25 Lbs. @ \$47.80/Lb. 2390 Conventional Avg. 14,300 seeds/oz.

PKT \$4.85; Oz. \$6.25; 1/4 Lb. \$10.00; Lb. \$26.00; 5 Lbs. @ \$23.70/Lb.; 25 Lbs. @ \$20.60/Lb.

Multi-Seed Pelleted Parsley

Giant Of Italy Multi-Seed Pellet (B) 3189P 75 days. **EXCLUSIVE!** For precise and convenient sowing. Standard Italian

Large Leaf variety in a multi-seed pellet that is ideal for retail container or hydroponic production. Sow one pellet per 2¹/₂" container or growing media cube. Pellets contain 4-6 seeds each and have an irregular shape but are approximately size 10.0 (4.0 mm diameter). Conventional pellets; pelleting is not NOP-compliant. Ht. 18-20". Avg. 1,400 seeds/oz. ¥



PKT (100 seeds) \$6.85; 250 Seeds \$12.25; 500 Seeds \$22.05; 1,000 Seeds \$39.95; 5M @ \$34.32/M; 25M @ \$30.10/M; 100M @ \$27.23/M; 500M @ \$26.35/M; 1,000M @ \$25.71/M. Wega (B) 3132 75 days.

Highly uniform and refined. Wega's upright habit makes it easy to harvest the dark green leaves. Suitable for field or container production. Plant Variety Protected. Ht. 12–18". Avg. 16,500 seeds/oz. PKT \$5.50; Oz. \$10.50; 1/4 Lb. \$17.75; 1/2 Lb. \$28.20; Lb. \$51.50; 5 Lbs. @ \$41.50/Lb.; 25 Lbs. @ \$38.00/Lb.

Darki (B) 3513 75 days.

Market and culinary standard. A very dark green selection of the Moss Curled type. Use it for garnishes, salads, and cooking. It performs well in containers and the field, allowing for multiple cuttings per season from one planting. Upright leaves make harvesting easy. Tolerates light frost. Ht. 12–16". Avg. 16,700 seeds/oz. ¥

PKT \$4.85; Oz. \$7.50; 1/4 Lb. \$12.90; 1/2 Lb. \$20.35; Lb. \$35.85; 5 Lbs. @ \$29.50/Lb.; 25 Lbs. @ \$22.00/Lb.

Menuette (B) 4651 75 days.

One-of-a-kind fern-leaf parsley. The deeply incised, feathery, narrow leaflets are easy to chop and make an elegant garnish or bunch. Delicate in appearance but firm enough to stand up to handling, packing, and plating. Standard parsley flavor. Suitable for field or pot production. Has shown some resistance to tipburn in our trials. Ht. 12–18". Avg. 20,700 seeds/oz. ¥

PKT \$5.50; Oz. \$10.50; 1/4 Lb. \$22.00; Lb. \$55.50; 5 Lbs. @ \$49.50/Lb.: 25 Lbs. @ \$43.80/Lb.



Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Parsley Petroselinum crispum	14-30 days	Spring	Direct or Transplant	Sun	Varies	8-12"	Biennial

Mountain Mint

Mountain Mint (P) 2919 70-90 days.

Mint flavor and aroma in abundance. White flowers attract bees, butterflies, and other beneficial insects. Needs staking in windy locations. Used in potpourri, incense, and as an ingredient in tea and natural insect repellent formulas. Avg. 211,800 seeds/oz. 文章

PKT \$5.75; 1/16 Oz. \$12.50; 1/8 Oz. \$19.15; 1/4 Oz. \$33.00; Oz. \$107.60; 1/4 Lb. \$293.40.

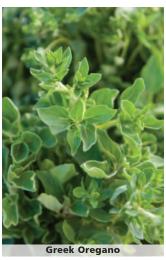


Greek Oregano (P) 930 80-90 days.

Essential herb for Italian and Greek cooking. Characteristic dark green leaves with white flowers and strong flavor. Avg. 279,700 seeds/oz. **

MINI (100 seeds) \$3.95; PKT \$5.75; 1/4 Oz. \$13.10; 1/2 Oz. \$22.85; Oz. \$41.20; 1/4 Lb. \$104.10; Lb. \$333.10.

Mountain Mint



Rosemary

Rosemary (TP) 932 80-100 days stem tips; 120-180 days bunches. Pine-scented, savory, culinary favorite. Native to the Mediterranean region, rosemary has silvery, needle-like foliage and delicate flowers. Popular for potted plant sales and with chefs. NOTE: Germination is naturally low and variable. Avg. 19,500 seeds/oz. ★>★★
PKT \$5.75; 1/16 Oz. \$14.50; 1/4 Oz. \$40.75; 1/2 Oz. \$73.50; Oz. \$137.40; 1/4 Lb. \$414.40.

Primed Rosemary (TP) 932E 80-100 days stem tips; 120-180 days bunches. **Quicker, more reliable germination.** Primed rosemary germinates faster and more uniformly than raw seeds, meaning less wasted space in greenhouse trays. NOTE: For best germination results, plant primed seeds within six months of purchase. Conventional seed with conventional priming. The priming is *not* NOP-compliant. Avg. 16,700 seeds/oz.

¥ > 6 2 PKT \$5.45; 500 Seeds \$7.85; 1,000 Seeds \$14.35; 5M @ \$11.33/M; 25M @ \$9.01/M; 100M @ \$7.82/M.



Sage, Common

Common Sage (P) 80-90 days.

PKT \$6.15; 1/2 Oz. \$16.15; Oz. \$27.95; 1/4 Lb. \$64.35; Lb. \$242.95. **934 Conventional** Avg. 3,100 seeds/oz.

PKT \$5.75; 1/2 Oz. \$11.90; Oz. \$15.85; 1/4 Lb. \$39.75; Lb. \$111.30; 5 Lbs. @ \$105.66/Lb.

Extrakta (P) 838 80-90 days.

All packet sizes for herbs average 200 seeds/PKT unless otherwise noted in the packet pricing.





Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Mountain Mint Pycnanthemum pilosum	7-14 days	Spring	Transplant	Sun	24-36"	12"	Zones 5-8
Oregano <i>Origanum vulgare hirtum</i>	7-14 days	Spring	Transplant	Sun/Part Shade	8-24"	12"	Zones 4-9
Rosemary Rosmarinus officinalis	14-21 days	Spring	Transplant	Sun	18-60"	8-24"	Zones 6-10
Sage, Common Salvia officinalis	7-21 days	Spring	Direct or Transplant	Sun/Part Shade	16-30"	12"	Zones 4-8







German Winter



Shiso

Shiso (A) 80-85 days.

Distinct cinnamon/clove flavor and aroma with the spiciness of cumin. Used in Asian cooking, sushi, and salad mix. Red shiso adds brilliant color to radish pickles and *umeboshi* plums. Choose from red- or greenleaved varieties.

PKT \$5.50; 1/2 Oz. \$14.00; Oz. \$24.00; 1/4 Lb. \$65.00; Lb. \$170.00; 5 Lbs. @ \$140.00/Lb.

A. Red 937 Avg. 24,500 seeds/oz.

C. Green 948 Avg. 26,000 seeds/oz.

B. Britton (A) 2943 80-85 days.

Eye-catching green leaves with red undersides. Good salad mix item, or use larger leaves as sushi wraps or garnishes. Larger leaf and plant than our 'Red' and 'Green' shiso. Mild mint/basil aroma. Leaves show best color contrast when grown in temperatures below 85°F (29°C). Avg. 8,800 seeds/oz. YOKT \$5.75; 1/2 Oz. \$10.70; Oz. \$16.65; 1/4 Lb. \$40.05; Lb. \$140.40; 5 Lbs. @ \$131.04/Lb.

Stevia

Stevia (TP) 100-120 days.

PKT (25 seeds) \$6.60; 50 Seeds \$8.20; 100 Seeds \$15.10;

250 Seeds \$28.00; 500 Seeds \$51.40; 1,000 Seeds \$99.55; 5M @ \$77.07/M. **2305 Conventional** Avg. 75,550 seeds/oz.

PKT (25 seeds) \$5.40; 50 Seeds \$6.65; 100 Seeds \$12.20;

250 Seeds \$22.75; 500 Seeds \$41.75; 1,000 Seeds \$81.00; 5M @ \$62.71/M.

Thyme

Summer (TP) 90-95 days. T. vulgaris

Superb culinary thyme. Spicier, more pungent flavor than German Winter in a smaller plant. Tender perennial in Zones 6–8. Grow as an annual in Zones colder than 6. ¥

2250G Organic Avg. 118,000 seeds/oz.

PKT \$6.15; 1/4 Oz. \$20.30; Oz. \$57.25; 1/4 Lb. \$156.20; Lb. \$532.60. **2250 Conventional** Avg. 122,000 seeds/oz.

PKT \$5.75; 1/4 Oz. \$19.50; Oz. \$46.10; 1/4 Lb. \$123.60; Lb. \$369.40.

German Winter (P) 90-95 days. T. vulgaris

The standard winter-hardy thyme. Good flavor and yield. Perennial in Zones 5–8. ¥必濟

940G Organic Avg. 109,000 seeds/oz.

PKT \$6.15; 1/4 Oz. \$13.25; 1/2 Oz. \$22.65; Oz. \$39.90; 1/4 Lb. \$118.30; Lb. \$345.10.

940 Conventional Avg. 85,300 seeds/oz.

PKT \$5.75; 1/4 Oz. \$9.85; 1/2 Oz. \$15.40; Oz. \$24.80; 1/4 Lb. \$53.35; Lb. \$189.55; 5 Lbs. @ \$183.93/Lb.

Orange Thyme (TP) 2934 90-95 days. T. fragrantissimus

Classic thyme appearance with a citrus flavor. The aroma is distinctly sweeter than German Winter. Try it with fish, vegetable, and perhaps even dessert dishes. More upright and compact than German Winter. Tender perennial in Zones 6−8. Avg. 102,700 seeds/oz. ¥

PKT (50 seeds) \$5.75; 500 Seeds \$22.05; 1,000 Seeds \$34.15; 5M @ \$28.66/M.

Product & Species	Days to Germination	Sowing Time	Seeding Method	Light Preference	Plant Height	Plant Spacing	Hardiness Zones
Shiso Perilla frutescens	7-21 days	Spring	Direct	Sun	18-30"	6-12"	Annual
Stevia Stevia rebaudiana	7-21 days	Spring	Transplant	Sun/Part Shade	18-30"	12"	Zones 9-11
Thyme Thymus spp.	14-21 days	Spring	Transplant	Sun/Part Shade	6–12"	6-8"	Varies

Ageratum

Timeless Mix (A) 3432

80-100 days.

Classic filler in harmonious colors. Long-lasting, 1–2" flower clusters add texture and interest to mixed bouquets. Mix includes lovely shades of PKT (100 seeds) \$5.55; 250 Seeds \$7.75; 1,000 Seeds \$13.25.

Tall Blue Planet (F1) (A) 1835

80-100 days.

Tall, upright, sturdy stems. Tight, blue flower clusters. Use as a filler for mixed bouquets or to attract bees and butterflies to your garden.

PKT (100 seeds) \$6.80; 500 Seeds \$11.65; 1,000 Seeds \$16.85; 5M @ \$16.43/M; 25M @ \$14.91/M.



Sweet Alyssum (TP) 1932

50-60 days.

Attracts and supports beneficial insects. Fast growing and trouble free. Avg. 71,100 seeds/oz. ¥ Z 本* PKT (100 seeds) \$5.20; Oz. \$6.85; 1/4 Lb. \$13.35; Lb. \$40.20;

5 Lbs. @ \$37.96/Lb.



White Dill (A) 1034

65-75 days. A. majus

Prolific bouquet filler. Plants bear a multitude of flower heads 5-6" across. Avg. 44,000 seeds/oz. 泰冬豪素

PKT (100 seeds) \$5.75; 1/8 Oz. \$10.00; 1/4 Oz. \$16.65; 1/2 Oz. \$26.00; Oz. \$47.90.



85-95 days. A. visnaga

Sturdy bouquet filler. A greener, fuller Ammi for cutting. Complements any color scheme. Long, sturdy stems support large, dense, 3-5" flowers. Avg. 41,400 seeds/oz. ><***

PKT (100 seeds) \$5.75; 1/8 Oz. \$12.55; 1/4 Oz. \$21.90; 1/2 Oz. \$38.85; Oz. \$66.10.

Dara (A) 1968

75-85 days. D. carota

Outstanding cut flower. Attractive 3-5" lacy umbels atop strong, sturdy, upright stems. Flowers in shades of dark purple, pink, or white. Highly productive with 7–15 stems per plant. Long-lasting in bouquets. ***>**<*

PKT (100 seeds) \$5.20; 250 Seeds \$7.60; 1,000 Seeds \$13.00; 5M @ \$10.24/M; 25M @ \$9.12/M.













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Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Ageratum Ageratum houstonianum	7-10 days at 75-80°F (24-27°C)	Transplant (recommended) - Sow 6-8 weeks before planting out. Transplant after danger of frost has passed.	Sun	9-12"	24-30"	Annual	Fresh - Flower spikes are ³ /4 open. Dried - Flowers completely open; hang. May be air-dried, but flower color often fades.
Alyssum Lobularia maritima	8-10 days at 65-70°F (18-21°C)	Transplant (recommended) - Sow 4-5 weeks before planting out. Transplant out after danger of frost has passed. Direct seed - Sow as soon as the soil can be worked.	Sun/Part Shade	6-8"	8-16"	Zones 9-11	Edible flowers - Once flowers are open.
Ammi & Daucus Ammi/Daucus spp.	12-16 days at 60-65°F (16-18°C)	Direct seed (recommended) - In early spring after last frost (sow in the fall in the South). Transplant - Sow 4-6 weeks before planting out.	Sun	3-12"	36-50"	Annual	80% of flowers in umbel are open and there is no hint of pollen shed.



Hopi Red Dye











Amaranthus

Red Spike (A) 3786

65-75 days. A. cruentus

Darkest red amaranth in our trials. Ideal color and form for late summer and fall arrangements. More useful than other upright types because of its gracefully arched, feathery plumes. Dark red, arched, and airy flower heads. Ht. 48-60". Avg. 40,600 seeds/oz. PKT (100 seeds) \$5.75; 1/4 Oz. \$11.20; Oz. \$32.65; 1/4 Lb. \$86.70; Lb. \$280.80.

Hopi Red Dye (A) 3393G

65-75 days. A. cruentus

Dark red amaranth with easy-to-use spikes. Rich color and graceful, arching lines. A nice bouquet accent that does not dominate arrangements. Smaller flower heads than upright types, about 1–2" wide x 12–24" long. Shorter and smaller blooms than trailing types. Ht. 40-48". Avg. 48,400 seeds/oz. CG 1

PKT \$5.90; 1/4 Oz. \$11.45; Oz. \$33.40; 1/4 Lb. \$88.80; Lb. \$287.55.

Hot Biscuits (A) 1676

65-75 days. A. cruentus

Prolific and easy-to-grow filler. Tall, well-branched, heat-loving plants produce armloads of bronze blooms. Pinching out the center (apical) bud is recommended for optimum branching. Ht. 40-48". Avg. 36,900 seeds/oz. \gg

PKT (100 seeds) \$5.75; 1/4 Oz. \$11.20; Oz. \$32.65; 1/4 Lb. \$86.70; Lb. \$280.80.

Trailing Amaranthus (A)

65-75 days. A. caudatus

Romantic, draping strands. Fantastic color, texture, and form for handheld bouguets and large arrangements. We offer three varieties with harmonious colors for mixing and matching. Ht. 36-60". Avg. 48,500 seeds/oz. >< 🌞

PKT (100 seeds) \$5.75; 1/4 Oz. \$11.20; Oz. \$32.65; 1/4 Lb. \$86.70; Lb. \$280.80.

Coral Fountain 1701 Unique, coral pink tassels.

Emerald Tassels 1786 Versatile color dries tan for fall displays. **Love-Lies-Bleeding 1139** A reminder of things Victorian.

Artemisia

Sweet Annie (A) 1700

120 days.

Sweetly aromatic everlasting. Tall plants with fern-like, dark green foliage. Use for wreaths and bouquets. Avg. 585,700 seeds/oz. \bigcirc PKT (500 seeds) \$5.90; 1/128 Oz. \$12.90; 1/32 Oz. \$24.70; 1/16 Oz. \$41.75; 1/8 Oz. \$76.10.

LIFE CYCLE CODES (in parentheses after part name)

(A)	Annual	(TP)	Tender Perennial

Biennial (P/A) Mix of Perennials & Annuals

(P) Perennial

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing		Hardiness Zones	Harvest
Amaranthus Amaranthus spp.	7-10 days at 70-75°F (21-24°C)	Transplant - Sow 4-6 weeks before planting out. Direct seed - After danger of frost. Support advised.	Sun	12-15"	Varies	Annual	Fresh - When at least ³ /4 of the flowers on the inflorescence are open. Dried - Seed has begun to set and flowers feel firm.
Artemisia Artemisia annua	7-21 days at 70-75°F (21-24°C)	Transplant - Sow 5-6 weeks before planting out. Direct seed - Sow after danger of frost.	Sun	12-24"	48-72"	Annual	Fresh or Dried - Once flower heads have developed on stems.

Aster, China

Tower Series (A)

110-120 days.

Peony-type blooms with excellent uniformity. Bloom size averages 2–3" with 13–20 stems per plant. Ht. 28–32". ×

PKT (50 seeds) \$5.75; 500 Seeds \$11.95; 1,000 Seeds \$20.40; 5M @ \$9.62/M.

- A. Violet 3322
- B. Blue 3321
- C. Salmon 3325
- D. Chamois 3758
- E. Yellow 3324
- F. Silver 3323

White 4465

Tower Custom Mix (A) 1833

EXCLUSIVE! Colors include all pictured here plus white, red, dusty pink, cherry rose, and light blue.

Miss Europe Resist (A) 4789

105-115 days.

Light pink, double-flowering aster. 2–3" wide, double blooms on sturdy stems and vigorous plants. Has produced consistently healthy plants in our trials. 5-7 days earlier than the Tower Series. Ht. 28-34."

PKT (50 seeds) \$5.75; 500 Seeds \$13.00; 1,000 Seeds \$22.90.

King Size Apricot (A) 3465

110-120 days.

Double and semidouble apricot blooms. Compared to Tower Chamois, King Size Apricot plants are taller, blooms are similar in size $(2^{1}/2-3")$ and a shade lighter, and petals are only slightly curled. Ht. 34-40". ><

PKT (50 seeds) \$4.90; 1,000 Seeds \$6.55; 5M @ \$4.38/M.

Lady Coral Lavender (A) 3499

115-125 days.

Uncommon beauty. A favorite in our trials, her lilac-taupe petals are tightly packed into 21/2-31/2" blooms. A bit later to bloom than our other China asters. Ht. 24–30". 🔀

PKT (50 seeds) \$5.75; 500 Seeds \$10.80; 1,000 Seeds \$14.35.

Bupleurum

Green Gold (A) 1045

80-90 days.

A classic filler for bouquets. Erect plants produce 21/2" flowers atop long, wiry stems. Excellent for mixed bouquets. A unique dried flower. ><ॐ

PKT (100 seeds) \$4.55; 1,000 Seeds \$7.00; 5M @ \$3.66/M; 25M @ \$3.14/M.













Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Aster, China Callistephus chinensis	10-14 days at 70-72°F (21-22°C)	Transplant (recommended) - Sow 1/8" deep into 72-cell flats or preferred seedling container 6-8 weeks before planting out. Heat and reduced daylength initiate flowering. Establish plantings early to avoid short stems. Direct seed - Once soil temperature is 65-70°F (18-21°C). Provide support. Row cover or insect netting helps prevent the spread of Aster Yellows Virus by leafhoppers. Pinching not required.		6-12"	Varies	Annual	Fresh - Outside ray florets begin to open. Place immediately in water. Dried - When blooms are fully open.
Bupleurum Bupleurum rotundifolium	14-21 days at 55-60°F (13-16°C)	Transplant - Sow into 128- or 72-cell plug flats or preferred seedling container 5-8 weeks before planting out. Direct seed - Sow into cool soil for best results.	Sun/Part Shade	10"	24-36"	Annual	Fresh - Flower heads begin to show color. Dried - Flowers completely open; hang to dry.









Zanzibar





Calendula

Pacific Apricot Beauty (A) 4648

50-55 days.

Pastel melon color. 2–3" wide, fully double blooms. Tall, vigorous, healthy plants with sturdy stems. More uniform plant habit and flower size than other calendulas in our trials within this color range. Ht. 18-24". ** ¥ >€ **%** **

PKT (100 seeds) \$4.20; 1,000 Seeds \$6.10; 5M @ \$4.14/M.

Ivory Princess (A) 4244

50-55 days.

Standout color combination. 2–3" wide, double and semidouble blooms on sturdy stems. Creamy petals with hints of gold contrast beautifully with a dark center disk. Ht. 18-26". 攀罩><罗漱 PKT (100 seeds) \$4.55; 1,000 Seeds \$6.80; 5M @ \$5.96/M.

Flashback Mix (A) 1496

Spectacular mix of colors with bicolor petals. A high percentage of double and semidouble flowers on long, strong stems. 11/2-3" blooms. Ht. 18-24". Avg. 3,400 seeds/oz. **CG**攀¥ ><**公**濱 PKT (50 seeds) \$6.15; 1/4 Oz. \$15.30; 1/2 Oz. \$26.15; Oz. \$47.00; 1/4 Lb. \$127.75; Lb. \$444.45.

Alpha (A) 2935

50-55 days.

Clear, bright orange blooms. High resin content for medicinal use. 2-3¹/2" blooms. Ht. 24-30". Avg. 2,070 seeds/oz. **G** 攀 ¥ 入 **/** *** PKT (200 seeds) \$5.85; 1/2 Oz. \$16.90; Oz. \$27.95; 1/4 Lb. \$80.20; Lb. \$279.60.

Carthamus Safflower

Zanzibar (A) 4266

70-80 days.

Sturdy, versatile flowers and foliage. Straight stems and branching flower clusters store well and can be used fresh or dried to add structure to mixed bouquets. Great with sunflowers. This strain is nearly thornless for easy harvest. Edible petals are sometimes used as a saffron substitute. PKT (100 seeds) \$5.75; 1,000 Seeds \$25.60.

Centaurea Bachelor's Button

Bachelor's Button (A)

65-75 days.

Classic cornflowers. Upright plants produce abundant double and semidouble, 1¹/₂" blooms. Mild-flavored edible flower for decorating desserts and salads. Cannot ship to NC. Avg. 5,900 seeds/oz. PKT (100 seeds) \$5.75; 1/2 Oz. \$12.50; Oz. \$14.75; 1/4 Lb. \$36.55; Lb. \$137.50.

Black Button 3435 Dark plum, almost black.

Classic Magic 3306 Black & plum, black & white, and purple.

Choice Mix 1016 Blue, pink, red, and white.

Florist Blue Boy 1017 Deep blue.

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Calendula Calendula officinalis	7-14 days at 70°F (21°C)	Direct seed (recommended) - After danger of frost, sow at a depth of ¹ / ₄ ". Make 2-3 successive sowings 2-3 weeks apart for continuous blooms from summer to heavy frost. Transplant - Sow 4-5 weeks before planting out.	Sun/Part Shade	6-12"	Varies	Annual	Fresh - Flowers ¹ / ₂ open. Edible - Flowers fully open.
Carthamus Carthamus tinctorius	10-14 days at 68-72°F (20-22°C)	Direct seed (recommended) - Sow after danger of frost. Cover seed lightly. Transplant - Sow into 50-cell plug tray, or preferred seedling container, 4-5 weeks before planting out. Harden off and transplant out after danger of frost.	Sun	6-9"	18-24"	Annual	Fresh - When flowers have begun to open and show color. Dried - Flowers are completely open.
Centaurea <i>Centaurea</i> <i>cyanus</i>	7-14 days at 60-65°F (16-18°C)	Direct seed (recommended) - Make 2-3 successive sowings for continuous blooms. Transplant - Sow 3-4 weeks before planting out.	Sun	2-9"	30-38"	Annual	Flowers are ¹ /4 to ¹ / ₂ open.

Celosia

Sunday™ Series (A)

85-100 days. C. argentea plumosa

Vibrant and uniform plumes. Uniform, productive plants. 3–5" long feathery spikes on long stems. Rich color complements high-summer and autumn arrangements. Ht. 30-40".

PKT (25 seeds) \$5.75; 100 Seeds \$11.95; 500 Seeds \$39.90.

A. Orange 4314

D. Wine Red 4315

B. Cherry 4317

E. Bright Pink 4316

C. Gold 3349

Sunday™ Mix 4310 Includes all colors listed above.

Celway™ Series (A)

90-100 days. C. argentea spicata

Versatile and elegant. Productive plants produce sturdy stems with 2-4" clusters of flower spikes. Blooms tuck neatly into bouquets and add a touch of sparkle. Ht. 36-46". >< &

PKT (25 seeds) \$5.55; 100 Seeds \$8.35; 500 Seeds \$39.95; 1,000 Seeds \$68.75.

F. Red 4318

G. Terracotta 4096

H. White 4095

Chief Series (A)

90-120 days. C. argentea cristata

Wide color range and uniform plants. Sturdy plants with strong stems. 2–7" blooms make useful fresh or dried cut flowers. Available as a mix and individual colors. Ht. 36–40".

PKT (100 seeds) \$5.75; 250 Seeds \$7.95; 1,000 Seeds \$13.80; 5M @ \$10.80/M; 25M @ \$9.80/M.

I. Carmine 1992 Bright carmine red.

Celosia seed is raw and uncoated.

J. Persimmon 1990 Deep apricot.

K. Gold 1994 Sunny golden yellow. **Chief Mix 1065** Includes gold, rose, persimmon, and red shades.

Flamingo Feather (A)

90-95 days. C. argentea spicata

Early, easy-to-grow celosia adds sparkle to bouquets. Uniform, upright plants produce tall, straight, sturdy stems with few leaves to strip away, making this an easy celosia to grow and harvest. Ht. 24–36". 4407G Organic CG

PKT (100 seeds) \$5.30; 1,000 Seeds \$16.65; 5M @ \$10.87/M. 4407 Conventional

PKT (100 seeds) \$4.50; 1,000 Seeds \$6.55; 5M @ \$4.40/M.

Pampas Plume (A) 1203 90-95 days. C. argentea plumosa **Perfect bouquet filler.** Masses of soft, feathery, 2–6" long plumes.

Multi-branching plants produce 10–14 stems

each. Ht. 33-48".

PKT (100 seeds) \$4.50; 1,000 Seeds \$6.65; 5M @ \$2.40/M.

Crystal Beauty (A) 4263

90-120 days. C. argentea cristata

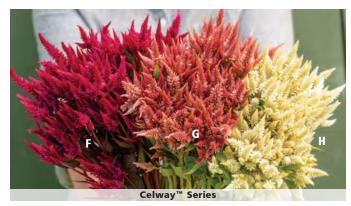
Sparkling, peach-to-champagne colored, crested celosia. 1¹/2-4" wide, fan-shaped combs. Uniform, upright plants and stems. Branching plants produce multiple stems. Ht. 36–48". 🔀 🐇

PKT (50 seeds) \$6.25; 250 Seeds \$21.55; 1,000 Seeds \$62.45.



Flamingo Feather











Product & Species		Sowing & Growing	Light Preference			Hardiness Zones	Harvest
Celosia <i>Celosia spp.</i>	8-14 days at 70-80°F (21-27°C)	Transplant (recommended) - Sow into 72-cell flats or preferred seedling container 6-8 weeks before planting out. Light is required for germination; cover very lightly to hold seeds in place. Grow seedlings at 63-68°F (17-20°C). Harden off and transplant out after danger of frost. Direct seed - Only in locations with a long growing season. Sow 1/8" deep last frost. Pinching is recommended to encourage branching.	Sun	6-12"	Varies	Annual	Fresh or dried - Flowers fully developed and stems are firm at the base of the bloom. Hang to dry.









Double Click Bicolor Pink





Cosmos

Double Click Series (A) 75-90 days.

Unusual double blooms in a range of colors. Tall plants with large, fully double and semidouble blooms 2-3" across. Great cut flower and garden addition. Ht. 42–46". Avg. 4,700 seeds/oz. PKT (25 seeds) \$5.75; 250 Seeds \$9.95; 1,000 Seeds \$29.05; 5M @ \$27.68/M.

Rose Bon Bon 4776 **Bicolor Violet 3311**

Cranberries 1959 **Bicolor Pink 1960**

Snow Puff 3731

Double Click Mix 1780 Shades of carmine, pink, and white.





Rubenza (A) 3438 75-90 days.

Unique and elegant color. As blooms mature, petals fade from a deep cranberry to an antique rose with hints of amber. The medium-height plants are very productive, flowering early and continuing to bloom for several weeks if cut or deadheaded. 2¹/2-3¹/2" blooms. Ht. 36-48". Avg. 3,300 seeds/oz. ×**

PKT (50 seeds) \$4.40; 500 Seeds \$6.65; 1,000 Seeds \$8.35; 5M @ \$7.07/M.





Afternoon White (A) 3443 75-90 days.

Strong, straight stems for easy cutting. Bred for cut-flower production. As a tetraploid, it has more substantive flowers and stems. Early to flower. The 2–4" blooms are not as profuse as more common cosmos varieties, but the stem and flower quality are far superior. Ht. 36-48". Avg. 18,100 seeds/oz. ><**

PKT (50 seeds) \$4.70; 250 Seeds \$8.15; 500 Seeds \$11.40; 1,000 Seeds \$19.75; 5M @ \$19.09/M.



Cupcakes Series (A) 90-100 days.

Novel cosmos resemble fluted cupcake wrappers. As showy as Double Click with lighter-weight blooms held upright on strong stems. The finely pleated blooms appear to float above the foliage. A small percentage of flowers have lovely, tufted centers. Ht. 40-50". Avg. 4,000 seeds/oz. PKT (50 seeds) \$5.75; 250 Seeds \$11.10; 500 Seeds \$21.90; 1,000 Seeds \$41.55; 5M @ \$33.74/M. **Blush 3398** White 4313





Sensation Mix (A) 1090 75-90 days.

Award-winning favorite. Single flowers, 3–4" across. AAS winner. Ht. 48-54". Avg. 4,700 seeds/oz. **電**><* PKT (50 seeds) \$4.70; 1/2 Oz. \$8.80; Oz. \$15.85; 1/4 Lb. \$39.30.

Versailles Mix (A) 1095 90-110 days.

Developed for cut-flower production. Will produce under short days. Strong stems can withstand considerable handling. Blooms are 2¹/₂" across. Ht. 40-48". Avg. 3,200 seeds/oz. ><** PKT (50 seeds) \$4.70. 1 000 Seeds \$6.70.5M @ \$5.72/M

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Product & Species	Days to Germination	Sowing & Growing	Light Preference			Hardiness Zones	Harvest
Cosmos Cosmos bipinnatus	7-10 days at 68-72°F (20-22°C)	Transplant - Sow into 50-cell plug flats or preferred seedling container 5-7 weeks before planting out, covering seeds lightly. Harden off and transplant out after danger of frost. Direct seed - Sow after last frost, once soil temperature is above 60°F (16°C), covering seeds lightly. Pinching encourages branching.	Sun	9-12"	Varies	Annual	Petals just opening, but not yet flattened. Deadheading is required to have blooms all summer.

Craspedia Drumstick Flower

Sun Ball (TP) 110-120 days.

Unique, long-lasting textural accent. 1" globes on long, stiff stems are easy to harvest and use as cut flowers. Long vase life as a cut flower. Retains color as a dried flower. Tolerates heat.

1771G Organic CG

PKT (100 seeds) \$6.15; 500 Seeds \$11.35; 1,000 Seeds \$19.00; 5M @ \$15.79/M; 25M @ \$13.82/M.

1771 Conventional

PKT (100 seeds) \$5.75; 500 Seeds \$21.75; 1,000 Seeds \$31.30; 5M @ \$26.48/M.

Cress

Persian Cress (A) 3399G 65-75 days.

Productive, easy-to-grow greenery. Airy, yet sturdy branches. We recommend multiple plantings about two weeks apart for continuous harvest. Avg. 12,300 seeds/oz. CG

PKT (200 seeds) \$5.60; 1/2 Oz. \$8.20; Oz. \$11.60; 1/4 Lb. \$28.95; Lb. \$90.85; 5 Lbs. @ \$79.23/Lb.

Delphinium

Magic Fountains Mix (P) 1488 105-125 days.

Widest color range in a Dwarf Pacific type. Full florets, tight internodes. Sturdy, compact plants will tolerate windy locations. *** PKT (50 seeds) \$5.75; 500 Seeds \$10.00; 1,000 Seeds \$13.25.

Digitalis Foxglove

First-year flowering digitalis is best treated as a fall- or spring-planted hardy annual, as winter survival is generally poor when treated as a perennial. NOTE: Conventional seed with conventional pelleting. This seed is not NOP-compliant.

Dalmatian Peach (F1) (TP) 4711P 120-135 days.

First-year flowering plants with exquisite color. Bells sit closely to one another on sturdy stems borne on vigorous plants. Pelleted seeds. Ht. 24-36". *>

PKT (50 seeds) \$5.65; 500 Seeds \$31.30; 1,000 Seeds \$50.55.

Camelot Series (F1) (TP) 120-135 days.

First-year flowering plants in a range of colors. Center spikes are large and full, and side shoots fill out the plant. Great for bouquets and gardens. Pelleted seeds. Ht. 28-40". *>

PKT (50 seeds) \$6.85; 250 Seeds \$24.95; 500 Seeds \$36.20; 1,000 Seeds \$58.75; 5M @ \$47.69/M.

A. Cream 4409P B. Lavender 4239P C. White 4240P D. Rose 4238P

Camelot Mix 1751P Includes all colors listed above











Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Craspedia Craspedia globosa	14-18 days at 70-75°F (21-24°C)	Transplant (recommended) - Sow 6-8 weeks before planting out. Cover seeds lightly.	Sun	12"	24-30"	Zones 8-11	Fresh - Flower heads are fully open and uniformly golden. Hang to dry.
Cress Lepidium sativium	2-5 days at 55-65°F (13-18°C)	Direct seed (recommended) - Sow as soon as soil can be worked. Cover seeds with ¹ /4" soil. Thin when first true leaves appear. Transplant - Sow 4-6 weeks before planting out.	Sun	2-6"	36-40"	Annual	Fresh or dried - When seed pods have matured. Hang to dry.
Delphinium <i>Delphinium</i> <i>elatum</i>	10-20 days at 65-70°F (18-21°C)	Transplant (recommended) - Sow 10-16 weeks before planting out. Support strongly advised.	Sun/Part Shade	12-18"	36-48"	Zones 3-7	¹ /4 to ¹ /3 of flowers on stem are open. Place immediately in water.
Digitalis <i>Digitalis purpurea</i>	14-21 days at 65-70°F (18-21°C)	Transplant (recommended) - Sow 10-12 weeks before planting out. Direct seed - As soon as soil can be worked (only in areas with long growing seasons).	Sun/Part Shade	12"	Varies	Zones 4-8	Lower ¹ /3 of flowers have opened. Deadheading encourages additional blooms.





Silver Dollar





Echinacea Coneflower

Chevenne Spirit (P) 1759 126-165 days, E. x hybrida Compact, first-year flowering perennial in a stunning mix of colors. Bred for improved branching and a higher percentage of 3-4" flowers per plant. Dramatic blooms for cut flowers, landscaping, or containers. AAS winner. Ht. 18-36". ¥ 大學業 PKT (25 seeds) \$10.95; 100 Seeds \$41.10; 250 Seeds \$95.30; 500 Seeds \$178.30; 1,000 Seeds \$329.60.

NEW Paradiso Tall Mix (P) 4919 135-165 days. E. x hybrida Tall, first-year flowering perennial in a wide range of colors. 3-4" wide blooms for casual cut-flowers, high-impact landscaping, or perennial beds. Ht. 24-36". Avg. 7,100 seeds/oz. ¥ ><参漸 PKT (25 seeds) \$5.75; 100 Seeds \$12.50; 250 Seeds \$26.50; 1,000 Seeds \$98.50.

Echinacea purpurea (P) 300-365 days. E. purpurea Common purple coneflower. Easy-to-grow echinacea. Vigorous

plants with large flowers. The fibrous roots are easier to harvest than those of other species, as there is no taproot, NOTE: 7-day stratification enhances germination, but is not critical. Ht. 24-36". ><参煮 **956 Organic** Avg. 7,200 seeds/oz. PKT (200 seeds) \$6.15; 1/2 Oz. \$13.00; Oz. \$16.65; 1/4 Lb. \$42.90; Lb. \$166.75. **842 Conventional** Avg. 7,700 seeds/oz. PKT (200 seeds) \$5.75; 1/2 Oz. \$8.00; Oz. \$11.25; 1/4 Lb. \$28.10; Lb. \$84.30.



Eryngium Sea Holly

Glitter Series (P) 365 days.

Long-lasting specialty cut. Attractive blooms with a metallic shine. Eryngium is a hardy perennial with long, sturdy stems. Tolerates hot, sunny locations. ><参賞

PKT (25 seeds) \$5.75; 100 Seeds \$17.90; 500 Seeds \$59.75; 1.000 Seeds \$106.70.

Blue Glitter 1918

White Glitter 1919

Eucalyptus

Silver Dollar (TP) 1509 120-150 days. E. cinerea Large, silvery blue-green leaves. The most popular foliage for fresh, dried, or preserved use for large bunches and decorating. Ht. 24–36". \ \&\ \alpha \ PKT (50 seeds) \$6.15; 250 Seeds \$22.90; 500 Seeds \$39.50; 1,000 Seeds \$72.00; 5M @ \$65.00/M; 25M @ \$62.40/M.

Baby Blue Bouquet (TP) 4770 120-150 days. E. pulverulenta Classic florists' eucalyptus. Very similar to Baby Blue. Robust plants produce column-like, sturdy stems packed with round, waxy, silvery blue leaves 2" in diameter. Ht. 36-48".

PKT (50 seeds) \$6.75: 250 Seeds \$27.05: 500 Seeds \$48.90: 1,000 Seeds \$89.45; 5M @ \$65.00/M.

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Echinacea <i>Echinacea spp.</i>	10-15 days at 65-70°F (18-21°C)	Transplant (recommended) - Sow 8-10 weeks before planting out. Direct seed - Sow in spring when soil is 65°F (18°C).	Sun	18-24"	Varies	Zones 3-10	Fresh - Flower - Petals are expanding; Cone - harvest when cone is raised and has turned golden. Dried - After removing petals, hang to dry.
Eryngium <i>Eryngium planum</i>	7-10 days at 72-75°F (22-24°C)	Transplant - Sow 10-16 weeks before planting out.	Sun	18-24"	40-46"	Zones 3-8	Entire flower head and bracts turn blue or white.
Eucalyptus Eucalyptus spp.	14-21 days at 65-75°F (18-24°C)	Transplant (recommended) - Sow 10-12 weeks before planting out. Solar mulch is recommended in areas with short growing seasons.	Sun	12-24"	Varies	Zones 9-11	After leaves start to feel leathery. Easily preserved with glycerin.

Gomphrena Globe Amaranth

Audray Series (A) 95-110 days. G. globosa Preferred series for cut flowers. The Audray Series offers highly uniform plants with tall stems. Compared to the QIS Series, Audray is taller and more uniform but a bit later to flower, and with a more limited color range. \(\forall \times_{\pi} \) PKT (50 seeds) \$5.20: 250 Seeds \$8.05: 500 Seeds \$12.30; 1,000 Seeds \$24.20.

Pink 4774 **White 3367** Purple-Red 4479 **Audray Mix 4425**

QIS™ Series (A) 85-100 days.

Glowing colors for arrangements. 1¹/2" blooms on long stems. **

PKT (50 seeds) \$4.70; 250 Seeds \$7.35; 500 Seeds \$10.25; 1,000 Seeds \$18.80; 5M @ \$17.06/M.

Carmine 1529 G. haageana Pink 4584 G. globosa Orange 1944 G. haageana

QIS™ Formula Mix 1737 G. globosa

Raspberry Cream (A) 4311 85-100 days. G. globosa Unique, creamy raspberry color. Uniform, productive plants. Very similar to QIS™ Pink but with a darker, richer color. 🕇 🏸 🎄

PKT (50 seeds) \$4.70; 250 Seeds \$7.35; 500 Seeds \$10.25; 1,000 Seeds \$18.80; 5M @ \$17.06/M.

Strawberry Fields (A) 1512 85-100 days. G. haageana First and best "true red" gomphrena. 11/2" blooms on long stems. *><* PKT (50 seeds) \$5.00; 500 Seeds \$8.15; 1.000 Seeds \$10.20.

Grasses, Ornamental

Frosted Explosion (A) 1855 84-112 days. Airy cut-flower filler. For cut-flower production, keep harvested for second and subsequent flushes of stems. Avg. 38,300 seeds/oz. ¥>< PKT (100 seeds) \$5.75; 500 Seeds \$21.35;

1,000 Seeds \$38.70; 5M @ \$33.28/M. Green Drops (A) 4719 65-75 days.

Productive and easy to grow and harvest. Stems can be harvested early, when bead-like tassels are sparkling bright green. Or, for a more autumnal look, harvest a bit later, when seed heads have developed hues of purple and gold, and a deeper, graceful arch. Avg. 5,700 seeds/oz. PKT (200 seeds) \$5.45; 1,000 Seeds \$13.85; 5M @ \$12.64/M.





























Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Gomphrena <i>Gomphrena spp.</i>	5-14 days at 70-78°F (21-26°C)	Transplant - Sow into 72-cell flats, or preferred seedling container, 6-8 weeks before planting outside. Cover lightly with 1/s" growing media. Harden off plants and transplant out after danger of frost.	Sun	6-8"	18-28"	Annual	Fresh - Flowers in color but before fully open. Dried - Flowers completely open; hang.
Ornamental Grass Frosted Explosion Panicum elegans	7-14 days at 60-64°F (16-18°C)	Transplant - Sow 5-6 weeks before planting out.	Sun	10-12"	24-32"	Annual	When flower spikes are fully opened.
Ornamental Grass Green Drops Panicum violaceum	7-14 days at 65-70°F (18-21°C)	Direct seed (recommended) - Sow ¹ /8" deep; cover lightly. Transplant - Sow into 72 to 50-cell flats 4-6 weeks before planting out.	Sun	3-12"	48-58"	Annual	Fresh or Dried - When seed heads are still green or have darkened.









QIS™ Series

Hibiscus

Mahogany Splendor (TP) 4013

115-130 days.

Decorative red-mahogany foliage. Vigorous drought and heat-tolerant plants with sturdy branches. Ideal for late-summer and fall bouquets. NOTE: Mahogany color develops in full sun. If grown indoors or in part shade, foliage will be green to rust in color. Tropical, herbaceous perennial in Zones 8a–9b; tender perennial or annual in all other growing zones. \(\forall \times \) PKT (25 seeds) \$7.90; 100 Seeds \$19.35; 500 Seeds \$91.15; 1,000 Seeds \$156.20.

Hyacinth Bean

Ruby Moon (TP) 1002

110-120 days.

Provides color all season. Purple stems, lilac-rose blossoms, and shiny 2-3" magenta pods. Blooms and pods are useful as cut flowers; pods may also be dried. \$\mathbb{T} \times \mathbb{Z} \langle

PKT (15 seeds) \$6.05; 50 Seeds \$16.80; 100 Seeds \$29.75; 250 Seeds \$54.25; 500 Seeds \$97.70; 1,000 Seeds \$184.95.

Kale, Ornamental

Crane Series (F1) (A) 90-110 days.

Rich color for autumn bouquets. Extend the flower production season with ornamental kale. The Crane Series is uniform and provides a range of colors and textures. ** 🔀

PKT (50 seeds) \$5.80; 250 Seeds \$10.15; 500 Seeds \$15.80; 1,000 Seeds \$28.50; 5M @ \$25.49/M; 10M @ \$23.61/M.

A. Pink 3649 B. Red 3647 C. White 3648

Larkspur

Misty Lavender (A) 3347 80-90 days.

Unique, pearly gray-lavender blooms. Tall spires of dense, 1¹/₂–1³/₄" florets on 9–12" flower spikes. Plants produce double blooms with a small percentage of singles.

PKT (100 seeds) \$4.90; 1,000 Seeds \$7.00; 5M @ \$3.66/M; 25M @ \$3.14/M.

QIS™ Series (A) 80-90 days.

A cut-flower classic. Tall spires of dense florets in a rainbow of color options. All colors produce double blooms with a small percentage of singles. PKT (100 seeds) \$3.55; 1,000 Seeds \$5.60; 5M @ \$2.65/M; 25M @ \$2.14/M; 100M @ \$1.80/M.

D. Dark Blue 3339 **G. White 3340** E. Lilac 3337 H. Light Pink 3338 F. Liaht Blue 3336 I. Carmine 3335

Larkspur Formula Mix 3350 Includes all colors pictured here.

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Hibiscus <i>Hibiscus acetosella</i>	3-5 days at 70-76°F (21-24°C)	Transplant (recommended) - Sow 6-8 weeks before planting out, covering seed lightly. Transplant out after danger of frost has passed.	Sun	24-36"	48-70"	Zones 8-9	Leaves are leathery, stems are firm and woody.
Hyacinth Bean Dolichos lablab	5-12 days at 65-70°F (18-21°C)	Transplant - Sow 4-6 weeks before planting out. Direct seed - After danger of frost. Trellis or other support required.	Sun	12"	10-20′	Zones 9-10	Flowers - 80% of flowers on stem are open. Pods - When half on stem are shiny and firm. Edible flowers - Fully open.
Kale, Ornamental Brassica oleracea	10-14 days at 70°F (21°C)	Transplant (recommended) - Sow 4-6 weeks before planting out. Direct seed - 3 months before expected fall frost. When 10-12" tall, remove lower leaves. Repeat 3 or 4 times.	Sun	6"	24-36"	Annual	Kale should have a 6" head on a 24" stem with good coloring. Plants will begin to color once temps. drop below 50°F.
Larkspur Consolida ajacis	14-21 days at 55°F (13°C)	Direct seed (recommended) - 1/4" deep (darkness is required for germination) in early spring for summer bloom or in fall for bloom the following year. Transplant - Sow into 72-cell plug flats or preferred seedling container 5-7 weeks before planting out.	Sun	4-6"	36-48"	Annual	Fresh - 2-3 basal flowers open on up to ¹ /3 of stem. Dried - flowers on stem are open but before petals drop.

Marigold

White Swan (F1) (A) 4641 65-75 days. T. erecta

Cream-colored marigold for cut flowers. 2-3" blooms have a mild, sweet, marshmallow scent. Productive, sturdy, uniform plants. More compact plants than those from the Giant and Coco™ Series. Significantly taller and higher quality than all other cream-colored marigolds in our trials. Ht. 28–36". 🎖 🗷 👗

PKT (25 seeds) \$7.25; 100 Seeds \$19.25; 500 Seeds \$78.20; 1.000 Seeds \$117.95.

Giant Series (F1) (A) 70-90 days. T. erecta

Tall, strong stems for cut flowers. Large flower heads, avg. 3", sit atop sturdy plants. These giant marigolds are prolific producers for cuts as well as excellent garden performers. Ht. 36–40". * PKT (50 seeds) \$5.80; 250 Seeds \$11.65; 500 Seeds \$20.60; 1,000 Seeds \$37.15; 5M @ \$31.55/M.

Yellow 1884 Orange 1883

Coco™ Gold (F1) (A) 4097 72-92 days. T. erecta

A gold complement to our Giant Series marigolds. The sturdy plants produce abundant, fully double, 2¹/2-3" blooms excellent for cut flowers and garden beds. Bold, uniform flowers are also useful for marigold garlands. Blooms a bit later and produces slightly smaller flowers than the Giant Series. Ht. 36–42". \\$\square\$ PKT (25 seeds) \$5.60; 100 Seeds \$13.25; 500 Seeds \$24.00; 1,000 Seeds \$43.10.

Durango Outback Mix (A) 1821 50 days. T. patula

Extra-large blooms with outstanding uniformity. Highly branching plants. A good choice for packs, pots, and garden planting. Bloom size is 2–2¹/₂". Ht. 8–12". ¥₩

PKT (50 seeds) \$5.75; 500 Seeds \$10.60; 1,000 Seeds \$16.65; 5M @ \$13.35/M.

Queen Sophia (A) 1617 60 days. T. patula

Dark orange petals rimmed in gold. 2¹/2-3" blooms. AAS winner. Ht. 10-12". Ava. 10.850 seeds/oz. ¥₩ PKT (50 seeds) \$5.75; 1/8 Oz. \$13.35; 1/4 Oz. \$23.05; 1/2 Oz. \$40.35; Oz. \$73.00; 1/4 Lb. \$205.05.

Gem Series (A) 60 days. T. tenuifolia

Bite-size for use as edible garnish. Hundreds of petite, citrusscented flowers cover neat, low mounds of lacy foliage. Long-blooming for beds, borders, and containers. Ht. 12-18". Avg. 39,300 seeds/oz.

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PKT (50 seeds) \$5.45; 1/16 Oz. \$7.90; 1/4 Oz. \$11.15; 1/2 Oz. \$19.45; Oz. \$32.95; Lb. \$484.50.

J. Lemon Star 1979 K. Red Gem 1857

L. Lemon Gem 1410 M. Tangerine Gem 1411



Lisianthus available online at

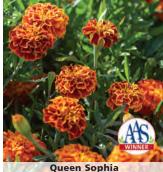
Johnnyseeds.com















Product & Species		Sowing & Growing	Light Preference			Hardiness Zones	Harvest
Marigold Tagetes spp.	4-7 days at 75-80°F (24-27°C)	Transplant (recommended) - Sow into 72-cell flat or preferred seedling container 4-6 weeks before planting out, lightly covering seed. Transplant out after danger of frost. Direct seed - Sow 1/4" deep. Pinching encourages branching.	Sun	8-18"	Varies		Flowers are fully open but still have tight centers.







Matricaria Feverfew

Ball Series (TP) 100-110 days.

Button-like blooms. Productive plants with stiff, straight stems. Compared to Virgo, plants are slightly shorter and have a fuller habit, but bloom quality and appearance are similar. 🌀 🔀 🎄

PKT (50 seeds) \$6.15; 250 Seeds \$13.60; 500 Seeds \$24.70; 1,000 Seeds \$43.60. Sunny Ball 4335G

Snow Ball 4338G

Magic Series (TP) 100-110 days.

Prolific filler flower. Upright, well-branched plants have long, strong stems that support abundant blooms. Easy to grow and harvest. $\mathbf{G} > \mathbf{A}$

PKT (50 seeds) \$6.15; 250 Seeds \$13.60; 500 Seeds \$24.55; 1,000 Seeds \$43.60. Lime Green 1956G

Single 1957G

Virgo (TP) 3444 100-110 days.

Pure white, button-like blooms. Productive plants with stiff, straight stems. PKT (50 seeds) \$5.75; 250 Seeds \$8.60; 500 Seeds \$13.00; 1,000 Seeds \$24.45; 5M @ \$22.88/M.

Tetra White (TP) 1708 100-110 days.

Similar timing, plant habit, and productivity to the Magic Series. Fully double 3/4-1" blooms uniformly fill the top of the plant, making it a very productive cut flower. PKT (50 seeds) \$5.20; 1,000 Seeds \$7.05; 5M @ \$3.66/M; 25M @ \$3.17/M.



Monarda Bee Balm

Panorama Mix (P) 908 300-365 days.

Multipurpose perennial. Semidouble blooms are useful as cut and edible flowers. Additionally, monarda attracts bees, butterflies, and hummingbirds to the garden.

PKT (100 seeds) \$5.75; 500 Seeds \$9.65; 1,000 Seeds \$18.15; 5M @ \$14.41/M; 10M @ \$12.05/M.



White Finch (A) 65-70 days.

Elegant filler flower. 2¹/₂–3¹/₂" pure white flowers. Full, well-branched plants with strong, upright stems. Easy to grow. The clusters of green, star-shaped seed pods also make a unique bouquet addition. 攀入拳濱

1774G Organic 😘

PKT (50 seeds) \$5.90; 250 Seeds \$9.85; 500 Seeds \$14.05; 1,000 Seeds \$23.65; 5M @ \$21.11/M.

1774 Conventional

PKT (50 seeds) \$5.45; 250 Seeds \$7.00; 500 Seeds \$10.80; 1,000 Seeds \$20.05; 5M @ \$18.34/M.





Narcissus available online at Johnnyseeds.com

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Matricaria Tanacetum parthenium	10-14 days at 70°F (21°C)	Transplant (recommended) - Sow 5-7 weeks before transplanting in either spring or fall. Direct seed - As soon as soil can be worked.	Sun	8-12"	28-36"	Zones 5-9	When flower cluster is ³ / ₄ open.
Monarda <i>Monarda didyma</i>	10-14 days at 68-72°F (20-22°C)	Transplant (recommended) - Sow 7-9 weeks before planting out. Direct seed - Cover seed lightly.	Sun/Part Shade	12-18"	36-44"	Zones 4-9	Fresh - Almost completely open. Dried - Completely open. Hang to dry.
Orlaya Orlaya grandiflora	12-16 days at 60-65°F (16-18°C)	Direct seed (recommended) - Cover seeds lightly. Transplant - Sow 4-6 weeks before planting out. Tolerates dry soil.	Sun	9-12"	24-30"	Annual	Fresh - 80% of the flowers in the umbel are open. Dried - Once seed pods form.

Nasturtium

Jewel Mix (A) 1420 55-65 days. T. minus

Well-known mix of singles and doubles. 2–2¹/2" blooms are held above light green foliage. Delicious edible flowers. Mounded plant habit. Ht. 16". Avg. 200 seeds/oz. 🏋 📈 PKT (50 seeds) \$5.00; Oz. \$6.45; 1/4 Lb. \$13.50; Lb. \$45.50; 5 Lbs. @ \$43.00/Lb.

Empress of India (A) 1824 55-65 days. T. minus

Compact Victorian-era heirloom. Mounded plant habit with 2-21/2" flowers and dark blue-green foliage. Especially suitable for containers or as an edging plant. Ht. 16-20". Avg. 200 seeds/oz. 🖫 🎖 🎉

PKT (50 seeds) \$5.00; Oz. \$6.45; 1/4 Lb. \$13.50; Lb. \$45.50.

Kaleidoscope Mix (A) 1882G 55-65 days. T. majus

Vigorous organic mix. All the traditional, bright colors of a nasturtium mix with the added plus of marvelous, swirled bicolors with $2-2^{1}/2$ " blooms. Trailing and climbing habit. Ht. 16". Avg. 200 seeds/oz. 💢 🌠

PKT (50 seeds) \$5.90; Oz. \$12.80; 1/4 Lb. \$32.00; Lb. \$110.00; 5 Lbs. @ \$105.00/Lb.



Green-and-white variegated foliage. Improved strain of brilliant, single, 2" flowers. Compact, mound-shaped plants. Ht. 10–15". Avg. 200 seeds/oz. \ \frac{1}{2} PKT (50 seeds) \$5.00; Oz. \$6.45; 1/4 Lb. \$13.50; Lb. \$45.50; 5 Lbs. @ \$43.00/Lb.

Trailing Nasturtium Mix (A) 1201 55-65 days. T. majus

Perfect for hanging baskets and containers, or even as a ground cover. 2" blooms. Will "climb" if tied to upright supports. Ht. 96–120". Avg. 230 seeds/oz. \\$\forall \? PKT (50 seeds) \$5.00; Oz. \$6.45; 1/4 Lb. \$13.50; Lb. \$45.50; 5 Lbs. @ \$43.00/Lb.

Nigella

Love-In-A-Mist (A) 1532 65-70 days for flowers; 80-85 for pods. N. damascena Beautiful blooms and unusual seed pods. Heirloom favorite for fresh or dried flowers. Balloon-shaped seed pods. Ht. 12–24". Avg. 14,000 seeds/oz. 唱入《参常 PKT (50 seeds) \$5.75; 1/2 Oz. \$14.00; Oz. \$24.25; 1/4 Lb. \$65.95; Lb. \$208.50.

Miss Jekyll Dark Blue (A) 4402G

65-70 days for flowers; 80-85 for pods. N. damascena

Brilliant blue, star-shaped flowers. Fluffy 13/4-2" blooms on stiff stems accented by ferny foliage and decorative, purple-and-green seed pods. Ideal for fresh or dried bouquets. Ht. 20-28". **CG** ><参*

PKT (50 seeds) \$5.30; 1,000 Seeds \$10.40; 5M @ \$6.33/M.

Albion Series (A) 65-70 days for flowers; 80-85 for pods. *N. damascena*

Double flowers and decorative seed pods for fresh and dried bouquets. 13/4-2" blooms fade to large, whimsical seed pods on long, stiff stems. Ht. 12–24". PKT (50 seeds) \$5.20; 500 Seeds \$7.35; 1,000 Seeds \$9.10; 5M @ \$7.86/M; 10M @ \$6.75/M.

Black Pod 3312 Green Pod 1804

Delft Blue (A) 1955 65-70 days for flowers; 80-85 for pods. N. papillosa

Unique 1¹/₂–2" flowers. Named for the famous Dutch Delft blue pottery. Blue splashes on flower petals in varying shades of blue and gray, and intricate, deep purple centers. Produces unusual seed pods that can be used in fresh or dried arrangements. Ht. 24-36". ><参書

PKT (50 seeds) \$5.20; 500 Seeds \$7.35; 1,000 Seeds \$9.10; 5M @ \$7.86/M; 10M @ \$6.75/M.



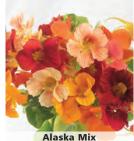




Empress of India



Kaleidoscope Mix





Trailing Nasturtium Mix









Delft Blue

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing		Hardiness Zones	Harvest
Nasturtium <i>Tropaeolum spp.</i>	7-14 days at 60-65°F (16-18°C)	Direct seed (recommended) - Sow ¹ / ₂ -1" deep. Transplant - Sow 3-4 weeks before planting out.	Sun/Part Shade	8-12"	Varies	Annual	Edible flowers - fully open; Edible leaves - at any time.
Nigella <i>Nigella spp.</i>	10-14 days at 60-65°F (16-18°C)	Direct seed (recommended) - Sow 3-4 times every 2-3 weeks early in season for continuous flower/pod production. Transplant - Sow 4-6 weeks before planting out.	Sun	2-9"	Varies	Annual	Fresh - Buds fully colored or pods have begun to develop. Dried - Seed pods firm.











Rudbeckia

Indian Summer (TP) 1148

90-105 days. R. hirta

Gigantic golden flowers. Semidouble and single blooms measure 4–7". Sturdy stems, vigorous branching. Requires no staking. AAS winner. Ht. 36–42". ¥≫

PKT (100 seeds) \$5.45; 1,000 Seeds \$12.55; 5M @ \$7.52/M.

Prairie Sun (TP) 1644P

90-105 days. R. hirta

Unique bicolor. 4–6" flowers bloom freely on vigorous plants. Conventional seed with conventional pelleting. This seed is not NOPcompliant. AAS winner. Ht. 28–32". \ \

PKT (100 seeds) \$6.15; 500 Seeds \$22.05; 1,000 Seeds \$38.60.

Sahara (TP) 4125

100-120 days. R. hirta

Popular blend of colors. A mix of rich fall colors and muted pastels. Includes shades of copper, brown, pale yellow, and soft rose. Double and semidouble 2–3¹/₂" blooms. NOTE: Short stems make Sahara only useful for shorter bouquets and design work. Ht. 20–22". \\

PKT (100 seeds) \$5.75; 250 Seeds \$11.10; 500 Seeds \$19.50; 1.000 Seeds \$34.20.

Cherry Brandy (TP) 1865

100-120 days. R. hirta

First red rudbeckia from seed. Compact plants with 3–4" blooms. Ht. 20–24". ¥>€

PKT (100 seeds) \$6.35; 250 Seeds \$15.45; 1,000 Seeds \$59.00.

Rudbeckia triloba (P) 1969G

90-100 days. R. triloba

Productive filler flower. An excellent cut flower as the stems are wiry, well-branched, and have few leaves. Tolerates drought. Short-lived perennial; typically flowers in the first year. 05×8

PKT (100 seeds) \$5.60; 500 Seeds \$8.00; 1,000 Seeds \$13.35; 5M @ \$8.00/M.



SCAN THIS CODE to watch a video recap of our overwintering flower trials including a summary of our best-performing crops.

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing			Harvest
Rudbeckia Rudbeckia hirta	8-14 days at 68-72°F (20-22°C)	Transplant (recommended) - Sow into 72 to 50-cell plug flats 5-7 weeks before planting out. Cover seed very lightly as light is needed for germination. Direct seed - Cover seeds very lightly. Pinching not required. Reseeds.	Sun	12-18"	Varies	Zones 9-10	Before blooms are completely open. Deadheading increases bloom.
Rudbeckia <i>Rudbeckia triloba</i>	7-10 days at 70-75°F (21-24°C)	Transplant - Sow 5-7 weeks before planting out. Cover seed lightly (1/64"). Direct seed - Gently press seed into soil as soon as soil can be worked in early spring or fall. Pinching not required. Reseeds.	Sun/Part Shade	18-24"	48-60"	Zones 3-9	When blooms are completely open.







Pincushion Formula Mix





Scabiosa Pincushion Flower

Pincushion Series (A) 90-100 days. S. atropurpurea

Elegant cut flower on strong, slender stems. Sturdy, uniform annual scabiosa mix in a wide range of colors. 11/2-21/2" blooms. 攀米常 PKT (50 seeds) \$5.20; 500 Seeds \$7.75; 1,000 Seeds \$13.15; 5M @ \$9.40/M; 25M @ \$7.95/M.

- A. Black Knight 1724 Almost black.
- B. Fata Morgana 3666 Creamy apricot.
- C. Fire King 3715 Deep scarlet red.
- D. Oxford Blue 3714 Lavender blue.
- E. Merlot Red 3379 Dark wine red.
- F. Salmon Rose 3716 Coral.
- G. Snowmaiden 3717 Pure white.

Pincushion Formula Mix 1999 Formula mix of black, blue, yellow, pink, bright red, deep blue, salmon rose, and pure white.

Starflower (A) 3785 90-95 days. S. stellata

Unusual, textural cut flower. Small, pale blue blossoms on wiry stems transform into highly decorative, bronze-colored geometric and globeshaped seed heads. Plants are grown primarily for the papery seed pods, which are useful for both fresh and dried bouquets. PKT (50 seeds) \$5.20; 500 Seeds \$7.75; 1,000 Seeds \$13.15; 5M @ \$9.40/M; 25M @ \$7.95/M.

Pincushion Mix (A) 4135G 90-100 days. S. atropurpurea Field-grown mix of black, blue, creamy yellow, pink, bright red, deep blue, rose hues, and pure white. **G**攀 米 *

PKT (50 seeds) \$5.60; 500 Seeds \$12.00; 1,000 Seeds \$20.40; 5M @ \$17.27/M.

Fama Series (P) 105-140 days. S. caucasica

First-year flowering perennial. Elegant 2¹/2-3¹/2" blooms with long, clean, wiry stems and good vase life. Perfect for cutting. Seed pods can be used to add whimsy and interest to mixed bouquets. Produces all summer long. *>

PKT (50 seeds) \$8.95; 100 Seeds \$17.60; 250 Seeds \$43.35; 500 Seeds \$83.35; 1,000 Seeds \$159.45.

Deep Blue 1761 White 1760

Salvia

Victoria Blue (TP) 1775 125-130 days.

Dense 5-8", deep-blue spikes bloom summer to frost. Uniform plants tolerate heat, humidity, and poor soils. Well-suited for mass plantings. Strong, thin stems. Avg. 23,800 seeds/oz. * PKT (50 seeds) \$5.75; 1/32 Oz. \$11.40; 1/16 Oz. \$18.60; 1/8 Oz. \$30.85; 1/4 Oz. \$52.50.

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Salvia <i>Salvia farinacea</i>	5-12 days at 75-78°F (24-26°C)	Transplant - Sow 6-8 weeks before planting out.	Sun/Part Shade	12"	18-24"	Zones 8-10	Bottom 3-4 flowers open.
Scabiosa <i>Scabiosa spp.</i>	10-12 days at 65-70°F (18-21°C)	Transplant (recommended) - Sow 4-6 weeks before planting out. Direct seed - Successive plantings every 2-3 weeks until late spring give the best quality flowers and pods. May require support.	Sun	9-15"	24-36"	Annual	Flowers almost fully open or seed heads have formed and are still green.
Scabiosa <i>Scabiosa caucasica</i>	10-12 days at 65-70°F (18-21°C)	Transplant (recommended) - Sow 6-8 weeks before planting out.	Sun/Part Shade	12-18"	26-30"	Zones 3-7	Flowers are at bud stage to half open.











Snapdragon

Potomac Series (F1) (A) 110-120 days.

Refined series for field or greenhouse. Selected for improved uniformity of bloom time and stem length. Group 3–4, considered a "main season" or "all season" variety. Ht. 40–60". PKT (50 seeds) \$5.45; 250 Seeds \$8.45; 500 Seeds \$14.40; 1,000 Seeds \$22.50; 5M @ \$21.50/M.

A. Yellow 1953 F. Red 1952

B. Ivory 3546 G. Appleblossom 1945 H. Lavender 1948 C. Royal 1950 **D. Orange 1949** I. Cherry Rose 1951

E. Pink Improved 1947 **Berry Blend 4256 EXCLUSIVE!**

Early Sunrise Mix 4255 110-115 days. EXCLUSIVE! Johnny's Potomac Custom Mix 1940 EXCLUSIVE!

NEW Cannes Light Bronze III (F1) (A) 4935 105-115 days. Unique peachy-cantaloupe color. Group 3 snapdragon, well-suited for production under long days and high light. Despite the inclusion of "Bronze" in the name, bloom color is a rosy cantaloupe color. Excellent performance in the field or greenhouse. About 5 days earlier to bloom than the Potomac Series. Ht. 28–36".

PKT (50 seeds) \$5.50; 250 Seeds \$9.25; 500 Seeds \$16.50; 1.000 Seeds \$29.00.

Madame Butterfly Series (F1) (A) 110-120 days.

Unique double-petal type. Also known as an azalea type, Madame Butterfly's double petals create full, fluffy blooms for a Victorian look. For outdoor or greenhouse production. Bloom time comparable to Group 3–4 "main season" or "all season" varieties. Ht. 26–36".

PKT (50 seeds) \$5.20; 250 Seeds \$7.95; 500 Seeds \$12.25; 1,000 Seeds \$20.50; 5M @ \$18.00/M.

J. Rose 3309

K. Red 4387

L. Bronze 4384

M. Yellow 4388

N. Pink 4386

O. Bronze with White 3326

P. Ivory 4385

Cherry Bronze 4665 Madame Butterfly Mix 1930 AAS winner.



Find our Snapdragon Production Guide at Johnnyseeds.com/snapdragon-production

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing		Hardiness Zones	Harvest
Snapdragon Antirrhinum majus	/U-/5°F (21-24°C\	Transplant (recommended) - Surface-sow into 128-cell flats or preferred seedling container 8-10 weeks before planting out. Light is required for germination; cover just enough to hold seeds in place. Pinching is recommended if branching is desired.	Sun/Part Shade	4-12"	Varies	Annual	Florets on lower 1/3-1/2 of the spike are open.





















Costa II Series (F1) (A) 100-110 days. Early series for spring and fall production.

Exceptionally robust stems and uniform growth in the field or greenhouse when grown under short days and low temperatures. Group 2. Ht. 28–36".

PKT (50 seeds) \$5.75; 250 Seeds \$10.95; 500 Seeds \$19.50; 1,000 Seeds \$34.45; 5M @ \$28.80/M; 25M @ \$24.40/M.

Silver II 4092 **Apricot II 3442** Costa II Mix 1679



Statice

Long-lasting for both fresh and dried bouquets, statice is one of the best choices for a dried flower as it holds its color well and is easy to dry.

Johnny's Pastel Mix (A) 4325 110-120 days.

EXCLUSIVE! A formula mix of soft pastel shades. Selected for improved balance of colors and uniformity. Includes pastel yellow, pastel blue, white, apricot, lavender, and rose shades. 🔀 🕸 🔭 PKT (100 seeds) \$5.20; 500 Seeds \$14.50; 1,000 Seeds \$19.90.

Johnny's Statice Formula Mix (A) 4201 110-120 days.

EXCLUSIVE! A formula mix of our favorite varieties. Selected for improved balance of colors and uniformity. Includes yellow, white, blue, pastel blue, purple, and rose shades. ><。※** PKT (100 seeds) \$4.75; 1,000 Seeds \$7.25; 5M @ \$5.50/M.

Seeker & QIS Series (A) 110-120 days.

Sturdy dried and fresh-cut flower. Productive plants produce 11/2-3" flower clusters on strong stems in the field and greenhouse. ><参索

PKT (100 seeds) \$4.75; 1,000 Seeds \$7.25; 5M @ \$5.50/M.

Seeker Blue 3705 Deep blue.

Seeker Pastel Blue 3706 Light blue.

Seeker White 3707 Pure white, some showing blush of pink. Seeker Rose Shades 3720 Varying shades of rose pink.

Seeker Purple 3721 Deep purple.

QIS Yellow 4708 Bright yellow.

QIS Apricot 3352 Varying shades of apricot and coral.



Product & Species	Days to Germination	Sowing & Growing	Light Preference			Hardiness Zones	Harvest
Statice Limonium sinuatum	5-14 days at 70°F (21°C)	Transplant (recommended) - Sow into 50-cell flats or preferred seedling container 5-6 weeks before planting outside. Light aids germination; cover just enough to hold seeds in place. Harden off plants and transplant out after danger of frost.	Sun	12"	24-30"	Annual	When the individual flowers are mostly open and showing color. Hang to dry.











Stock

NEW Stox® Series (A) 90-105 days.

Innovative colors, high-quality performance. Sturdy, upright stems are comparable to the Iron Series. Single-stem, or column-type stock for one-cut harvest. Ht. 24–28". >

PKT (50 seeds) \$5.55; 250 Seeds \$9.20; 500 Seeds \$15.85; 1,000 Seeds \$26.40; 5M @ \$23.40/M.

A. Rose Pink 4906

B. Champagne 4904

C. Antique Rose 4905

Iron Series (A) 90-105 days.

Reliable florist quality. Early, single-stem stock in a highly uniform series for one-cut harvest. Named for its strong, straight, rigid stems. Performs well in spring, early summer, and fall. Tightly spaced florets on the flower spike make for compact blooms with a full appearance. Ht. 24–28".

PKT (50 seeds) \$5.55; 250 Seeds \$9.20; 500 Seeds \$15.85; 1,000 Seeds \$26.40; 5M @ \$23.05/M.

D. White 3691 I. Rose Pink 3798

E. Yellow 3690 J. Rose 3797

F. Apricot 3799 K. Purple 3795

G. Cherry 3689 L. Blue 3796

H. Pink 3301

Iron Pastel Mix 4649 EXCLUSIVE!

Katz Series (A) 90-100 days.

Versatile single-stem stock. Early one-cut series with long stems. Performs well in spring, early summer, and fall. Good uniformity in bloom time and stem length. Ht. 24–32". ➤ ✓ ✓

PKT (50 seeds) \$5.00; 250 Seeds \$7.45; 1,000 Seeds \$12.85; 5M @ \$10.61/M; 25M @ \$9.88/M.

M. Purple 3694 Q. Cherry Blossom 3695

N. Ruby 3696
 R. Apricot 3698
 Bright Rose 3697
 Yellow 3693
 Lavender Blue 3692
 White 3699

Katz Formula Mix 3725 EXCLUSIVE! Includes all colors listed above.

Vintage Brown (A) 4093 90-105 days.

Trendy bloom color and excellent stem quality. Tightly spaced florets on thick, strong, straight stems. Single-stem or column-type stock for one-cut harvest. Overall, very similar to the Iron Series in performance. Ht. 24–28″. ➤ ♠ ♣ ♣

PKT (50 seeds) \$5.55; 250 Seeds \$9.20; 500 Seeds \$15.85; 1,000 Seeds \$26.40; 5M @ \$23.05/M.

All varieties listed here are single-stem (do not pinch) and approximately 55% double-flowering without selection.

Find our Stock Production Guide at **Johnnyseeds.com/stock-production**

Product & Species		Sowing & Growing	Light Preference	Plant Spacing		Hardiness Zones	Harvest
Stock Matthiola incana	7-14 days at 65-75°F (18-24°C)	Transplant (recommended) - Sow 1/4" deep into 128-cell plug flats 5-6 weeks before transplanting out into the field or protected structure. Direct seed - After danger of frost. Do not pinch plants. Succession-plant every two weeks for multiple harvests. Stock is a cool-weather crop. Spring and fall-blooming successions are optimal.	Sun	6"	Varies	Annual	¹ / ₃ to ¹ / ₂ the florets on stem are open.

















Strawflower

Strawflowers (A) 75-85 days.

Profuse bloomers for fresh or dried arrangements. Tall, wellbranched plants produce double flowers 2–2¹/₂" across. PKT (50 seeds) \$4.25; 1,000 Seeds \$5.95; 5M @ \$2.80/M.

King Size Orange 4268 **NEW Golden Yellow 4831 Creamy White 4352** Copper Red 3440

Silvery Rose 3328 Purple Red 3441 **Vintage White 3330**

Sultane Mix 1925 Vibrant mix of varying hues of pink, orange, purple, red, salmon, yellow, and white.

Seashells Mix (A) 4756 EXCLUSIVE! Beachy color blend.

Apricot/Peach Mix (A) 75-85 days.

A subtle mixture of apricot and peach hues. Blend of popular pastels. 🔀 🐇

1574G Organic CG

PKT (50 seeds) \$4.50; 1,000 Seeds \$6.60; 5M @ \$3.47/M. 1574 Conventional

PKT (50 seeds) \$4.25; 1,000 Seeds \$5.95; 5M @ \$2.80/M.

Monstrosum Tall Mix (A) 4401G 75-85 days.

Vigorous mix. Large, brilliant flowers on tall, sturdy stems. Plants are taller and more robust than Sultane Mix, with wider (1¹/2-3") blooms in shades of gold, orange, magenta, pink, and rose. $\mathfrak{G} \times \mathfrak{F}$ PKT (50 seeds) \$4.50; 1,000 Seeds \$9.70; 5M @ \$5.91/M.







Product & Species	Days to Germination	Sowing & Growing	Light Preference			Hardiness Zones	Harvest
Strawflower Bracteantha bracteata	7-10 days at 70-75°F (21-24°C)	Transplant (recommended) - Sow into 72-cell flats or preferred seedling container 4-6 weeks before planting out. Do not cover seed as light is required for germination. Harden off and transplant out after danger of frost. Direct seed - Where summers are long. Once established, prefers well-drained soils and temps of 70-75°F (21-24°C). Plants may need support. Pinching is recommended to encourage uniform and productive branching.	Sun	10-12"	36-40"	Annual	Fresh or dried - cut when 2-3 layers of petals have unfolded but before flower fully opens to reveal center.













Bicolor









SUNFLOWERS

Pollenless, Single Stem

ProCut[®] Series (F1) (A)

50-60 days.

Impressive early cuts in a full range of colors. Tall, with strong stems. 4-6" blooms. Pollenless. Ht. 60-72". Avg. 430 seeds/oz.

Orange Excel 3307 50-55 days.

Orange 1712 Peach 4445 **Plum 3677 Red** 1398 **Bicolor 1710 Lemon 1711**

Red/Lemon Bicolor 1781

ProCut® Horizon (F1) (A) 4156

50-60 days.

Highly uniform bloom time for an even more concentrated harvest. Blooms are also perfectly cheerful and symmetrical. Wide, flat blooms are similar in appearance to Vincent®s Choice. Pollenless. Single stem. Day-length neutral. Ht. 64–72". Avg. 400 seeds/oz.

ProCut® White Series (F1) (A)

50-60 days.

Color innovation in a professional-quality, singlestem sunflower. Combines well with soft or vivid colors. Just as early and reliable as the other well-known ProCut flowers. Ht. 60-72". Avg. 500 seeds/oz.

White Lite 3386

Pale, creamy yellow petals and a light golden-green center. White Nite 3305

Creamy pale yellow, almost-white petals on a dark center.

ProCut® DMR Series (F1) (A)

Classic varieties with downy mildew resistance.

Slightly later to bloom than standard ProCuts. Pollenless. NOTE: Downy mildew in sunflowers persists in infected soils and is especially problematic in cool, wet soils. Symptoms include damping-off, stunted plants, yellowing leaves, and the presence of downy, white mildew on the undersides of the leaves. Avg. 500 seeds/oz.

Gold Lite DMR 4193

55-65 days.

Orange DMR 4157

52-62 days.

POLLENLESS SUNFLOWERS

Pollenless sunflowers are hybrid varieties that possess only female characteristics. They do not shed pollen, are less apt to be allergenic, and last longer in a vase. Pollenless sunflowers have abundant nectar which means they are still attractive to bees and butterflies, and will form seeds if there are other sunflowers with pollen nearby.

Vincent®s Choice (F1) (A) 1939

50-60 days.

Refined appearance. Round, overlapping petals form sturdy flower heads that hold up well during transport. Pollenless. Day-length neutral variety, allowing for the season to extend into early spring and late fall. Ht. 60–72". Avg. 620 seeds/oz. >€

Zohar (F1) (A) 1898G

50-60 days.

Uniform, high-quality, organic sunflower. This early sunflower has 4-6" blooms on long stems. Pollenless. Ht. 48-60". Avg. 540 seeds/oz. **™**

Solano® Double (F1) (A) 4773

60-65 days.

Earlier single-stem, double blooms. 4–7" wide, Teddy Bear-type, bright gold blooms with green centers. Compared to Double Quick Orange, Solano Double is earlier to flower, more uniform, and a bit shorter. Pollenless. Single stem. Ht. 50–60". Avg. 1,400 seeds/oz. ><

Double Quick Orange (F1) (A) 1725

65 days.

Fully double, single-stem sunflower. Bright golden, pollenless cut flower with 4-5" blooms. Ht. 48-60". Avg. 550 seeds/oz.

A season-long sunflower harvest can be achieved through succession planting. Visit our website for 3 ways to expand your sunflower harvest at Johnnyseeds.com/sunflower-succession









Pollenless, Single-Stem Sunflower Comparison Chart

				'									
Variety	Part #	Days to Bloom	Flower Size	Plant Height/ Stem Length	PKT (50 Seeds)	100 Seeds	250 Seeds	500 Seeds	1,000 Seeds	5M @/M	25M @/M		
Classic, Golden/Orange wit	Classic, Golden/Orange with Dark Disk												
ProCut [®] Orange Excel	3307	50-55	4-6"	60–72"	\$5.75	_	\$10.80	\$19.30	\$33.25	\$30.00	\$26.00		
ProCut® Horizon	4156	50-60	4-6"	64–72"	\$5.75	_	\$10.80	\$19.30	\$33.25	\$30.00	\$26.00		
ProCut [®] Orange	1712	50-60	4-6"	60-72"	\$5.75	_	\$10.80	\$19.30	\$33.25	\$30.00	\$26.00		
Vincent®s Choice	1939	50-60	4-5"	60–72"	\$5.75	_	\$10.80	\$20.45	\$34.00	\$31.70	\$27.50		
Zohar	1898G CG	50-60	4-6"	48-60"	\$5.75	_	\$12.55	\$21.55	\$36.35	\$33.00	\$30.00		
ProCut [®] Orange DMR	4157	52-62	4-6"	64–74"	\$5.75	_	\$10.80	\$19.30	\$33.25	\$30.00	\$26.00		
Sunrich Summer Provence	4410	60-65	4-6"	65–75"	\$5.75	_	\$13.65	\$24.00	\$42.00	\$35.00	\$31.00		
Sunbright Supreme	1503	60-70	4-6"	60–72"	\$5.50	\$7.40	\$10.50	\$17.40	\$31.10	\$26.50	\$22.20		
Full Sun Improved	1743	65–75	4-6"	70–80"	\$5.75	_	\$11.90	\$21.00	\$35.20	\$31.70	\$28.40		
Golden/Orange with Light I	Disk												
ProCut® Gold Lite DMR	4193	55-65	4-6"	62–80"	\$5.75	<u> </u>	\$10.80	\$19.30	\$33.25	\$30.00	\$26.00		
Sunrich Gold	1714	60-70	4-6"	48–60"	\$5.75	\$8.05	\$13.65	\$24.00	\$42.00	\$35.00	\$31.00		
Novel Color or Bloom Shap	e												
SunFill™ Series	See Varieties	50-55	3–4"	60–72"	\$5.75	_	\$11.90	\$21.00	\$35.20	\$31.70	\$28.60		
ProCut [®] Plum	3677	50-60	4-6"	60–72"	\$5.75	_	\$11.90	\$21.00	\$35.20	\$31.70	\$28.60		
ProCut [®] Red	1398	50-60	4-6"	60–72"	\$5.75	_	\$11.90	\$21.00	\$35.20	\$31.70	\$28.60		
ProCut [®] Series	See Varieties	50-60	4-6"	60–72"	\$5.75	_	\$10.80	\$19.30	\$33.25	\$30.00	\$26.00		
ProCut® White Series	See Varieties	50-60	4-6"	60–72"	\$5.90	\$8.75	\$15.40	\$26.25	\$43.25	\$40.00	\$35.20		
Solano [®] Double	4773	60-65	4-7"	50-60"	\$5.90	_	\$16.00	\$27.30	\$45.00	\$42.85	_		
Double Quick Orange	1725	65	4-5"	48-60"	\$5.75	_	\$11.90	\$21.00	\$35.20	\$31.70	_		

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing		Hardiness Zones	Harvest
Sunflowers, Pollenless, Single-Stem, Helianthus annuus	7-14 days at 70-75°F (21-24°C)	Direct seed (recommended) - After last frost, sow 1/2" deep. Transplant - Sow into 72 to 50-cell flats 2-3 weeks prior to planting out. Plants dislike root disturbance, but sowing indoors and then transplanting the first crop outdoors can be a successful way to get first-early sunflowers. Do not pinch plants. Pinched single-stem sunflowers will produce low-quality blooms or no blooms at all. Succession-sow every 1-2 weeks and/or plant multiple varieties with varied days to maturity for continuous harvest.	Sun	4-6"	Varies	Annual	Fresh - Flowers are just beginning to open. Dried - Flowers are completely open. Hang or use silica gel.











PRICING

See page 167 for single-stem sunflower pricing.

Full Sun Improved (F1) (A) 1743

65-75 davs.

Southern growers prefer this variety for winter production. 4-6" blooms with the classic sunflower coloration—golden petals and a dark brown disk. Best for winter production in the South as the plants are much taller in the summer. Pollenless and day-length neutral. Ht. 70-80". Avg. 560 seeds/oz. >

Sunrich Series (F1) (A)

Highly uniform sunflowers. Great for succession planting with the ProCut® Series. 4–6" pollenless blooms ideal for cut-flower production. Avg. 540 seeds/oz. 🔀

Gold 1714 60-70 days.

Summer Provence 4410 60-65 days.

Sunbright Supreme (F1) (A) 1503

60-70 days.

Blooms more quickly than Sunbright under short days. More rounded petals on 4–6" blooms and shorter, more rigid stems with reduced lower leaves. An excellent variety for bouquet work. Ht. 60-72". Avg. 630 seeds/oz. >< *

SunFill™ Series (F1) (A)

50-55 days.

Fast-growing greenery and textural accent. The 3–4", geometric flower heads are made up of ornamental sepals that wrap the flower face. NOTE: Overmature blooms will develop small petals and large seed heads. To achieve the proper look, harvest as soon as the disk color is visible. The harvest period spans 2–3 days, like for regular single-stem sunflowers. Ht. 60-72". Avg. 8,500 seeds/oz. >

Green 3395 Purple 3396



SCAN THIS CODE to learn the differences between single-stem and branching sunflowers plus tips on pinching and spacing.



What Our Growers Are Saying...

"From their kind-hearted staff members to their amazing seeds that almost grow themselves, working with Johnny's Selected Seeds is a true pleasure and has made fulfilling our mission of providing the best blooms easier.

"We rely on Johnny's for most of our seeds because of their impeccable quality and service. As our farm continues to grow, our alliance with Johnny's will as well."

Pablo Luna, Jr., and family Luna Family Farm Columbus, New Jersey







We want to hear from you! Join the Johnny's community. #growwithjohnnys

Sunflower Mixes

Summer Breeze Mix (A) 4782 60-75 days.

EXCLUSIVE! Johnny's custom sunflower mix. Our favorite branching sunflowers, together in one easy mix. Varieties are selected to provide a nice color balance, as well as for their similar ranges of plant height and bloom time. Blooms average 4-6" at the recommended spacing. Pollenless. Ht. 48–72". Avg. 500 seeds/oz.

MINI (30 seeds) \$3.95; PKT (50 seeds) \$5.75; 250 Seeds \$11.90; 500 Seeds \$21.00; 1,000 Seeds \$35.20; 5M @ \$31.70/M.

Autumn Beauty (A) 1305 75-85 days.

Reminiscent of fall leaves. Bold, beautiful flowers up to 8" across. Tall and extremely vigorous plants are good for farmscaping, mazes, tall border rows, and bee forage. Blooms bear pollen. Ht. 96-120". Avg. 1,400 seeds/oz. >< 必濟

PKT (50 seeds) \$5.20; 500 Seeds \$7.10; 1,000 Seeds \$8.80; 5M @ \$7.30/M.

Johnny's Sunflower Collection (A) 872

EXCLUSIVE! Celebrate summer with sunflowers. Carefree plants that are easy to grow from direct seeding. Plant these summer favorites for an incredibly vibrant sunflower garden. Johnny's Sunflower Collection includes individual packets of Goldy Double, Gold Rush, Autumn Beauty, Big Smile, and Chocolate. ><** \$19.70.

Dwarf Sunflowers

Big Smile (A) 1312 50-60 days.

Miniature sunflower for containers and garden beds. Compact, branching plants produce cheerful 3-6" flowers. Day-length neutral. Blooms bear pollen. Ht. 10–15" in containers; 12–24" in the garden. Avg. 810 seeds/oz. ¥業

PKT (50 seeds) \$5.45; 250 Seeds \$9.20; 500 Seeds \$15.80; 1,000 Seeds \$26.70; 5M @ \$24.00/M; 10M @ \$22.25/M.

Firecracker (F1) (A) 1746 50-60 days.

Abundant bicolor blooms. Compact (dwarf), branching plants produce a mass of bright, 4-6" flowers that are great in containers and garden beds. Pollenless. Ht. 36-46". Avg. 1,140 seeds/oz. \$\forall \infty\$ PKT (50 seeds) \$5.75; 250 Seeds \$11.90; 500 Seeds \$21.00;

Teddy Bear (A) 1437 65-75 days.

1,000 Seeds \$35.20; 5M @ \$31.70/M.

Cute as a button. Branching plants yield abundant 3–5" sunny blooms. Popular with children. Good for containers or garden beds. Minimal pollen. Ht. 8–12" in containers; 35–42" in the garden. Avg. 1,370 seeds/oz. ¥ ≻ PKT (50 seeds) \$4.75; Oz. \$7.20; 1/4 Lb. \$16.15; Lb. \$55.95.

Gummy Bear (A) 4351 75-85 days.

Cheerful companion to Teddy Bear. Branching plants yield abundant 3–5" lemon-yellow blooms. Good for containers or garden beds. Minimal pollen. Ht. 36-48". Avg. 500 seeds/oz.

PKT (50 seeds) \$5.45; 250 Seeds \$10.20; 500 Seeds \$16.85; 1.000 Seeds \$31.30.















Product & Species	Days to Germination	Sowing & Growing	Light Preference			Hardiness Zones	Harvest
Sunflowers, Dwarf Helianthus annuus	70-75°F	Direct seed (recommended) - After last frost. Transplant - Sow in final container 3-4 weeks prior to planting out. Dislikes root disturbance.	Sun	8-12"	Varies		Fresh - Flowers are just beginning to open. Dried - Flowers are completely open. Hang or use silica gel.













Branching

Gold Rush (F1) (A) 3453 60-65 days.

Early and prolific classic sunflower. Rounded, overlapping, golden orange petals with chocolate-colored disk. Stem length is 18-32". 4–5" bloom size. Pollenless. Ht. 48–72". Avg. 600 seeds/oz. PKT (50 seeds) \$5.45: 250 Seeds \$8.15: 500 Seeds \$14.05: 1,000 Seeds \$23.00; 5M @ \$21.00/M; 25M @ \$18.20/M.

Sonja (A) 1313 70-85 days.

Outstanding cut flower. Plants branch low, sending up strong, straight stems bearing adorable 4" blooms. Long vase life. 17–28" stems. Bears pollen. Ht. 38–42". Avg. 1,440 seeds/oz. MINI (30 seeds) \$3.95; PKT (50 seeds) \$5.45; 250 Seeds \$8.80; 500 Seeds \$15.50; 1,000 Seeds \$24.40; 5M @ \$23.00/M.

Soraya (A) 1235 85-95 days.

One of the best branching sunflowers for cutting. This big sister to Sonja blooms a bit later and has larger flowers on more vigorous plants. Branches are 35–48" and sport 4–6" blooms. AAS winner. Day-length neutral. Minimal pollen. Ht. 50-70". Avg. 1,750 seeds/oz.

PKT (50 seeds) \$5.45; 250 Seeds \$8.15; 500 Seeds \$14.05; 1,000 Seeds \$23.00; 5M @ \$21.00/M; 25M @ \$18.20/M.

Buttercream (F1) (A) 1858 50-60 days.

An early bloomer. Pale, butter-yellow flowers are $3^{1}/2-4^{1}/2^{**}$ across. 28-50" long side branches continue to provide blooms for several weeks. Day-length neutral. Pollenless. Ht. 48-58". Avg. 830 seeds/oz. >

PKT (50 seeds) \$5.90; 100 Seeds \$9.40; 250 Seeds \$16.45; 500 Seeds \$28.30: 1.000 Seeds \$46.95: 5M @ \$44.30/M.

Rouge Royale (F1) (A) 1462 55-65 days.

Exquisite, deep burgundy blooms are always a hit. 3-6" flowers on side stems that are thinner, yet stronger than those of most other branching varieties, averaging 30". Formerly known as Moulin R. Pollenless. Ht. 60–80". Avg. 600 seeds/oz. PKT (50 seeds) \$5.45; 250 Seeds \$10.20; 500 Seeds \$19.15; 1,000 Seeds \$31.95; 5M @ \$27.00/M.

Red Hedge (F1) (A) 1941 60-65 days.

Darkest red sunflower with a wild look. 4-5" flowers with petals that are rounder and darker than Chocolate. 25–36" stems are sturdier than those of other dark sunflowers. Pollenless. Ht. 48-58". Avg. 800 seeds/oz. >

PKT (50 seeds) \$5.75; 100 Seeds \$8.00; 250 Seeds \$12.55; 500 Seeds \$21.55; 1,000 Seeds \$36.35; 5M @ \$33.00/M.

Chocolate (A) 1844 65-75 days.

Tall, branching variety with long stems. Rich brown flowers measure 4–6" across. Great in casual bouquets and garden borders. Stem length is 10-24". Bears pollen; good for bee forage. Ht. 48-60". Avg. 600 seeds/oz. ><** PKT (50 seeds) \$5.45; 100 Seeds \$7.40; 250 Seeds \$10.20; 500 Seeds \$16.85; 1,000 Seeds \$31.25; 5M @ \$26.50/M.

	neu neuge	Cilocolate					
Product & Species	Days to Germination	Sowing & Growing	Light Preference			Hardiness Zones	Harvest
Sunflowers, Branching Helianthus annuus	7-14 days at 70-75°F (21-24°C)	Direct seed (recommended) - After last frost, sow 1/2" deep. Transplant - Sow into 72 to 50-cell flats 2-3 weeks prior to planting out. Plants dislike root disturbance but sowing indoors and then transplanting the first crop outdoors can be a successful way to get first-early sunflowers. Pinching branching varieties is recommended to encourage branching and longer stems. Succession-sow every 2-3 weeks and/or plant multiple varieties for continued harvest.	Sun	18-24"	Varies	Annual	Fresh - Flowers are just beginning to open. Dried - Flowers are completely open. Hang or use silica gel.

Strawberry Blonde (F1) (A) 1744 55-65 days.

Early blooming bicolor. 4–5" flowers have burgundy (sometimes pink) petals with lemony tips. 18-34" long stems. Pollenless. Ht. 60-72". Avg. 750 seeds/oz. >≪

MINI (30 seeds) \$3.95; PKT (50 seeds) \$5.75; 100 Seeds \$8.00; 250 Seeds \$11.90; 500 Seeds \$21.00; 1,000 Seeds \$35.20; 5M @ \$31.70/M.

Shock-O-Lat (F1) (A) 4731 65-75 days.

Chocolatey blooms brushed with gold. Bicolor blooms on tall, vigorous plants. 4-6" wide flowers on 12-24" stems. Pollenless. Ht. 64-76". Avg. 500 seeds/oz.

PKT (50 seeds) \$5.90; 250 Seeds \$16.95; 500 Seeds \$28.90; 1,000 Seeds \$47.70.

NEW Desert Sun (F1) (A) 4923 65-75 days.

Radiant bicolor flowers with strong stems. Vigorous plants and strong stems support high-quality, bicolor blooms. Rich red petals shift to lemon and gold hues at the petal edges. 5-7" wide blooms. 18-24" long stems are very straight and strong for use as cut flowers. Pollenless. Ht. 70-80". Avg. 700 seeds/oz. PKT (50 seeds) \$5.80; 250 Seeds \$16.00; 500 Seeds \$27.30; 1,000 Seeds \$45.00; 5M @ \$42.85/M.

Florenza (A) 3751 70-80 days.

Excellent stem quality for cut flowers. 3¹/2-4" blooms have a mild chocolate fragrance. No drooping flower heads; strong, straight 15-32" stems. Plants have few, relatively small leaves, making the plants more manageable. Produces pollen. Ht. 45-55". Avg. 1,200 seeds/oz. ><本*

PKT (50 seeds) \$5.45; 250 Seeds \$9.15; 500 Seeds \$15.65; 1,000 Seeds \$25.40; 5M @ \$24.00/M; 25M @ \$21.00/M.

Starburst™ Greenburst DMR (F1) (A) 1954 60-65 days. Early blooming, semidouble flowers. Golden-yellow petals surround areen centers. 4-6" blooms on 12-24" stems. Downy mildew-resistant plants have a sturdy, branching habit. Pollenless. Ht. 60-72". Avg. 800 seeds/oz. ≫

PKT (50 seeds) \$5.50; 250 Seeds \$10.20; 500 Seeds \$19.15; 1,000 Seeds \$32.35.

Goldy Double (A) 3768G 85-95 days.

Fully double, bright golden flowers. 5-7" blooms. Stems 18-24" long. Minimal pollen. Ht. 60–72". Avg. 800 seeds/oz. 🂢 🔀 PKT (50 seeds) \$5.75; 250 Seeds \$10.80; 500 Seeds \$20.45; 1,000 Seeds \$34.00; 5M @ \$30.00/M.

Lemonade (A) 3753 85-95 days.

Fully double, bright lemon-yellow blooms. Very similar to Goldy Double in plant habit and timing. Branching plants have 18–24" long stems and produce blooms 5–7" across. Minimal pollen. Ht. 60-72". Avg. 700 seeds/oz.

PKT (50 seeds) \$5.90; 100 Seeds \$10.15; 250 Seeds \$21.05; 500 Seeds \$39.15; 1,000 Seeds \$73.60; 5M @ \$68.00/M.

Sunflower Seed Roller Pack 7959

Quickly and accurately seed a wide variety of sunflowers with a Jang JP Series seeder. \$76.95.

Find Jang Seeders on page 187.





















Mexican Sunflower

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Sweet Peas

Elegance Formula Mix (A) 1920 75-85 days.

Early and prolific. Developed for flowering under short days, low light conditions, and in cool greenhouses. Also produces abundant flowers in the long days of early summer. Suitable for spring or midwinter production. Long stems bear 3–5 blooms. Formerly called Winter Elegance. Ht. 60–72". Avg. 350 seeds/oz.

Royal Mix (A) 1319 90 days.

Exceptional fragrance. Large, 2" blossoms in bright, clear colors of red, purple, mauve, pink, blue, and white. Blooms over a long period. Ht. 60–72". Avg. 300 seeds/oz. \\ \Bar{\subset} \rightarrow \Large \subset \subset

(1 (50 seeds) \$5.75; OZ. \$9.55; 1/4 Lb. \$21.80; Lb. \$6

Tithonia

Mexican Sunflower (A) 3784 85-90 days.

Late-season cut flower attracts beneficial insects. Blooms midsummer until first hard freeze, providing bright, 3–3¹/2" flowers well into fall. Most plants produce orange, with a small percentage producing red or yellow blooms. Vigorous and full plant habit. Performs well in hot, dry climates. Avg. 2,800 seeds/oz.

PKT (50 seeds) \$5.20; Oz. \$6.55; 1/4 Lb. \$15.45; Lb. \$51.15; 5 Lbs. @ \$46.55/Lb.

Verbena

Verbena bonariensis (TP) 1558 90 days.

Heat tolerant. Multiple long, thin stems topped with clusters of 2" heads packed with tiny flowers. Blooms July to frost. Attracts butterflies. \P

PKT (100 seeds) \$5.75; 1,000 Seeds \$19.25; 5M @ \$14.50/M; 25M @ \$13.00/M.

Xeranthemum

Paper Flower Double Mixture (A) 4763 80-90 days. Unusual cut flower, fresh or dried. 1–1¹/2" papery blooms with silvery gray foliage and stems add an airy element to bouquets. Suitable for fresh and dried use. Sturdy, yet thin and flexible stems. Plants are well-contained, upright, and densely branched.

Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing	Plant Height	Hardiness Zones	Harvest
Sweet Peas Lathyrus odoratus	14-21 days at 55-65°F (13-18°C)	Transplant (recommended) - Sow 1/4-1/2" deep into 72-cell flats or preferred deep-cell seedling container, 4-5 weeks before planting out. Darkness is required for germination. Direct seed - 6 weeks before last frost. Seedlings won't be damaged by light frost. Pinch when 6-8" tall to encourage denser branching and more flowers. Trellis support is required.	Sun	6"	Varies	Annual	Half the flowers on a stem are open. Harvesting flowers increases blooms.
Tithonia <i>Tithonia</i> <i>rotundifolia</i>	7-14 days at 70-85°F (21-29°C)	Direct seed (recommended) - Cover seeds lightly. Transplant - Sow 6 weeks before planting out. Tolerates poor soil.	Sun	12-24"	60-72"	Annual	Flowers 90-100% open. Stand in deep, warm water for several hours. Deadhead for longer bloom.
Verbena <i>Verbena</i> <i>bonariensis</i>	14-28 days at 60-86°F (16-30°C)	Transplant (recommended) - Sow 8-12 weeks before planting out.	Sun	18-24"	36-48"	Zones 7-10	Outer 2-4 layers of flower are open.
Xeranthemum Xeranthemum annuum	7-14 days at 65-75°F (18-24°C)	Transplant (recommended) - Sow into 72-cell flats, or preferred seeding container, 5-8 weeks before planting out. Gently press seeds into soil or cover seed lightly as light aids germination. Harden off and transplant outdoors. Direct seed - Sow after danger of frost, 2-6" apart. Keep soil moist until emergence. Thin seedlings to 6-12" apart.	Sun	6-12"	18-24"	Annual	For fresh cut or dried - Harvest when flowers are fully opened and while color is still fresh and bright. Hang to dry.

Viola Pansy

Frizzle Sizzle Mini Tapestry (A) 4645

60-70 days. V. cornuta

Glowing color blend of ruffled blooms. 1¹/2" wide blooms of lavender, cream, rose, purple, plum, and gold. Ht. 6–8". *\square\mathbb{Z} PKT (50 seeds) \$5.55; 250 Seeds \$15.45; 500 Seeds \$20.95; 1,000 Seeds \$39.70.

Frizzle Sizzle Yellow-Blue Swirl (A) 4453

60-70 days. V. x wittrockiana

Unique, deeply frilled blooms. Uniform, compact plants with 2–2¹/2", whisker-faced blooms. Ht. 6–8". 🎖 🎉 🕰 PKT (50 seeds) \$5.55; 250 Seeds \$17.15; 500 Seeds \$30.10; 1,000 Seeds \$53.00; 5M @ \$48.14/M.

Nature™ Series (F1) (A)

70-80 days. V. x wittrockiana

Rich, elegant color blends. 1¹/2-2" blooms in shades of cream, caramel, mauve, blush, plum, and gold. Ht. 6–10". PKT (50 seeds) \$5.60; 250 Seeds \$17.15; 500 Seeds \$30.10; 1,000 Seeds \$53.00; 5M @ \$48.14/M.

Mulberry Shades 4234 Antique Shades 4452

NEW Aalsmeer King Size Mix (A) 4931

70-80 days. V. x wittrockiana

Old-fashioned mix with vigorous plants. A cheerful mix of 2¹/₂–3¹/₂" bicolor blooms in shades of gold, purple, plum, lavender, rose, and white. The quickest viola in our overwintered unheated tunnel trial (Zone 5) to reach a height suitable for cutting. Mild fragrance. Ht. 7–12". ℅ⅆ℧℁

PKT (100 seeds) \$4.30; 500 Seeds \$6.35; 1,000 Seeds \$10.65.

Sorbet Formula Mix (F1) (A) 1413

60-70 days. V. cornuta

Early, profuse bloomers. Upright stems with $1-1^{1}/2$ " flowers. Tolerates temperature extremes and will bloom through winter in the South when fall-planted. Ht. 8-9". \square

PKT (50 seeds) \$5.80; 250 Seeds \$12.40; 500 Seeds \$21.80; 1,000 Seeds \$38.40; 5M @ \$33.73/M.

Yarrow

Yarrow (P)

120-130 days.

Long-lasting perennial. Reliable garden plant with decorative, fern-like foliage. The long stems with 2-4" wide, flat-topped flower heads add bulk, durability, and beauty to bouquets. Long vase life. >< ** PKT (100 seeds) \$5.55; 500 Seeds \$11.95; 1,000 Seeds \$19.25; 5M @ \$17.50/M.

Summer™ Pastels 4446 AAS winner. Flowerburst™ Red Shades 4327





Frizzle Sizzle Yellow-Blue Swirl

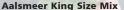


Nature™ Mulberry Shades



Antique Shade









			Summer™ Pastels			Flowerburst™ Red Shades	
Product & Species	Days to Germination	Sowing & Growing	Light Preference	Plant Spacing		Hardiness Zones	Harvest
Viola Viola spp.	4-7 days at 62-68°F (17-20°C)	Transplant - Sow 7-9 weeks before planting out. Will tolerate a light frost.	Sun/Part Shade	6-9"	Varies	Varies	Edible flowers - fully open. Cut flowers - stems are long and at least one bloom per stem is open. Deadheading encourages continuous blooms.
Yarrow Achillea millefolium	10-14 days at 65-72°F (18-22°C)	Transplant (recommended) - Sow into 72-cell flats, or preferred seedling container, 8-10 weeks before planting out. Light is required for germination. Direct seed - Late spring, early summer, or fall.	Sun	12-24"	28-30"	Zones 2-9	When pollen is visible on the flowers. Hang to dry.





Oklahoma Series



Zinnia

Benary's Giant Series (A)

75-90 days. Z. elegans

The premium zinnia. Recommended by the Association of Specialty Cut Flower Growers. High yields of long, sturdy stems with 4–6", fully double, dahlia-like blooms. Excellent vase life. Vigorous plants hold up well in summer heat and rain. Low susceptibility to powdery mildew. Ht. 40–50". >>> PKT (50 seeds) \$5.20; 100 Seeds \$7.65; 500 Seeds \$20.00; 1,000 Seeds \$34.50; 5M @ \$32.25/M; 10M @ \$26.00/M.

A. Deep Red 1367

B. Orange 1365

C. Carmine Rose 1363

D. Coral 1366

E. Lime 1789

G. Purple 1369

H. Bright Pink 1359

I. White 1368

J. Salmon Rose 1362

K. Scarlet 1370

F. Wine 1866 L. Golden Yellow 1364

Benary's Giant Mix 1346 A mix of all the above colors.

Oklahoma Series (A)

75-90 days. Z. elegans

Bright colors, excellent vase life, and low susceptibility to powdery mildew. Prolific double and semidouble blooms are easy to use in bouquets due to their smaller size. The 1¹/2−2″ blooms hold up well to handling compared to larger blooms which can snap at the stem due to the weight of the flower heads. Ht. 30−40″. ★ >
PKT (50 seeds) \$4.75; 250 Seeds \$6.90; 500 Seeds \$8.50; 1,000 Seeds \$12.00; 5M @ \$10.00/M.

M. Pink 3726 P. Golden Yellow 3728
N. Carmine 3729 Q. Scarlet 3730
O. Salmon 3667 R. White 3727
Oklahoma Formula Mix Improved 1747

Oklahoma Ivory (A) 3539G

75-90 days. *Z. elegans* Popular ivory blooms. Ht. 30–40".

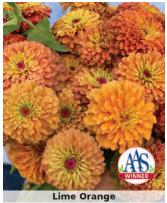
CGY≫

PKT (50 seeds) \$5.20; 250 Seeds \$15.45; 500 Seeds \$20.00; 1,000 Seeds \$28.35.



Product Species	& Days to Germination	Sowing & Growing	Light Preference	Plant Spacing		Hardiness Zones	Harvest
Zinnia Zinnia sp	3-5 days at 80-85°F p. (27-29°C)	Transplant (recommended) - Sow into 72-cell flats or preferred seedling container 4 weeks before planting out. Cover seeds. A heat mat will help maintain an accurate temperature. Lower temperatures will result in slower germination: 5-7 days at 70-75°F (21-24°C). Direct seed - Sow ¹/4" deep. Succession-sow/plant every 2 weeks for prolonged yields of high-quality stems. Pinching of initial bud or bloom and subsequent deadheading is recommended to encourage strong branching and bloom production. Very sensitive to frost.	Sun	9-12"	Varies	Annual	Before completely open. Stem is firm from point of cut to just below the bloom.









Queeny Series (A)

75-85 days. Z. elegans

Innovative and elegant. Stunning colors for market bouquets and sophisticated design work. Mostly double and semidouble, 2-31/2" blooms with a small percentage of singles. Previously and widely known as the "Queen Series." Over the years, as the breeder has developed new colors in the series, the naming convention has transitioned from "Queen" to "Queeny." To respect the breeder's wishes, we have updated the product names accordingly. Ht. 30–40". >

PKT (50 seeds) \$5.90; 100 Seeds \$11.15; 500 Seeds \$30.10; 1,000 Seeds \$49.90; 5M @ \$46.80/M.

Red Lime 1987

Soft burgundy with creamy lime centers.

Lime Orange 3355

Apricot with lime blush, rose centers. AAS winner.

Lime with Blush 3700

Lime with rose blush, bright pink centers.

Lemon Peach 4323

Pale peach cast on creamy-lime petals, vibrant rose centers. AAS Regional (Northeast, West/Northwest) winner.

Queeny Formula Mix 4324

EXCLUSIVE! A beautiful blend of the colors listed above.

Giant Dahlia Flowered Creamy Yellow (A) 1880

75-90 days. Z. elegans

Unique, buttery yellow color. Plants produce 4-6" single, semidouble, and double flowers on tall plants. Ht. 40-50". ><** PKT (50 seeds) \$3.75; 1,000 Seeds \$5.65; 5M @ \$4.25/M.

Uproar Rose (F1) (A) 1886

75-85 days. Z. elegans

Huge flower heads. Blooms are about 4–5" across, and magnificently full and uniform. Ht. 28-36".

PKT (15 seeds) \$5.90; 50 Seeds \$11.95; 100 Seeds \$21.70; 250 Seeds \$43.15; 1,000 Seeds \$150.00; 5M @ \$134.00/M.

Zowie!™ Yellow Flame (F1) (A) 1805

75-85 days. Z. elegans

Fire-hot bicolor that stands up to heat and tough conditions. $2-3^{1}/2^{\prime\prime}$ semidouble flowers. This magnificent zinnia is an AAS winner. Ht. 24-36". *>

PKT (15 seeds) \$5.90; 50 Seeds \$15.70; 100 Seeds \$23.90; 250 Seeds \$49.45; 1,000 Seeds \$168.50; 5M @ \$143.50/M.

Growing zinnias from seed? Use a Johnny's Seedling Heat Mat to maintain the ideal temperature for germination. See page 182.









Giant Dahlia Flowered Creamy Yellow



















Zinnia Mixes

Benary's Giant Mix (A) 1346 75-90 days. Z. elegans Largest flowers in a wide range of colors. Vigorous all-season producers hold up well in summer rain and heat all over the country. Densely petaled blooms are up to 6" across. Long-lasting standouts in bouquets. Colors include bright pink, carmine rose, coral, deep red, golden yellow, lime, wine, orange, purple, salmon rose, scarlet, and white. Ht. 40-50".

MINI (25 seeds) \$3.95; PKT (50 seeds) \$5.20; 100 Seeds \$7.65; 500 Seeds \$20.00; 1,000 Seeds \$34.50; 5M @ \$32.25/M; 10M @ \$26.00/M.

Jim Baggett's Choice Mix (A) 4146G 75-85 days. Z. elegans Diverse mix with a playful range of colors and shapes. Suitable for cut flowers and garden beds. Comprised of 4-5" dahlia-flowered and cactus-flowered blooms in double and semidouble form. A good balance of colors in the mix, including red, orange, pink, yellow, salmon, magenta, and some delightful two-tone combinations. This mix was created as a backyard project by the late Oregon State vegetable breeder Jim Baggett and is curated by our friends Frank and Karen Morton of Wild Garden Seed. Ht. 28-38". 0G >< **

MINI (25 seeds) \$3.95; PKT (50 seeds) \$5.20; 250 Seeds \$16.30; 500 Seeds \$20.00; 1,000 Seeds \$29.90; 5M @ \$25.50/M.

Cactus Flowered Mix (A) 1998 75-90 days. Z. elegans Unique quilled petals. Large 3–6" blooms with quilled petals give bouquets a distinctive, yet still grand appearance. Field-grown mix includes shades of orange, pink, red, yellow, peach, and white. Ht. 28-40". ><**

PKT (50 seeds) \$4.75; 250 Seeds \$7.60; 500 Seeds \$10.40; 1,000 Seeds \$13.60; 5M @ \$12.10/M.

Queeny Formula Mix (A) 4324 75-85 days. Z. elegans **EXCLUSIVE!** Dreamy blend of Queeny Series zinnias. Sturdy plants produce blooms in shades of rose, orange, peach, lemon, and lime. Mostly double and semidouble, 2-31/2" blooms with a small percentage of singles. Ht. 30-40".

MINI (25 seeds) \$3.95; PKT (50 seeds) \$5.90; 100 Seeds \$11.15; 500 Seeds \$30.10; 1,000 Seeds \$49.90; 5M @ \$46.80/M.

Oklahoma Formula Mix Improved (A) 1747

75-90 days. Z. elegans

Bright colors, excellent vase life, and low susceptibility to powdery mildew. Prolific, double and semidouble blooms are easy to use in bouquets due to their smaller size. The $1^{1}/2-2^{1}/2^{"}$ blooms hold up well to handling compared to larger blooms which can snap at the stem due to the weight of the larger blooms. Colors include carmine, golden yellow, pink, salmon, scarlet, and white. Ht. 30–40". PKT (50 seeds) \$4.75; 250 Seeds \$6.90; 500 Seeds \$8.50; 1,000 Seeds \$12.00; 5M @ \$10.00/M.

Persian Carpet (A) 1375G 75-85 days. Z. haageana Heirloom variety with warm, rich colors. Charming addition to bouquets and gardens. Fully double and semidouble, 2" bicolors in red, orange, pale yellow, gold, chocolate, and cream. Vigorous, healthy, upright plants are slightly taller than Jazzy Mix. AAS winner. Ht. 24-36".

PKT (50 seeds) \$4.75; 250 Seeds \$8.40; 1,000 Seeds \$14.55.

Double Zahara™ Brilliant Mixture (A) 4805 75-85 days. Z. marvlandica

Disease-resistant, compact, dwarf plants for garden beds and containers. An easy-to-grow mix of hues in cherry, salmon, yellow, crimson, and white. Highly uniform plants with a low-growing, mounding habit provide weeks of color. Abundant, fully double blooms average 1¹/2-2¹/2" wide. Bred for powdery mildew resistance and longlasting color. Ht. 12-20". ¥△漸

PKT (50 seeds) \$5.90; 250 Seeds \$18.20; 500 Seeds \$32.25; 1,000 Seeds \$55.10.

Sunbow Mix (A) 1356 75-85 days. Z. elegans

Bright 1–2" blooms light up bouquets. High yields of fully double blossoms of rose, purple, golden yellow, scarlet, orange, pink, and white. Long, wiry stems. Ht. 24–30".

PKT (50 seeds) \$4.75; 500 Seeds \$7.20; 1,000 Seeds \$9.55.







Flower Mixes

Bee Feed Mix (P/A) 1397

Provide bee forage all season long. A blend of nectar and pollen flowers for honey bees, native bees, bumblebees, and other pollinators. This mix of low-maintenance perennials and reseeding annual wildflowers contains: Alyssum, Asters, Baby Blue Eyes, Bergamot, Coreopsis, Echinacea, Flax, Fleabane Daisy, Gaillardia, Globe Gilia, Hyssop, Poppies, Tidy Tips, and Siberian Wallflower. SEEDING RATE: Pkt. sows a 75-100' row or 5-10 sq.ft.; 5 oz. sows 1,000 sq.ft.; 6-12 lb./acre. Ht. 4-48". Avg. 34,000 seeds/oz. PKT (500 seeds) \$5.45; 1/2 Oz. \$6.40; Oz. \$10.20; 1/4 Lb. \$19.95; Lb. \$65.20; 5 Lbs. @ \$48.71/Lb.



Flowers reach about $3^{1/2}$ and create a meadow effect. Mix contains: Alyssum, Aster, Black-eyed Susan, Blazing Star, Butterfly Milkweed, California Poppy, Candytuft, Clarkia, Coreopsis, Echinacea, Gaillardia, Larkspur, Lemon Mint, Lupine, Prairie Coneflower, Scarlet Sage, and Wallflower. SEEDING RATE: Pkt. sows a 75–100' row or 5–10 sq.ft.; ¹/₂ lb. sows 1,000 sq.ft.; 11-22 lb./acre. Ht. 10-48". Avg. 7,400 seeds/oz. ** PKT (650 seeds) \$5.45; Oz. \$12.80; 1/4 Lb. \$25.40; Lb. \$79.10.

Beneficial Insect Attractant Mix (P/A) 1832

Attract beneficial insects. Perennial and annual varieties attract a wide array of beneficial insects that prey upon unwanted garden insect pests. Mix contains: Alyssum, Baby Blue Eyes, Bergamot, California Poppy, Candytuft, Cilantro, Clover, Coreopsis, Daisy, Dill, Dwarf Cosmos, False Queen Anne's Lace, Fennel, Globe Gilia, Liatris, Rudbeckia, and Siberian Wallflower. SEEDING RATE: Pkt. sows a 75–100' row or 5–10 sq.ft.; 7 oz. sows 1,000 sq.ft.; 9–18 lb./acre. Ht. 4–48". Avg. 9,600 seeds/oz. * PKT (500 seeds) \$5.45; Oz. \$10.20; 1/4 Lb. \$19.95; Lb. \$65.20.

Shade Mix (P/A) 1739

Brighten shaded areas with this colorful mix. Best for woodland edges and softly shaded areas. Mix contains: Baby Blue-Eyes, Baby's Breath, Campanula, Candytuft, Columbine, Clarkia, Chinese Houses, Coreopsis, Dianthus, Echinacea, Forget-Me-Not, Larkspur, Poppy, Shasta Daisy, Spurred Snapdragon, and Viola. SEEDING RATE: Pkt. sows a 75–100' row or 5–10 sq.ft.; ¹/₄ lb. sows 1,000 sq.ft.; 5–10 lb./acre. Ht. 6-36". Avg. 40,500 seeds/oz. 漸

PKT (650 seeds) \$5.45; Oz. \$12.80; 1/4 Lb. \$25.40; Lb. \$79.10.

Northern Lights Mix (P/A) 1600

Designed for optimum performance in northern climates. This colorful, carefree blend of 15 perennials and reseeding annuals provides color from spring to fall. Mix contains: Bachelor's Button, Black-eyed Susan, Blanket Flower, Blazing Star, Catchfly, Coreopsis, Corn Poppy, Echinacea, Evening Primrose, Foxglove, Phlox, Shasta Daisy, Siberian Wallflower, and Spurred Snapdragon. SEEDING RATE: Pkt. sows a 75–100' row or 5–10 sq.ft.; 2–3 oz. sows 1,000 sq.ft.; 6–7 lb./acre. Full sun. Ht. 12-48". Avg. 17,300 seeds/oz. **

PKT (650 seeds) \$5.45; 1/4 Oz. \$8.05; 1/2 Oz. \$14.35; Oz. \$20.85; 1/4 Lb. \$61.55; Lb. \$166.20; 5 Lbs. @ \$134.69/Lb.; 25 Lbs. @ \$111.76/Lb.







Saponaria

Poppy



20-Row Seed Flat



50-Cell Deep



50-Cell Plug Flat



72-Cell Plug Flat



128-Cell Plug Flat



200-Cell Plug Flat



36-Cell Jumbo Plug Insert



Large 7" Clear Propagation Dome

Seedling Flats

To incorporate our seedling flats into your growing system, first identify which flat best accommodates your crop using the chart below. Typically, the larger the seedling, the larger the cell you will need to allow for proper root development. Those crops that will be in flats for longer may benefit from being started in 20-row flats and "potted up" into plug flats. Seedlings can also be started in, or transplanted into, plug inserts or pots.

Туре	Part #	Recommended Crops	Compatible With [†]	Cell Size††	Qty	Price
20-Rov	v Seed	Flats Save space by starting seeds in one	flat and transplanting into cel	l trays after ger	mina	tion.
20	9523	Generally, crops that take longer to	Shallow Black Germination Tray,	9 ³ /4" L x ⁷ /8" W	5	\$21.00
20-row	9524	germinate and grow (e.g., Peppers, Eggplant, Perennial Herbs, Lisianthus)	Shallow White Leakproof Tray	x 1 ¹ /4" Deep	50	\$165.00
SureRo	ots De	ep-Cell Plug Flats Promotes deeper roo	t development.			
F0	7554	Sweet Peas, Asparagus, Perennials, and crops	All I I 4020 I	2" Square x	5	\$34.00 *
50-cell	7553	with a taproot or that are sensitive to root disturbance	All bottom trays and 1020 domes	5" Deep	25	\$169.00
Plug Fl	ats The	standard compact design for efficiently	growing seedlings.			
50-cell	9498	Artichokes, Cucumbers, Melons, Ornamental		1 ⁷ /8" Square x	5	\$17.25
50-ceii	9499	Grasses, Peppers, Squash, Tomatoes		2 ³ /8" Deep	100	\$182.00
72-cell	9496			1 ¹ / ₂ " Square x	5	\$17.50
/2-ceii	9497		Shallow Black Germination Tray,	2 ¹ /4" Deep	100	\$195.00
120!!	9494		Shallow White Leakproof Tray	1 ¹ /8" Square x	5	\$18.00
128-cell	9495	Lisianthus, Onions, Shallots, Stock		1 ⁷ /8" Deep	100	\$179.00
200 11	9492	Flowers and Herbs (small-seeded, e.g.,		1 ³ /16" Square	5	\$19.95
200-cell	9493	Alyssum and Chamomile)		x 1 ³ /8" Deep	50	\$105.00
Jumbo	Plug lı	nserts Separates into 6-packs for seedling	g sales.			
Six	9027	Tomatoes, Peppers, Broccoli, Kale, Lettuce,	Seedling Tray, Leakproof Tray,	2" L x 2 ¹ /4" W	5	\$9.95
	9019	Greens (for bunching), Flowers, Herbs	Mesh Trays	x 3 ¹ /4" Deep	100	\$105.00

[†] Only compatible with products listed.

Seedling Grower Starter Kit 6962

EXCLUSIVE! Grow your own seedlings at home! Includes: (3) 72-Cell Plug Trays, (2) 50-Cell Plug Trays, (5) Shallow White Leakproof Trays, (5) 2" Clear Acrylic Domes, (1) Johnny's 512 Mix – 20 qt., (20) Wooden Pot Labels, and growing instructions. NOTE: Supplemental heat is needed to germinate warm-loving crops like tomatoes, peppers, and eggplants. See our heat mat selection on page 182. Visit our website for shipping restrictions. CG \$59.00.*



Another great option for starting seedlings is our SunBlaster Mini Greenhouse Kit on page 183.

Try our Seed-Starting Date Calculator to determine when to start your seeds based on your frost-free date. Johnnyseeds.com/seed-starting-calculator

Humidity Domes

Provide the perfect environment for germination by covering your flat with a plastic dome that helps retain moisture and warmth. Remove the dome once the seeds emerge to reduce the risk of disease. Use in conjunction with a heat mat (see page 182) for faster, more uniform germination of heat-loving crops.

Product Name	Part #	Uses	Compatible With [†]	Vented?	Qty	Price
2" Clear	9519	Standard humidity dome for germinat-	20-row Seed Flat, Plug Flats, Shallow Black Germination	No	5	\$20.50
Acrylic Domes	9518	ing seedlings.	Tray, Shallow White Leakproof Tray, Seedling Tray, Leakproof Tray, Soil Block Propagation Tray, SureRoots Plug Flats	NO	50	\$129.00 *
Large 7" Clear	7150	Great healing chamber for newly	20-row Seed Flat, Plug Flats, Jumbo Plug Insert, Shallow	Yes	5	\$38.00 *
Propagation Domes	7149	grafted plants.	Black Germination Tray, Shallow White Leakproof Tray, Seedling Tray, Leakproof Tray, Mesh Trays, SureRoots Plug Flats		25	\$164.00 *

[†] Dome rests lightly over the tray and does not form a tight seal.

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.

^{††} All seedling flats shown here have drainage holes.

Support Trays

Use the chart below to select the right tray for your needs. Deep "1020" trays without holes serve as water reservoirs, carry trays for seedling flats and inserts, and are ideal for most seed-starting applications. Shallow trays are excellent for microgreens production. Mesh trays support seedling flats and soil blocks and are best for any application where water drainage is beneficial.

Product Name	Color	Part #	Uses	Compatible With [†]	Depth	Qty	Price
Solid Trays withou	t Holes –	For Bo	ttom Watering				
NEW Endurance Deep	Black	6343	Johnny's thickest wall trays. Developed	2.5" Pots, Polypro 5x5			\$26.00
Trays	Red	6345	to endure the most rigorous	Insert Pots	2 ³ /10"	4	\$29.00
,	Blue	6344	commercial grower applications.	(see page 181)			\$29.00
Lightweight Deep	Black	9514	Ideal for bottom watering.	Jumbo Plug Insert, Soil Block Propagation	21/2"	5	\$12.95
Trays	DIACK	9515	ideal for bottom watering.	Tray, Plastic Pots	2 /2	100	\$159.00 *
Lightweight Shallow	sad to	7244		20-row Seed Flat, Soil	.1	5	\$36.50
Trays	White	7245	Ideal for bottom watering.	Block Propagation Tray, Plug Flats	1 ¹ /4"	36	\$135.00 *
Solid Trays with He	oles – For	Draina	ige				
	Black	6369		2.5" Pots, Polypro Insert Pots (see page 181)		4	\$22.50
NEW Polypro Shallow	Blue	6370	Durable polypropylene shallow trays		1"		\$24.50
Trays	Red	6371	with holes for drainage. Available in colors for color-coded production.				\$24.50
	Multicolor	6376	·	,			\$35.00
Lightweight Deep	51 1	9509	Standard 1020 tray. Seed straight into tray or use for extra support. Has holes for drainage.	Jumbo Plug Insert, Plastic Pots	21/ "	5	\$13.50
Trays (with Holes)	Black	9508			2 ¹ /2"	100	\$165.00 *
Lightweight Shallow		7291	Perfect for microgreens and shoots	20-row Seed Flat,	1 ¹ /4"	5	\$21.95
Trays (with Holes)	Black	7290	production. Has holes for drainage.	Plug Flats		100	\$229.00 *
Mesh Trays							
NEW Polypro Shallow	Black	6378	Tight mesh polypropylene design	2.5" Pots, Polypro	1"	4	\$22.50
(Mesh) Trays	віаск	6380	with reinforced ribbing for extra durability.	Insert Pots (see page 181)	2.3"	4	\$24.00
Medium Weight	Black	7304	Provide easy transportation and	Jumbo Plug Insert,	21/2"	5	\$11.95
Mesh Tray	DIdCK	7305	support for seedling flats.	Plastic Pots	2.12	50	\$67.00 *
Heavyweight	Dlask	7306	Provide easy transportation and	Jumbo Plug Insert,	21/2"	5	\$17.95
Mesh Tray	Black	7307	extra support for seedling flats.	Plastic Pots		50	\$99.50 *

[†] Only compatible with products listed.



Find additional quantities of the Endurance and Polypro Trays at **Johnnyseeds.com**

Biodegradable Pots

Fertil Pots

A great choice for organic growers. Plant directly into the ground or planter, reducing labor and transplant shock. Fully biodegradable and OMRI Listed[®]. Made from primarily wood fibers with a small amount of peat and limestone. No glues or binders added. Lightweight material allows for good drainage and promotes air pruning.

Part #	Width	Height	# Fit in Tray [†]	Qty	Price					
Round	Round Pots									
9327	21/3"	21/3"	32	160	\$17.50					
9313	2 '/3"	2 1/3	32	3,000	\$225.00 *					
9315	3 ¹ /8"	31/8"	18	90	\$16.95					
9429	3./8			1,370	\$139.00 *					
9083	4"	" 4"	14	50	\$22.50					
9452	4		14	810	\$199.00 *					

[†] Number of units that fit into a standard 1020 tray.



Part #	# Cells	Width	Height	# Fit in Tray [†]	Qty	Price			
Squar	Square Insert Strips ^{††}								
7384	36	1 ¹ /2"	2"	2	10	\$23.75			
7385	30	11/2" 2" 2		2	144	\$195.00 *			
9211	20	2"	2"	2	10	\$29.00			
9457	20	2"	2"	2	87	\$149.00 *			
9217		18 2 ¹ /3" 2 ¹ /3"	21/3"	2	10	\$28.00			
9874	18	21/3	Z 1/3	2	111	\$175.00 *			
9351	12		21/-//	.1.	8	\$26.00			
9477			3 ¹ /8"	3 ¹ /8" 1 ¹ /2		\$139.00 *			

[†] Number of units that fit into a standard 1020 tray.



Endurance Deep Trays



Lightweight Deep Tray



Lightweight Shallow Tray



Polypro Shallow Tray



Lightweight Deep Tray (with Holes)



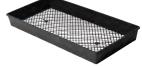
Lightweight Shallow Tray (with Holes)



Polypro Shallow (Mesh)



Medium Weight Mesh



Heavyweight Mesh

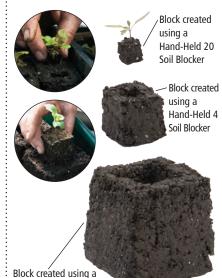
 $^{^{\}dagger\dagger}$ Must be used with a support tray.



Seedlings grown in soil blocks are more vigorous, more resilient during transplanting, and allow you to reduce your usage of single-use plastic. Increased oxygen between the blocks "air prunes" the roots, which prevents them from becoming root-bound and reduces the risk of transplant shock. Choose from hand-held or stand-up models. Removable dibbles available online

The Process of "Potting Up"

Seedlings are started in small blocks and transplanted to successively bigger blocks as needed in order to conserve growing space.



Hand-Held 1 Soil Blocker

nock.	Cno	ose tro	m nand-neid or stand-up models. Removable dibb	les available online.		• • • • • • • • • • • • • • • • • • • •	
Blo Per Rou		Part #	Description	Recommended Use	Dimensions (inches) L x W x H	Blocks per 1020 Tray	Price
and-	Held	Soil Blo	ckers				
2	0	9528	Start seedlings in these mini blocks and pot up into larger blocks after germination, saving heat mat space.	Small-seeded crops that require heat for germination (e.g., herbs and tomatoes).	³ /4 x ³ /4 x ³ /4	324	\$40.50
	5	7001	Makes blocks similar in size to the cells of 72-cell trays.	Small-seeded crops (e.g., broccoli, cabbage, kale, lettuce, onions, herbs, and flowers).	1 ¹ / ₂ x 1 ¹ / ₂ x 1 ¹ / ₂	84	\$46.95
. 4	4	7862	Makes blocks similar in size to the cells of 50-cell trays.	Tomatoes, peppers, eggplant, cucumbers, melons, squash, and larger flowers.	2 x 2 x 2	46	\$46.95
,	1	9016	Creates a 4" block with a 2"-square dibble hole for potting up blocks made with the Hand-Held 4 (#7862).	Larger seedlings and delayed plantings.	4 x 4 x 4	8	\$124.00 *
tand-	·Up S	oil Bloc	kers				
3	5	7465	EXCLUSIVE! Fills a 1020 tray with 3 rounds of blocks.	Small-seeded crops (e.g., lettuce, onions, and herbs).	1 ¹ /8 x 1 ¹ /8 x 1 ¹ /8	105	\$305.00 *
2	0	9352	Similar size to the Stand-Up 35 (#7465), but with more room for root growth.	Small-seeded crops (e.g., greens, lettuce, onions, herbs, and flowers).	1 ³ /8 x 1 ³ /8 x 1 ⁵ /8	78	\$275.00 *
1	2	7861	Makes blocks similar in size to the cells of 50-cell trays.	Small-seeded crops (e.g., broccoli, cabbage, kale, greens, larger herbs, and flowers).	1 ⁷ /8 x 1 ³ /4 x 1 ⁵ /8	46	\$275.00 *
1 6	5	7860	Includes square dibbles for potting up blocks made with the Hand-Held 20 (#9528)	Tomatoes, peppers, eggplant, cucumbers,	2 ⁷ /8 x 2 ³ /8 x 2	18	\$285.00 *



with the Hand-Held 20 (#9528).

Soil Blocking and Potting Tray 9565

This smooth, flat-bottom tray provides an ideal surface on which to easily compact soil into blockers. Raised back wall neatly contains saturated soil mix while lowered front allows you to work comfortably. 24" x 22" x 8". \$32.50.*



melons, and squash.

Tray Shelf 9688

Three molded compartments for pens, markers, seed packages, small soil blockers, dibbles, etc. Fits onto raised back portion of Soil Blocking and Potting Tray (#9565). \$8.50.



Soil Block Propagation Trays

Flat-bottomed mesh tray evenly supports soilblocks and allows air pruning of roots to occur on all sides. $10^5/8" \times 21^1/4" \times 2^1/2"$. 9397 5 Count \$7.95.

9396 50 Count \$79.95.*



Microgreens Growing Tray & Reservoir Tray



Terrafibre Hemp Grow Mat



Polypro Shallow Tray



5x5 Inserts in Lightweight Deep Tray



Deluxe Microgreens Starter Kit



Polypro 5x5 Insert Pots

Microgreens Growing Tray & Reservoir Trav

The growing tray nestles inside a reservoir tray to create an ideal microgreens planter. Shallow walls make for easy harvests and ridged bottom allows for optimal watering and drainage. The lightweight, BPA-free trays are easy to clean and sterilize and hold up to repeated use. The Reservoir Tray holds water to aide in bottom watering. NOTE: Not compatible with standard 1020 flats, trays, or domes.

- I. 6796 Microgreens Growing Tray w/ drainage holes. \$4.75.
- J. 6797 Microgreens Reservoir Tray w/o drainage holes. \$4.75.

5x5 Inserts

Lightweight thermoform plastic inserts for direct sales to chefs or for staggering small microgreen plantings for continuous harvest. Each tray splits into (8) 5" x 5" containers which fill standard 1020 trays. NOTE: Must be used with leakproof 1020 bottom tray or mesh tray. See page 179. 7583 5 Count \$7.95.*

7582 100 Count \$125.00.*

Terrafibre Hemp Grow Mats

Biodegradable, compostable media made from pH-neutral hemp fibers. High waterholding capacity keeps seeds moist through germination. Compatible with 1020 bottom trays and microgreens tray (#6796). 5" x 5" model compatible with 5x5 inserts (#7582 and #7583). Made in Canada.

7550 5" x 5" 40 Count \$14.50. 7548 10" x 20" 10 Count \$23.50. 7549 10" x 20" 140 Count \$185.00.*

Deluxe Microgreens Starter Kit 6961

Grow microgreens indoors year-round. Includes: (5) 5x5 Insert Flats; (5) Leakproof Trays; (1) Johnny's Germination Mix 20-qt. bag; (1) Chapin 48 oz. Hand Sprayer; (1) Mini Greenhouse Kit #6737, which consists of a vented NanoDome, durable bottom tray, and 18" SunBlaster TH5O fluorescent strip light with reflector; ¹/₄ lb. each of Confetti Mix radish seed, Mild Micro Mix seed, cabbage or kale seed, and radish seed; and growing instructions. \$124.00.*

NEW Polypro Shallow Trays 6375

EXCLUSIVE! Shallow polypropylene travs with no holes. Deep channels drain away excess water. Ideal for bottom watering. Black. 4 count. \$22.50.

NEW Polypro 5x5 Insert Pots

EXCLUSIVE! Resilient and reusable polypropylene 5" inserts available in black, red, or blue. Compatible with Endurance and Polypro trays (page 179) and 2.5" insert pots (available online).

6358 Black 8 Count \$12 50 6362 Red 8 Count \$12.50. 6360 Blue 8 Count \$12.50.



Growing Media

Johnny's 512 Mix

EXCLUSIVE! Trusted by growers for years. A custom mix of humus (black) peat moss, sphagnum peat moss, compost, horticultural perlite, fish meal, and seaweed meal. A great option for growing seedlings in cell trays and soil blocks with ample nutrients to carry most plants from seeding to transplant. Approved by MOFGA for use on MOFGA certified-organic farms. CG

9227 20 Qt. \$18.50.*

9228 60 Qt. \$39.00.*

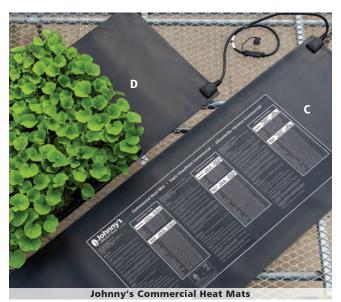
9357 2-Yard Bulk (27 individual 60-Qt. bags) \$519.00.*



Johnny's Germination Mix 9395 EXCLUSIVE! Consistently a top performer in our annual germination trials. Same nutrient-rich blend as our 512 Mix with extra perlite and sphagnum peat moss for a lighterweight growing medium. Ideal for small seeds, greens, microgreens, and house plants. Finely screened to 1/4". Approved by MOFGA for use on MOFGA certified-organic farms. CG 20-Quart \$18.50.*

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for al/items and shipping locations. See page 133 for more details.







Heat

Boost germination rates by warming the root zone 10–20°F above ambient temperature. This can be critical for crops that require temperatures above 70°F to germinate, like tomatoes, peppers, and eggplant.

Johnny's Seedling Heat Mats

EXCLUSIVE! Commercial-grade heat mats for seed germination and plant propagation. Double-insulated, durable construction with patented waterproof seal around the edges to protect mats from damage. Includes Johnny's quick guide to germination for various crops, based on findings from our Research Farm. UL Certified for safety. 120 volts.

A. 6272 9" x 19.5". 17 watts. \$24.95.

B. 6273 20.75" x 20.75". 45 watts. \$48.50.* 6274 20.75" x 48". 107 watts. \$74.00.*

Johnny's Commercial Heat Mats

EXCLUSIVE! Built with the same durable construction as our standard heat mats, but with a built-in waterproof cord for linking multiple mats together to create a custom space for growing crops. Each commercial-grade mat accommodates 5 standard 1020 seedling trays. Up to 7 Add-On Heat Mats (#6276) can be linked to the Master Heat Mat (#6275) to expand your growing operation (for a total of 8 mats). ETL Certified for safety. 120 volts.

C. 6275 Master. 21" x 60". 150 watts. \$127.00.*

D. 6276 Add-On. 21" x 60". 150 watts. \$124.00.*

E. Heat Mat Temperature Controller 6277

Digital thermostat allows you to select and maintain optimal soil temperatures for plant propagation. Simple push-button operation with easy-to-read display. Choose from Fahrenheit or Celsius. Includes 6' power cord. Optional, but recommended for use and compatible with all Johnny's Heat Mats. 120 volts. \$49.50.

Liaht

Adequate artificial light is key to promoting healthy, vigorous plant growth in an indoor setup.

F. SunBlaster Strip Lights

SunBlaster's modular, high-output lighting is energy-efficient, durable, and long-lasting. Includes (1) Strip Light, (1) 14" link cord, (2) flush mount clips, (2) hanging clips, and (1) 6' power cord with on/off switch. NOTE: T5HO Strip Lights include a NanoTech Reflector for optimal light diffusion.

Part #	Length	Watts	Lumens	Voltage	Price
LED Strip	Lights				
8340	24" (60 cm)	24	2,550	110+	\$88.50
8341	36" (90 cm)	36	3,900	110+	\$127.00 *
8342	48" (120 cm)	48	5,150	110+	\$146.00 *
T5HO Strip	p Lights				
8361	18" (45 cm)	17	1,580	110-130	\$51.50
8343	24" (60 cm)	24	2,232	110-130	\$53.00
8344	36" (90 cm)	39	3,627	110-130	\$57.50 *
8345	48" (120 cm)	54	5,022	110-130	\$65.00 *

Strip Light Accessories

Create your own grow light setup.

G. 8346 Strip Light Stand \$64.95.*

H. 8347 Strip Light Hanger \$17.95.

7911 Light Timer \$13.00.

I. 8349 Hang It Adjustable Hanger \$14.95.*

Shop replacement bulbs, fixtures, and other grow light accessories at Johnnyseeds.com

Space

Invest in a more complete indoor growing system.

NEW Johnny's Modular LED Grow Light Cart 6335

EXCLUSIVE! Developed to meet the needs of both home and commercial gardeners, this 4-tray capacity light cart is designed to expand as growing needs expand. Each cart includes (2) powerful 100-watt LED grow lights with plastic-lined shelving to accommodate (4) 1020 trays. The all-steel cart frame assembles without requiring any tools. Gliding on premium locking polyurethane wheels, these carts are both sturdy and highly portable for commercial applications. 25" W x 21.5" D x 54.25" H. Ships in (2) cartons. Connectors (sold separately online) link carts together to double capacity. \$395.00.

SunBlaster LED Propagation Rack Kit 6738

The essentials you need to build your own energy-efficient setup using a standard 4 ft. wide baker's rack (not included). Designed to hold 16 standard 1020 trays, sold separately. Easy to assemble. Each lamp is 48W. 6400K. 5,150 Lumens. Your Kit Includes: (8) 48" SunBlaster LED Strip Lights, (4) Strip Light Hangers, (4) 14" Link Cords, (3) 24" Link Cords, 6' Power Cord with On/Off Switch.

Lighthouse Grow Tent

\$1,325.00.*

Lightweight, waterproof fabric for encapsulating a light cart or creating a grafting healing chamber. Adjustable ports.

6740 3' x 3' x 6.5' \$159.00.* 6741 4' x 4' x 6.5' \$208.00.*

SunBlaster Growlight Garden 6743

Complete kit for growing a garden in your home. Automatic wicking system provides steady moisture to your plants. An air space underneath the trays encourages better air circulation. Perfect for growing fresh herbs and salads. Includes (2) 24" SunBlaster T5HO strip lights. 24W. 6400K. \$229.00.*

SunBlaster Mini Greenhouse Kit 6737

A convenient system for controlling light and moisture for growing seedlings in standard 1020 cell trays or soil blocks. Includes a heavy-duty support tray, NanoDome, power cord with on/off switch, and 18" SunBlaster TH5O strip light with reflector. 11W. 6400K. \$67.00.*

Humidity

Keep the soil warm and moist. After seedlings germinate, be sure to provide sufficient airflow.

NanoDomes

Our strip lights rest in the grooves of these vented domes. For any standard 1020 tray. Lights and tray sold separately.

6927 5 count \$33.00.3

6742 25 count \$139.00.*

5¹/₂" Vented Humidity Domes

Tall, durable domes with adjustable vents for increased air flow. Great for grafting. Clear plastic. 22" x 11" x 5.5".

7106 Single \$17.50.*

7107 4 count \$49.95.*

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.







LED Propagation Rack Kit



SunBlaster Growlight Garden



NanoDomes

5¹/₂" Vented Humidity Dome





Lighthouse Grow Tent

Johnny's Trial-Tested

Step 1: Loosen & Aerate — Broadforks



Traditional Broadfork

Broadforks allow you to break up soil compaction in established beds while leaving beneficial organisms and soil structure intact. A great choice for minimal tillage operations, they also help to improve soil structure over time. Ergonomically designed with parabolic-curved tines and lightweight ashwood handles. Tines are 10¹/₂" long. Made in Maine.

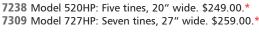
9383 Model 415: Four tines, 15" wide. \$235.00.* 9677 Model 520: Five tines, 20" wide. \$235.00.* 9338 Model 727: Seven tines, 27" wide. \$265.00.*





Made with heavy-duty steel-plate tines, these are your best choice for rocky and compacted soils. The new design features front-mounted tines for better leverage. Once soil is loosened over time, switch to a Traditional Broadfork (shown above) for maintenance.

7310 Model 415HP: Four tines, 15" wide. \$219.00.* 7238 Model 520HP: Five tines, 20" wide. \$249.00.*





Hardpan Broadfork

Based on our 520 Traditional Broadfork (#9677), but with closely spaced tines to loosen soil around root crops with minimal damage. Model 920: Nine tines, 20" wide. \$269.00.*

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133



Step 2: Smooth the Surface — Bed Preparation Rake



Bed Preparation Rake 9219

The unique curve of the tines and 6' long handle allow you to ergonomically push and pull the soil to make perfectly smooth beds. The lightweight 29"-wide head is used to level the soil and remove rocks. Optional Row Markers slide over the tines for marking rows or creating a transplanting grid. \$109.00.*

Row Markers for Bed Prep Rake 9867 () 6 count \$6.95.



Row Markers (red) in-use on Bed Preparation Rake

Bed Prep Method

Step 3: Achieve Great Tilth — Tilther XT

Perfect for incorporating amendments, chopping up small crop residues, and improving soil texture, the new Tilther XT introduces the latest in precision seedbed preparation without compromising on the traditional feel that made the original Tilther a Johnny's favorite.

NEW Tilther XT 6320

EXCLUSIVE! Since 2005 the Tilther, designed by Eliot Coleman, has been the dependable standard in professional-grade bed preparation. Not to be confused with a tiller, the Tilther mixes and blends the top two inches of soil into a finely groomed and leveled tilth ready for planting. By targeting only the top two inches of soil, the Tilther leaves the soil structure and beneficial microbes intact, and does not bring dormant weed seeds to the surface. The new Tilther XT improves on the original with an all-new drive system that generates more torque and improved responsiveness. The powerful XT gear drive is easily controlled with a gentle squeeze of the trigger, which is shaped to a newly contoured set of handles. High-strength metal components with full-length ash wood handles. Minimal assembly required. Powered by a standard 18V drill (not included). Made in Maine. \$649.00.

"The solid construction of the new Tilther XT gear drive creates more torque. Replacing or removing the drill is easier and more efficient, and the sturdy trigger gives more control to the user."

Pavel Ovechkin

Pavel's Garden Crestwood, Kentucky



Step 4: Firm the Bed — Seedbed Roller

Create flat, even bed tops for better seed-to-soil contact when using precision seeders. Smooth seedbeds can result in improved germination and can save you time and labor, as they allow for more uniform plantings that are easier to cultivate.

Seedbed Roller

Our simple, but highly effective solution for firming beds prior to seeding or transplanting. Heavy-duty lobster trap wire roller easily rolls down the bed and has a built-in rack for holding standard cinder blocks for added weight. The 30" model has 3 independent rollers that provide a slip differential for easy turning at the end of a row. Made in Maine.

7219 30" wide \$390.00.*

7705 36" wide \$395.00.*

7706 48" wide \$437.00.*

Dibble Starter Pack 7292

Easily interchangeable for many combinations of plant spacings. Includes 36 small, 18 medium, and 12 large snap-in dibbles. \$395.00.*

Row Markers for Seedbed Roller 7411

EXCLUSIVE! Polyethylene tubing easily attaches to wire mesh. 6 count. \$24.50.







Six-Row Seeder

Six-Row Seeder, Second Edition 6758

An improved design of a popular Johnny's-developed tool. Based on customer feedback and our own trial observations, we have re-engineered our Six-Row Seeder to be more efficient and easier to use. Powder-coated steel frame with adjustable offset 59" handle. Made in the USA. \$676.00.*

Six-Row Extended Range Shaft 9454

Expands the range of seed hole sizes available. Includes two smaller and two larger hole sizes. \$127.00.*



Cleats on the drive wheel for improved traction in a wider variety of soil types



Open wheel ends for easily cleaning out the wheel cage



A seed funnel for efficiently collecting unused seed



Pinpoint Seeders

Pinpoint Seeders

EXCLUSIVE! A longtime favorite for densely sowing small and medium-sized seeds. Simple, lightweight, and easy to operate even in tight greenhouse spaces. Compatible with a variety of small seeds including arugula, brassicas, carrot, lettuce, onion, radish, spinach, and more. Adjust seeding depth by changing the handle position. NOTE: Performs best on a smooth, firm seedbed.

9284 One-Row Pinpoint Seeder Includes 2 seed shafts with choice of 6 seed hole sizes. \$269.00.*

9285 Four-Row Pinpoint Seeder Choice of 4 seed hole sizes. Row spacing of 2¹/₄". Skip seed hoppers for wider spacings up to 63/4". \$290.00.*



SCAN THIS CODE to watch a quick demo of how to use the Six-Row Seeder, Second Edition.

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for *all* items and shipping locations. See page 133 for more details.

EarthWay® Seeder

EarthWay® Seeder 9170

A great choice for the small-scale market grower or avid home gardener because it is lightweight, fast, and easy to operate. Includes 7 seed plates for sowing a variety of crops at a set spacing: sweet corn, radish, carrot, peas, beans, beets, hemp, and more. Adjustable seeding depth. Adjustable row marker folds up when not in use. NOTE: Not for use with pelleted seed. \$175.00.*

EarthWay® Optional Seed Plates 9171

6 additional plates for lightly seeding carrots and lettuce, brassicas, cucumbers, popcorn, lima beans. Includes a customizable blank plate. \$44.70.







Jang JP Series Seeders

Reduce time spent thinning and waste less seed (saving money and labor) by sowing small-to-medium seed with quick precision. Select from a wide range of custom-fit rollers (required for use, not included). Easily swap out rollers and seed in the field using the quick-release hopper and adjust your seeding density in-row using interchangeable gears.

Jang JP-1 Seeder 7319

An easy choice for the smaller-scale market grower and the industry standard for precision seeding. Allows highly accurate sowing in a wide variety of soil conditions. A multitude of custom rollers available for unlimited seed spacing options. Handle height is adjustable and offset for comfortable footpath operation. Seed rollers sold separately, online. Please allow 7-10 business days for delivery. \$519.00.*

Seed Roller Starter Pack 7024

Includes one of each Jang roller: X-24 (brassicas, baby greens, and raw onion), F-24 (radish), U-12 (raw beets, size #13 pelleted beets, carrots, lettuce, and onion), XY-24 (raw carrots and lettuce), and N-6 (small beans and corn). \$166.00.



Seed Roller Starter Pack

NEW Jang Seeder Starter Kits

EXCLUSIVE! Includes a Jang JP-1 Seeder and a collection of seed rollers for sowing a wide variety of crops. We selected these rollers based on rigorous trials at the Johnny's Research Farm. See Johnnyseeds.com for details about each kit.

8368 For Vegetables \$635.00.* 8371 For Cover Crops \$630.00.*

8370 For Baby Leaf Greens \$649.00.*

8369 For Sunflowers \$595.00.*





See all Jang seeders and accessories (including our full line of seed rollers) at Johnnyseeds.com



Multi-Row Push Seeders

Increase production by seeding multiple rows in one pass. Great for high-density crops like salad greens, carrots, and even cover crops. Add hoppers (for seeding more rows) as your business grows. See chart at right for the maximum number of hoppers that fit each frame. For additional hoppers, see Johnnyseeds.com.

Model	Part #		# Hoppers Included	Max Outside Row Spacing ^{††}		Price
A. JP-3	7607	15"	3	12"	5	\$1,229.00 *
B. JP-5	7898	15"	5	12"	5	\$1,795.00 *
C. JP-6	7608	26"	6	22"	8	\$2,295.00 *

[†] Frame widths are approximate.

 $^{^{\}dagger\dagger}$ Distance between two outermost rows. Minimum row spacing of 3" for all models. Please allow 7–10 business days for delivery. All seed rollers sold separately at Johnnyseeds.com.







Fabric Weed Barrier

Sunbelt Black Woven Ground Cover

Standard weed barrier for annual cut flowers and vegetables. Durable 3.2 oz. woven polypropylene fabric resists tearing and weed penetration while still allowing air, water, and nutrients to pass through. Great for cooling the soil and conserving water. Ideal for greenhouses and field plantings. Striped every 12 inches to aid in plant alignment. UV-stabilized to protect against sunlight degradation. Secure with fabric staples or sandbags. 5-year guarantee against UV deterioration.

6802 3' x 100' \$44.95.* 7754 3' x 300' \$120.00.* **6801** 4' x 100' \$59.95.* 7755 4' x 300' \$159.00.* 7756 6' x 300' \$246.00.* 7734 6' x 500' \$379.00.* 7757 10' x 300' \$418.00.* 7758 12' x 300' \$515.00.* 7759 15' 6" x 300' \$639.00.*

Reflective White/Black Woven Ground Cover

A great choice for cut-flower growers. This woven polypropylene fabric provides the best of both worlds: white on top to reflect heat away from the soil surface, and black on the underside to suppress weed growth. Ideal for cool-loving cut flowers like sweet peas, lisianthus, snapdragons, and stock. 3.2 oz.

6800 3' x 300' \$199.00.* 6799 6' x 300' \$379.00.*

Black Weed Fabric

Lightweight, permeable, non-woven polypropylene fabric. Lighter than woven weed barriers, facilitating a greater exchange of air, water, and nutrients. 1.5 oz., UV-resistant fabric lasts multiple seasons in the field and is easy to remove and store for the winter. Plant annual crops directly into it or use in-between mulch films.

7964 3' x 50' \$15.95.* 7961 4' x 820' \$199.00.* 7960 3' x 820' \$172.00.* 7962 4' x 1.640' \$399.00.* 7965 4' x 100' \$40.50.* 7963 5.25' x 820' \$260.00.*



Hand Tools

available online at Johnnyseeds.com

Mulch Tools

Mulch Hole Burner Kits

EXCLUSIVE! Make perfect transplanting holes in woven polypropylene mulches and landscape fabrics. Cauterizes the edges of fabrics to prevent fraying. Can also be used on polyethylene films. Attaches to a standard 1-lb. propane cylinder (not included). See website for distance marker and interchangeable dies.

7664 Starter Kit

Includes torch, burner base, and 2.4" round die. \$315.00.*

7665 Deluxe Kit

Includes torch, burner base, and six dies (1.6", 2.4", 3.2", and 4.5" round; 1.6" square; and 5.1" cross-cut). \$749.00.*



Staple Setter[™] and Anchoring

Staple Setter™ 7341 Drive a single staple from a standing position using a 42" handle with magnetic head. For use with 1" steel staples of any length. \$86.00.*

Anchoring Pins™ Fabric Staples

Standard U-shaped steel pins with angle-cut ends for fast and easy installation. 1" W x 6" L. Made in the USA. 9859 12 count \$6.95. 9723 500 count \$79.00.*











Biodegradable & Compostable Mulch

Bio360 Biodegradable Mulch 9302

Soil warming and weed suppression similar to black plastic mulch, but with a lower environmental impact. Made from Mater-Bi®, a plant-based bioplastic designed to biodegrade in the soil in 4-6 months, depending on conditions. No need to remove from the field; simply incorporate into soil at the end of the season. Flat black (.6 mil). No sales to California. 4' x 500' \$135.00.*

WeedGuardPlus® Paper Mulch

Biodegradable, heavyweight paper mulch holds up to tough field conditions for the whole growing season. Decomposes over time, adding organic matter to the soil. Effectively suppresses weeds, similar to plastic mulch, but with a smaller environmental impact. Strong enough to apply with a mulch layer. Made in the USA. CG

6744 24" x 100' Heavyweight \$39.00.* 6745 48" x 100' Heavyweight \$65.00.* 6746 48" x 250' Heavyweight \$124.00.*

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.

Plastic Mulch Films

NEW Solar Shrink

Patented, innovative agricultural mulch that shrinks in the sun. Once applied to the bed and exposed to sunlight, it permanently shrinks, conforming to the surface of the bed. The tight fit and tough molecular structure reduces wind damage, allowing for better moisture and heat retention. Manufactured to be half as thick and 40% lighter than standard black mulch film, Solar Shrink rolls are more efficient and easier to handle when laying. The lower weight means less plastic to dispose of at the end of the season. Excellent choice for home gardeners and commercial growers. Ideal for organic growers.

6382 48" x 300' \$44.95. 6383 48" x 1,000' \$105.00. **6384** 48" x 2,500' \$210.00. 6385 48" x 4,000' \$310.00.

Black Mulch

Predominant mulch film used in vegetable production. Suppresses weeds, reduces evaporation, and increases soil temperature to encourage earlier crops and higher yields. Average soil warming of 3–5°F at the root zone. Flexible and durable. Easy to install and remove. Larger sizes are embossed, allowing extra stretch for a snug fit over raised beds and better soil contact when applied with a mechanical mulch layer. 1.0 mil polyethylene. 7220 Smooth 4' x 50' \$16.95. 7223 Embossed 4' x 2,000' \$169.00.* 7221 Smooth 4' x 100' \$19.95. 7224 Embossed 4' x 4,000' \$325.00.*

Solar Mulch 9738

7222 Embossed 4' x 600' \$89.00.*

Maximum soil warming and weed suppression. Developed by the late Dr. Brent Loy at UNH. Transmits near-infrared radiation to increase soil temperatures up to 8-10°F, while blocking the PAR (photosynthetic active radiation) responsible for vigorous weed growth. Perfect for heatloving crops like melons and other cucurbits. Apply film soon after bed preparation for maximum weed suppression. 4' x 50'. \$21.50.

White on Black Mulch

Weed suppression film designed for cool-loving crops. The white surface keeps soil cool by reflecting light away from the ground, while the black underside inhibits weed growth. A great choice for growing brassicas. onions, and cut flowers like lisianthus and sweet peas.

9005 4' x 50' \$25.50.

9662 4' x 4,000' \$342.00.*



Find SRM Red Mulch at Johnnyseeds.com



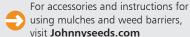


Manual Mulch Layer 7448

EXCLUSIVE! Lay mulch films without a tractor! Great for greenhouses, high tunnels, and small field plots. Fully adjustable frame for use with 36-60" mulch widths. Handle mount allows you to lay single or multiple lines of drip tape simultaneously; Drip Tape Collar Stops recommended (see below). Two person operation. 97 lb. \$1,259.00.*

Drip Tape Collar Stops 7449

EXCLUSIVE! Optional. For precise placement of drip tape. Set of two. One set and one drip tape spool required for each row. \$79.00.







Paperpot System

This ingenious system allows a single person to transplant an entire bed of seedlings in minutes. Compressed Paper Chain Pots, also called "paperpots," unfold to reveal 264 seedling cells in a honeycomb pattern, all linked with a paper chain which feeds through the Paperpot Transplanter. The Paperpot Transplanter, Spreader Bars and Frame, Paperpot Trays, and your choice of Paper Chain Pots are sold separately, and all are required for use.



Adjustable front axle for optional tighter spacing and improved productivity

Steel angle iron sleds for superior strength and stability

Easy on-the-go handle height adjustment



NEW Johnny's Paperpot Transplanter 6220

EXCLUSIVE! Developed by Johnny's for exclusive use with the Paper Chain Pot system. Made in the USA, this commercial-grade transplanter is built for ease of operation without compromising performance. The full steel construction, strong angle iron sleds, and rigid frame plows through soil to form consistent furrows. Manufactured with commercial-grade welds at every possible join to ensure durability. 1/8"-thick steel angle iron sleds anchor the plow and form the foundation of the entire frame. These sleds, at soil surface, provide a low center of gravity that produces a stable gliding motion in a wide range of soil types. The front axle features adjustable guide wheels that can be set at 4", 7.5", and 8.5" widths allowing for tighter plant spacing. The fully collapsible handle lays flat against the transplanter frame when not in use, making your transplanter convenient to store. The entire steel frame weighs in at a very maneuverable 26 lb. making it an easy carry with one hand. (§) \$699.00.*

Terrateck Paperpot Transplanter 7601

EXCLUSIVE! The Terrateck Paperpot Transplanter has established itself as a heavy-duty workhorse in planting chain pots. Heavy gauge steel from end-to-end increases weight where it's needed to evenly plow through all soil types ensuring paper chain pots are planted as uniformly as possible. Innovative adjustable sweeps can be fine-tuned to adjust different soil types to pull soil around transplants. Adjustable packing wheels press the soil in place. A single person can transplant 264 seedlings in minutes. Imported from France. \$829.00.*

Paper Chain Pots

In-Row Spacing	Part #	Approx. Chain Length	Qty	Price
2"	7585	44 ft.	10	\$42.00 *
2	7586	44 11.	150	\$399.00 *
4"	7587	88 ft.	10	\$45.00 *
4	7588	00 11.	75	\$279.00 *
6"	7589	132 ft.	10	\$48.00 *
0	7590	132 11.	75	\$299.00 *



Find Paperpot spreader bars, frame, and trays (all required for use) and more accessories for this system at Johnnyseeds.com/paperpot

Hand Transplanting





A. NEW Johnny's Hand Transplanter 6316

EXCLUSIVE! Engineered by Johnny's to be rugged, yet light enough for one-handed operation. An adjustable depth gauge and foot activated hole opener simplifies planting seedling plugs up to 2 inches. To reduce weight, thin slots have been added to the walls of the square steel tube. Patent pending. \$119.50.

B. NEW Johnny's Transplant Caddy 6295

EXCLUSIVE! Free your hands to be more productive! The steel-frame 1020 tray holder secures to a padded support harness so you can transplant with maximum efficiency. \$55.00.*

Connecta® Tool System

The expanding range of best-in-class garden tool heads has added to the versatility and value of the Connecta tool system. With one Connecta handle set you can now interchange professional-grade bed prep and cultivation tools with the push of a button. The high-strength aluminum alloy and stainless steel components are designed to withstand the daily rigors of commercial market gardening. Patent pending and 100% guaranteed.

Kits

Connecta® Cultivation Kit 6786

The perfect assortment of tools for the market gardener! This kit includes the Connecta handle and receiver, Collinear heads (4" & 7"), and Contour Wire heads (4" & 6"), 4 heads total, \$129.00.*

Connecta® Starter Kit 6864

A great place to start! This introductory kit includes the Connecta handle and receiver, Collinear 4" head, and Contour Wire 4" head, 2 heads total, \$89.95.*

Handle

C. Connecta® Handle Set 6785

The entry point into the Connecta system. Pair this handle with any of the attachments below to create a more efficient, economical tool. Maine ashwood handle with cast aluminum alloy receiver. Required for use of all attachments shown below, sold separately. 61.5" long. \$59.00.*







D. Collinear Hoe Head

Efficiently cultivate garden beds with maximum precision.

6784 4" Spacing \$18.95. 6783 7" Spacing \$21.95.

E. Contour Wire Hoe Heads

Target thread-stage weeds right up to crop stems. Perfect for low-growing crops like lettuce. 8363 4" Spacing \$17.90.

8364 6" Spacing \$19.90.



SCAN THIS CODE to watch videos of the Connecta system in action.

F. Stirrup Hoe Head 8366

Cover a lot of ground quickly using smooth push-and-pull strokes. For crops spaced at least 6" apart. \$28.95.

G. NEW Row Pro™ 8365

The first multipurpose hiller/furrower designed for an interchangeable tool system! Sow large-seeded crops, plant bulbs, hill root crops, and more. To use for seeding/ planting, cut a trench in the soil using the angled opening blade. Flip it over to fill in the furrow using the contoured closing blades. \$44.50.

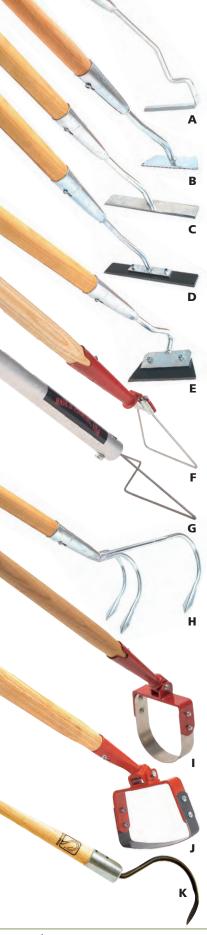
H. NEW Bed Prep Rake Head 6315

EXCLUSIVE! Precision bed raking and surface leveling. The ideal strength-to-weight ratio for an easy push/pull through the soil. 30" wide. Tines 23/4" long. \$69.00.*

I. NEW Matrix™ Row Marker Set 6314

Optimize your bed prep with a perfect matrix of rows for seeding or planting: two rows 12 inches apart, three rows 8 inches apart, or four rows 6 inches apart. Welded rollers can be changed quickly and require no assembly. \$249.00.*

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-todate shipping charges for all items and shipping locations. See page 133 for more details.



Weed Control

A. Long-Handled Wire Weeder 9374

Fast, ergonomic precision weeding. Designed to be held with thumbs up, for standing removal of small weeds with speed, surgical precision, and minimum soil disturbance. Work in a back-and-forth motion or simply drag through soil for smaller weeds. Perfect for maneuvering into tight spaces like between onion bulbs. 4" x 1/2" head. 1 \$49.50.*

Collinear Hoes

Our best precision tool makes weed control fast. easy, and enjoyable. Eliot Coleman's finest work is a complete departure from traditional designs. Ergonomic design allows the user to stand straight, using a thumbs-up grip, while a sharp, thin blade rides flat and collinear with the soil surface, slicing off weeds without throwing soil onto nearby seedlings. Especially effective in and around lowlying crops such as head lettuce.

B. 9546 3³/₄" Fixed Blade Collinear Hoe \$52.50. C. 9093 7" Fixed Blade Collinear Hoe \$54.95.

D. 9587 7" Replaceable Blade Collinear Hoe \$56.00.

Trapezoid Hoes

Our favorite for mid-sized weeds. Spring steel blade and curved neck for comfortably cutting through even established weeds. Sharp, pointed corners tackle stubborn roots that finer cultivation tools just can't handle.

E. 9589 5" Trapezoid Hoe \$54.00.* 9590 6¹/2" Trapezoid Hoe \$54.95.*

F. Delta Wire Hoe 7945

EXCLUSIVE! Essential thread-stage weed control. Modeled after an Eliot Coleman original. No sharp blades. Safe to use around drip tape, plastic mulch, and plant stems. Includes interchangeable wire heads in 2.3", 3.5", and 4.7" widths. \$119.00.*

G. Offset Wire Hoes

Thread-stage weed control in three widths. Designed by Michael Kilpatrick and Peter Gile. Unique wire shape with a 5.25" edge for larger areas, a 1.6" edge for maneuvering between crops in-row, and a pointed corner for pinpoint accuracy. Gentle and effective. No sharp blades. Lightweight aluminum handle. Available in two handle lengths. 7946 60" handle \$59.95.* 7947 73" handle \$77.50.*

H. 3-Tooth Cultivator 9071

Multi-use tool for soil mixing and deeper cultivation. Loosen topsoil, incorporate amendments, and cultivate tougher soils with an easy push-pull action. Sharp teeth are spread perfectly for working the top 3" of your garden beds. 7" wide. \$59.95.*

Omega Oscillating Hoes

EXCLUSIVE! A great choice for shallow-rooted crops. A gently curved oscillating hoe allows you to undercut small weeds, while minimizing damage to crop roots and stems. Great for onions.

6996 2.3" wide. \$87.50.* I. 6995 3.9" wide. \$87.50.*

Stirrup Hoes

Our best-selling cultivation tool. Double-sided, oscillating blade carves through tough weeds just below the soil surface, cutting on the push and pull stroke to cover a lot of ground fast! Great for footpaths. Unparalleled quality construction allows this tool to glide smoothly through soil, making it our favorite stirrup hoe on the market.

9489 31/4" Stirrup Hoe \$61.50.*

J. 9500 5" Stirrup Hoe \$63.50.* 9504 7" Stirrup Hoe \$64.50.*

K. CobraHead® Long Handle **Precision Weeder/Cultivator 9809**

A unique multipurpose garden tool. The slender, cobra-shaped blade allows you to cut through weeds, cultivate, dig, make furrows, and break through soil crusts with ease. Works well in almost any soil. Made in the USA. \$67.50.*

Spring Hoe

EXCLUSIVE! In-row and between-row cultivation in a single pass! Sharp blades cut through weeds just below the soil surface on either side of the crop, while flexible tines uproot emerging weeds in-row. 6" height clearance. Available in standard 3.5" width between blades or 4.7" for use with wider, more mature crops. Made in France by Terrateck. **7923** 3.5" wide. \$145.00. 6978 4.7" wide. \$149.00.*

Spring Hoe

Find hoe replacement blades at Johnnyseeds.com

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.





Wheel Hoes

The wheel hoe is a lightweight, versatile, and maneuverable push-tool. Its ergonomic design gives you more leverage than a traditional hand hoe, and it allows you to cover ground more quickly. Choose the right wheel hoe for your needs using our quide at Johnnyseeds.com/wheel-hoe-quide.

Glaser Wheel Hoe

This longtime-favorite wheel hoe is easy to maneuver in tight spaces—perfect for cultivating garden beds and footpaths. Designed after the original Planet Jr. model, it accepts the same attachments. Ergonomic, natural wood handles. Fully adjustable for height, handle angle, and attachment angle. Includes offset handle brackets for operation from the footpath. Available with either 8" or 12"-wide center-mounted, oscillating hoe blades. Imported from Switzerland. Ash handles manufactured in the USA. 9090 With 8" Oscillating Blade \$465.00.*



Find Glaser Wheel Hoe attachments at Johnnyseeds.com

Terrateck Wheel Hoes

EXCLUSIVE! Cultivate in-row, inter-row, and footpaths with high accuracy. Target small weeds, hill crops, and break up soil crust. Effective even in intensive crop spacing! A unique tool-mounting system allows you to quickly change out attachments in the field. Adjustable frame. Made in France by Terrateck. NOTE: Attachment required for use, not included (see options below). Terrateck Single and Double models are fitted to accept one

attachment. Mounting additional attachments requires a Secondary Tool Mount and/or a Toolbar and Tool Support Clamp/s (not included). Toolbars available online.

7615 Single Wheel Hoe \$419.00.*

7620 Double Wheel Hoe \$489.00.* 7600 Secondary Tool Mount \$135.00.*

7595 Tool Support Clamp \$48.50.*

Terrateck Wheel Hoe Attachments

9378 With 12" Oscillating Blade \$479.00.*



Dual-Beveled Collinear Hoe Blade



Dual-Beveled Collinear Hoe Blades

EXCLUSIVE! Wide, double-sided blades allow an ergonomic back-and-forth motion for fast footpath cultivation.

6939 10" wide \$208.00.*

6940 18" wide \$239.00.*

6941 28" wide \$255.00.*

L-Blades 7596

EXCLUSIVE! Standard sweeps for cultivating small weeds on either side of crop rows. Formerly known as "Lelievre Sweeps." Includes set of two blades, 10" toolbar, and two Y-bolts. \$140.00.*



Finger Weeder Kits

EXCLUSIVE! Effectively cultivate in-row by gently uprooting thread-stage weeds and pulling them up to the soil surface. Different densities for use in various soil types. Includes your choice of Finger Weeders, a spring-loaded mounting arm, 16" toolbar, and hardware for assembly. Not for heavy or hard soils. 7055 For standard (medium) soil \$575.00.*

7682 For soft or sandy soil \$579.00.*



Collinear Hoe Blade



Secondary Tool

Mount

Torsion Weeders



Mono-Ridger



Bio-Discs





Find additional Terrateck attachments and weed control tools at **Johnnyseeds.com**





Stale Seedbed Technique

Creating a "stale seedbed" is a simple weed management technique to help reduce the weed seedbank in your garden. The idea is to prepare your beds for planting, wait for weeds to emerge, and then terminate them without disturbing the soil and bringing up new weed seeds. We recommend using either of these stale seedbed methods: flame weeding, which allows you to seed sooner after bed prep since you can flame weeds up until crop emergence; and silage tarps, which can be applied to the bed for approximately 2-3 weeks before seeding, depending on weather conditions.

Red Dragon Backpack Flame Weeder 9758

Give your crops a head start by flaming weeds just before crop emergence. Convenient, portable, and easy to maneuver in the field and greenhouse. Includes 400,000 BTU torch, lightweight backpack with padded hip and shoulder straps, and 2.4 gal. propane cylinder. Made in the USA. \$345.00.*

Squeeze Valve With Adjustable Pilot 9076

Maximizes efficiency and helps prevent tank freeze-ups. Conserves fuel between flaming operations without having to relight torch. NOTE: Optional part. Not included with the Red Dragon Backpack Flame Weeder. \$72.00.

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.

Silage Tarp

A passive bed preparation tool that reduces weeds and builds healthy soils. Place impermeable silage tarps on soil surface prior to crop planting to create the warm, moist soil conditions needed to stimulate weed seed germination. Weeds then die after emergence due to lack of light, leaving a weed-free seedbed. Used to holdover empty beds until planting, warming soil in spring, speeding up decomposition of crop residues, conserving soil moisture, and minimizing nutrient leaching. Secure well with sandbags or by burying the edges. 5 mil black/white polyethylene. UV-treated.

7750 24' x 100' \$249.00.* 7751 32' x 100' \$335.00.* 7752 50' x 100' \$525.00.*





Tine Weeders

An easy way to maintain weed-free beds in densely spaced crops like baby greens. Tine Weeders can be pulled over bed tops to target thread-stage weeds, while leaving crops intact. Pair with stale seedbed techniques to give your newly seeded crops a head start on growth, creating a necessary disparity between the size of crops and weeds before starting cultivation. For best results, cultivate beds every 7-10 days.

Flex Tine Weeder 7784

Fast and effective weed control for both young and mature crops. Curved wire tines move over the soil surface to effectively uproot thread-stage weeds and break up soil crust. Dual rows of staggered, flexible tines spaced at 1¹/₂" apart can easily move around even mature crops and drip irrigation without damage. The vibrating action effectively brings small weeds to the surface. Cultivate once or twice a week over established crops for weed-free beds. May require two passes for optimal results. 30" wide. \$322.00.*

Tine Harrow 7968

EXCLUSIVE! Cultivate right over small crops or use to create stale seedbeds. Dual-staggered rows of stiff, spring-loaded tines effectively uproot thread-stage and cotyledon-stage weeds. More aggressive action than the Flex Tine Weeder, and great for working in heavier soils and with crops (like onions) that do not form a leaf canopy. Can also be used to cultivate smaller leafy crops like baby leaf greens before canopies are fully developed. Made in France by Terrateck. 30" wide. \$279.00.*

Trellis Supports

Hortonova FA — for Horizontal Use

Ideal for supporting long stems in cut-flower production. Lightweight, UV-resistant polypropylene with 6" x 6" mesh. Convenient widths for creating horizontal trellises. Tensile strength: 78 lb.

7279 36" x 328' \$63.95.* 9715 48" x 328' \$89.45.* 7280 36" x 3.280' \$315.00.* 9711 48" x 3.280' \$416.00.*

Hortonova FG — for Vertical Use

Great for vines and climbing vegetables and flowers. Lightweight, UV-resistant polypropylene with 6" x 7" mesh. Tensile strength: 78 lb.

7286 67" x 3,280' \$550.00.* 7283 59" x 328' \$89.45.* 7284 59" x 3,280' \$498.00.* 9716 79" x 250' \$71.25.* 7285 67" x 328' \$92.55.* 9712 79" x 3,280' \$650.00.*

Tomato Cage

Heavy-duty square cage made from durable galvanized wire for years of use. Stronger and wider than the average cone-shaped tomato cage, with 8 legs for extra support. Also great for eggplant and large flowers. Collapsible for easy storage. Made in the USA. Pack of 3.

7547 14" x 14" x 40" H \$38.00.* **7538** 14" x 14" x 48" H \$44.50.*



Find trellis netting for smaller plantings and other trellis supports at Johnnyseeds.com

Clips & Hooks

Rollerhook® 7047

This labor-saving device allows you to implement a lower-and-lean system in your greenhouse. Release twine and slide the vine down the trellis wire to maximize your use of space. Great for tomatoes, eggplant, cucumbers, and more. Heavy-duty galvanized hook holds a 100' spool of UV-resistant twine. Rated to hold up to 22 lb. 25 count \$32.00.*

Tomahook 7308

Heavy-duty supports for lowering and leaning crops. Stainless-steel hooks are equipped with 50' of strong UV-resistant twine for holding heavy tomato and cucumber vines. Simply flip over the double-sided hooks to release twine while sliding them down the trellis wire. 323 count \$116.00.*

C. Tomato Trellis Clips

Industry standard. These strong plastic clips latch onto fine trellis twine to secure vining crops. The guick-release closure allows for easy adjustments as plants grow. Can accommodate stems up to $\frac{3}{4}$ " diameter. Side openings aide in ventilation. 9133 500 count \$32.00. 9624 100 count \$11.25.

D. Compostable Trellis Clips

Save time and labor at the end of the season by composting clips along with biodegradable twine. No more reclaiming plastic pieces. Made from non-GMO corn starch, it fully composts in approx. 13 weeks. Accommodates stems up to $^{7}/8"$ (22 mm). No sales to CA. Not OMRI listed. NOTE: We recommend use with biodegradable twine (like #9241 Sisal Trellis Twine).

7044 100 count \$17.95. **7050** 500 count \$45.95.

Twine

E. Tomato Twine

Strong white polypropylene twine for trellising tomatoes, cucumbers, and other vining crops in the field or greenhouse. Does not stretch or sag like other twines, making it a great choice for horizontal basket-weaving in tomatoes.

9834 1,000 ft. Tensile strength: 135 lb. \$12.95. 9353 6,300 ft. Tensile strength: 75 lb. \$25.50.

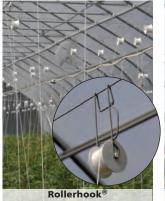
F. Sisal Trellis Twine 9241

Biodegradable trellis option. Natural, untreated sisal twine for tomatoes, pole beans, and more. Compost with your crop debris at the end of the season. Tensile strength 210 lb. Approximately 3,000 ft. of twine. \$39.95.



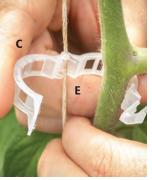


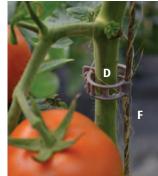






Tomahook













Baby Leaf Harvester 7980

EXCLUSIVE! Quickly harvest a 30" bed in a single pass! This lightweight, drill-powered harvester is a fraction of the price of larger, battery-powered greens harvesters. Easy to push and maneuver inside hoophouses and greenhouses. Ideal for baby leaf greens, spinach, mesclun mixes, and herbs. Made in France by Terrateck. To harvest into bins, see the Bin Mounting Bracket (#7986), available online. NOTE: Maintain cutting blades with a food-grade lubricant or mineral oil before every use. Powered by a standard cordless drill (not included). We recommend the 3-speed DEWALT DCD996P2-QW cordless drill model. Please consult your drill's operator manual for how to achieve optimum RPM while in use. \$4,249.00.*



Fully adjustable cutting height, conveyor belt angle, and winnower speed allow for harvesting a variety of crop sizes.



A simple pull-cord depresses the drill trigger for smooth, easy operation.



Rear-mounted collection bag opens from the side to easily remove harvested greens.

NEW Johnny's Pruning & Trellising Bags

EXCLUSIVE! Convenient wearables for hands-free pruning, harvesting, and trellising. Durable construction will last for many years. Both bags include a front storage pocket and adjustable belt for efficient hands-free use. 6230 Trellis Clip Bag \$14.95. 6231 Pruning Bag \$19.95.

NEW Johnny's Double Harvest Bag 6254

EXCLUSIVE! Comfortably harvest heavy loads. The highly adjustable padded harness distributes weight evenly across the shoulders freeing your hands to harvest and tend to plants. Each reinforced canvas bag holds approx. 6 gal. volume. \$59.00.

Harvest Bucket 7939

Efficiently harvest delicate crops without damage. Kidney-shaped design fits comfortably and is portable for the greenhouse or field. Wide, heavy-duty harness is fully adjustable with a padded back. 18 qt. capacity. \$34.00.*

Harvest Aprons

Comfortably carry produce and weeds while leaving your hands free. Once full, simply release the ropes to empty the contents. Thick, durable cotton construction with water-resistant nylon storage pouch. Machine washable. One size fits all. Choose from the Roo full-length apron or the Joey waist apron.

The Joey Apron® 7730 Leaf Green \$36.50. 7731 Purple Orchid \$36.50.

The Roo Apron® 7713 Leaf Green \$42.50. 7714 Purple Orchid \$42.50.







Shears/Pruners

A. Felco No. 2 Pruning Shears

A trusted grower favorite. Lightweight, ergonomic, and high quality. Hardened steel blades and forged aluminum handles with slip-resistant coating. Shock-absorbent spring. Swiss made.

7733 Pruner \$65.00.

7753 Leather Holster \$15.95.

B. Pruner Sharpener 9744

For the Felco and Bahco pruners only. \$15.95.

C. Bahco Pruner

Economical, all-purpose pruner with hardened steel blades. Narrow cutting head for easy access. Stamped and pressed steel handles.

9225 Pruner \$42 00

9105 Pruner Holster \$18 95

D. Curved Grape and Tomato Shears

Easily snip the entire truss. Stainless-steel blades. Textured, slip-resistant grip. \$15.00.



Cold Storage

CoolBot®

An affordable alternative to a commercial refrigerator trusted by farmers, florists, hunters, and brewers to keep products cool and fresh. Enjoy all the benefits of a walk-in cooler while saving on energy, installation, and repair costs! Install onto a standard digital air conditioner in an insulated space to keep your vegetables, meat, flowers, and other products fresh and cool down to 34°F (1°C). Choose from the standard CoolBot manual controller or the CoolBot Pro, which includes a WiFi jumper and data cable for remote use. Made in the USA.

7867 CoolBot® Pro WiFi-Enabled \$429.00.* 7345 CoolBot® Original Model \$379.00.*

"The CoolBot Pro paired with an air-conditioning unit costs 1/10th the price of a walk-in compressor. It's proven, trialed, and tested. With the app, I can get notifications and adjust settings from where I'm at. It's one part of the success of our farm."

JM Fortier

Farmer, Author, Founder of the Market Gardener Institute

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.

E. NEW Johnny's All-Purpose Shears 6251

EXCLUSIVE! These comfortable carbon steel shears are popular at our Research Farm because of their versatility. \$16.95.

F. NEW Johnny's Needle Nose Shears 6252

EXCLUSIVE! Resilient SK5 carbon steel blades with corrosion-resistant chrome plating. Includes protective leather case that can attach to a belt. \$24.95.

G. Garden Scissors

Long scissors for reaching into tight spaces. High carbon-steel blades. 9199 Scissors \$29.95. 9104 Sheath \$23.50.

H. NEW Johnny's Floral Shears 6253

EXCLUSIVE! Flower trialing favorite. PTFE coated blades resist residue buildup making them easy to clean and maintain. Lightweight for ease of use. \$19.95.

I. Hands-Free Pruning Shears 7275

Fits over your fingers, allowing you to prune while trellising. Spring-loaded with 1" blade. Ideal for tight spaces. Ambidextrous design. \$32.95.





ohnny's Drip Irrigation Kit











Watering & Irrigation Supplies

Johnny's Drip Irrigation Kits

Professional-quality drip irrigation for your home garden. These easyto-install kits save water when compared to overhead irrigation systems and allow for consistent saturation, better weed control, and reduce the likelihood of disease. Designed with high-quality Toro® fittings. Drip tape with integrated emitters every 8" deliver even moisture directly to plants' roots for maximum growth. Filtration system included. Flow Rate: 0.34-0.56 GPH.

6981 500' Kit \$156.00.* 6982 1,000' Kit \$189.00.* 6983 2,000' Kit \$244.00.*

Johnny's Patio Irrigation Kit 6984

Spray watering system for small spaces that saves time and water. Professional micro-spray technology provides many ways to irrigate your flower boxes, hanging baskets, and pots, Sprinklers and drippers adapt to different plant sizes and easily connect to an outside valve. Sprinklers can be individually controlled. \$114.00.*

Digital Hose End Timer 7322

Reliable automated watering. Program up to 4 start times per day. Fully customizable 7-day watering calendar. Easy manual operation with rain mode option. Weather-resistant. Powered by one 9-volt battery (not included). \$50.50.*

Find irrigation part, fittings, fertilizers, and fertilizer injectors at Johnnyseeds.com



Wonder Waterer™ 9102

Promote successful early growth with a soft, uniform spray that will nourish, not disturb young seedlings. Laser-cut faceplate is removable for easy cleaning. System includes in-line filter and convenient shut-off valve. \$49.95.

Hi-Hose Watering System

Save labor, eliminate trip hazards, and reduce the spread of disease by keeping your watering hose up and off the greenhouse floor. Prevents kinked hoses and pinhole leaks. Easily used with existing hose bibs and nozzles. Heavy duty, corrosion-resistant construction. Each kit includes ⁵/8" hose, stainless anti-kink hangers, pulleys, cable, clamps, and turnbuckle. Allow up to 15 days for delivery. NOTE: 100' kit has special requirements; see Johnnyseeds.com for details.

7154 50' Kit \$285.00.* 7163 75' Kit \$379.00.* 7164 100' Kit \$562.00.*

A. Fogg-it Nozzle

Used extensively by professional growers for misting delicate plants. Brass nozzles with three misting jets, delivering super-soft mist in a conical spray pattern. Made in the USA.

7151 Super Fine (0.5 GPM). For newly seeded trays and microgreens. \$12.95. 7152 Fine (1 GPM). For small seedlings and delicate flowers. \$12.95. 7153 Low Volume (2 GPM). For misting foliage of established plants and general greenhouse use. \$12.95.*

B. Heavy Duty Brass Shut-off Valve 7032

Solid brass valve that lasts for years. The large trigger makes it easy to turn your hose on and off. \$19.95.

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.

Cut-Flower Supplies

- **C.** Chrysal Bulb T-Bags \$22.50-\$104.00
- D. Chrysal Universal Paper Sachets \$16.00-\$145.00
- E. Chrysal Bulb Sachets \$13.50-\$119.00
- F. Chrysal Professional 2 Solutions \$39.00-\$94.00
- G. Kraft Paper Sleeves 5 sizes \$27-\$151
- H. Arrive Alive Compostable Wraps 6878 \$99.50
- I. Kraft Paper Sheets 3 sizes \$89.00-\$105.00



Find more details about the above products at Johnnyseeds.com

J. Johnny's Stem Cutter 7623

Save time processing and give your bouquets a professional look. Secure to your work bench to cut multiple stems at once. Sliding blade makes clean cuts. Corrosion-resistant, stainless-steel blade measures 14¹/4" wide. Wooden handle with rubberized comfort grip. Replacement blade available online. \$129.00.*



Procona System

An all-in-one harvest, transport, and display system for professional market growers to bring blooms from field to market. We carry two Procona series: Florida (perfect for smaller market booths or loose-stem offerings) and Valencia (for harvesting and marketing larger quantities of blooms). The components of each are sized according to the series and should only be used within that series. We suggest leaving "breathing" space between the flowers and lid (1.5" of space for the Florida Series, 2" for Valencia). NOTE: Collars and lids are not compatible with topframes.

Florida Series

Item	Part #	Length	Width	Height	Price
K. Container – 25	7941	11.8" (30 cm)	9.4" (24 cm)	9.8" (25 cm)	\$6.25 *
L. Container – 35	7924	11.8" (30 cm)	9.4" (24 cm)	13.8" (35 cm)	\$7.95 *
M. Lid	7925	11.8" (30 cm)	9.4" (24 cm)	_	\$2.00 *
N. Collar – 13"	7926	_	_	13" (33 cm)	\$2.20 *
O. Collar – 9"	7927	_	_	9.1" (23 cm)	\$1.65 *
Topframe	7928	11.8" (30 cm)	9.8" (25 cm)	Adds 6" (15 cm)	\$5.00 *

Valencia Series

Item	Part #	Length	Width	Height	Price
P. Container – 25	7929	15.7" (40 cm)	11.8" (30 cm)	9.8" (25 cm)	\$8.50 *
Q. Container – 35	7930	15.7" (40 cm)	11.8" (30 cm)	13.8" (35 cm)	\$9.00*
R. Lid	7931	15.7" (40 cm)	11.8" (30 cm)	_	\$3.75 *
S. Collar – 13"	7932	_	_	13" (33 cm)	\$2.50 *
Collar – 9"	7933	_	_	9.1" (23 cm)	\$1.85 *
T. Topframe	7934	17" (43 cm)	13" (33 cm)	Adds 9.8" (25 cm)	\$9.80*
U. Partition [†]	7935	11.8" (30 cm)	_	_	\$2.00*

[†] The Valencia partition can be placed in a Valencia container to support stems in an upright position when the container is partially filled.

Flower Buckets

Standard black polypropylene buckets for holding blooms in coolers and displaying flowers at market. Select the right bucket size to match your expected stem length so blooms are well supported to prevent breakage. 7823 5 L. 10 count \$16.50.* 7825 10 L. (Wide) 10 count \$42.00.* 7882 5 L. 50 count \$63.00.* 7884 10 L. (Wide) 25 count \$105.00.* 7824 10 L. (Tall) 10 count \$19.75.* 7807 13 L. 10 count \$43.50.* 7883 10 L. (Tall) 50 count \$99.00.* 7885 13 L. 25 count \$99.00.*













Bobcat High Tunnels

Made of high-quality, professional-grade components, these kits are durable and easy to assemble. At 16' x 48', they are the perfect frame size for small farms and homesteads. Gothic shape with 4' bow spacing is very resilient to wind and easily sheds snow. Purlin and wind bracing adds necessary rigidity to the structure. 5'-tall sidewalls provide more head room and vertical space for crop production. NOTE: Truss Support Kit (see below) is required for regions experiencing snowfall.

Bobcat Standard Kit 6795

An easy-to-assemble kit for building a 16' x 48', gothic-style high tunnel. End walls are left unfinished, so you can build them out the way you want. Includes the steel frame; easy roll-up sides with T handles; 6-mil clear poly film for roof and end walls; and all hardware needed to assemble end walls using locally sourced 2x4 lumber; optionally, growers can purchase the Steel End Wall Kit #6793 below. \$3,475.00.*

Bobcat Optional Add-ons

Truss Support Kit 6790

Doubles the strength of the greenhouse. Includes steel supports and assembly hardware. NOTE: Required for regions with snow loads. \$189.00.*

Steel End Wall Kit 6793

Configure your end walls to your specific design using 11/2"-square steel framing. Includes materials for building two end walls. \$669.00.*

Bobcat Pro Kit 6794

Same as the Bobcat Standard Kit (see left), but with additional upgrades: quality roll-up sides with gear boxes to easily hold them at your desired height; durable woven poly panels for end walls (instead of clear poly); inflatable double-poly roof with blower fan for a few extra degrees of cold-weather protection; and an automatic ventilation kit. NOTE: 110 V power at your greenhouse is required for use. \$4,975.00.*

Sliding Door Kit 6792

Easy tunnel access, even in snow. Includes aluminum/polycarbonate sliding door, track, guide rollers, and hardware, 42" W x 84" H. \$779 00 *

Automatic Ventilation Kit 6791

Thermostatically controlled fan to alleviate excessive heat buildup in winter tunnels. NOTE: 110 V power at your greenhouse is required for use. \$879.00.*

Quick Hoops™

Create your own high tunnel from chain-link pipe from your local building supply store. Includes a pipe bender, hardware for securing in place, and detailed instructions on how to build your own custom tunnel.

High Tunnel Bender 9018

Creates 12'-wide bows for building high tunnels of any desired length. Will accommodate three 30" beds. Includes instructions for building a traditional tunnel or caterpillar tunnel. \$119.00.*

Gothic High Tunnel Bender 7300

Bends Gothic arch-shaped bows for building tunnels that shed snow more efficiently. Creates 14'-wide fixed (Gothic) or moveable (cathedral) peaked structures. Will accommodate four 30"

\$207.00.*



For Quick Hoops™ Low Tunnel Benders see page 203.





Compare the features available for each Bobcat Tunnel Kit to determine the best fit for your operation at Johnnyseeds.com/bobcat-comparison





Tunnel Supplies

Tufflite IV™ Greenhouse Film

Extend your growing season and protect your crops with this durable, UVresistant, polyethylene film. Light transmission is comparable to glass for healthy crop growth. Provides protection from frost and wind to extend your growing season for both warm-season and cold-season crops, resulting in increased yields and profitability throughout the year. Protecting crops from harsh environmental conditions can help to reduce plant damage and allow for better pest and disease control, minimizing the need for chemical inputs. 6.0 mil. 4-year lifespan. NOTE: Not for use with PVC pipe.

9630 20' x 65' \$186.00.* 7176 28' x 65' \$269.00.* 9644 20' x 125' \$345.00.* 7177 28' x 100' \$329.00.* **9645** 24' x 65' \$219.00.* 7178 28' x 125' \$379.00.* 7301 32' x 100' \$491.00.* 9701 24' x 125' \$373.00.*

Tunnel Construction Using Tufflite and Quick Hoops[†]

	Film Width	Desired Tunnel Type	Use This Bender*
-	20'	12'-wide fixed caterpillar tunnel made with short ground posts	#9018
	20	12'-wide moveable caterpillar tunnel	#7000 (Online)
	24'	12'-wide fixed caterpillar tunnel made with long ground posts	#9018
	24	12'-wide fixed traditional tunnel made with short ground posts	#9018
	28'	12'-wide fixed traditional tunnel made with long ground posts	#9018
	28	14'-wide moveable "cathedral" tunnel	#7300
	32'	14'-wide fixed traditional Gothic tunnel	#7300

[†] Find Quick Hoops™ benders on page 200.

Poly Patch Repair Tape For everything from small patch jobs to splicing large sheets together. Strong, clear, 6-mil polyethylene film with a high-tack acrylic adhesive. UV-stabilized. **7727** 4" x 48' \$34.95. 7728 6" x 48' \$36.95.*



Poly Latch Wire

Convenient system for securing greenhouse film, shade cloth, and other fabrics onto high tunnels and other structures. The heavy-duty wire installs into the aluminum channel for a secure fit. Uniquely shaped Poly Latch Wire (4' long) does not damage greenhouse films, even with repeated use over several seasons. Wire Channel (8' long) can easily bend over hoops and quickly connect to your tunnel with self-drilling screws. Wire and channel sold separately.

7040 Wire \$2.50.*

7041 Channel \$12 00 *

Sidewall Hand Crank 7033

Quickly adjust tunnel sidewalls. Built-in automatic brake holds sidewall at the desired height for better tunnel ventilation. Durable, weatherproof construction and stainless-steel handle will last for years. 3/4" EMT is used for both vertical guide post and for neatly winding up greenhouse plastic. Maximum sidewall length: 300'. EMT pipe not included. \$99.00.*

High Tunnel Vent with Auto Opener

Provides additional greenhouse ventilation in hot conditions. Louvered

aluminum vent with a temperaturecontrolled wax cylinder. Can be adjusted to automatically open at approx. 65-75°F, effectively dispersing hot air from greenhouse peaks. Includes Poly Latch Wire for installation into greenhouse plastic, no framing required. Can be used manually with cylinder detached for winter growing, as ventilation is still important for disease prevention. 30" model shown.

7354 12" vent \$165.00.*

7353 18" vent \$245.00.*

7352 24" vent \$269.00.*

7351 30" vent \$319.00.*



30" High Tunnel Vent with Opener

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.







Insect Control

Exclusion barriers are highly effective for protecting crops from insect and bird damage, while eliminating the need for pesticides.

ProtekNet Insect Netting

Durable UV-resistant mesh netting is reusable for multiple seasons. Breathable fabric. A great choice for heat-sensitive crops. MESH: 0.0138" x 0.0138" (0.35 mm x 0.35 mm). LIGHT TRANSMISSION: 89%. POROSITY TO RAIN: 62% (approx.). WEIGHT: 0.74 oz. per sq.yd.

7230 7' x 328' \$389.00.*

7231 7' x 820' \$829.00.*

7232 10' x 820' \$1,295.00.*

7233 14' x 328' \$795.00.*

7235 21' x 328' \$1,249.00.*

Agribon + AG-15 Insect Barrier

Lightweight non-woven polypropylene fabric. Unlike other Agribon weights, AG-15 does not provide protection from frost. LIGHT TRANSMISSION: 90%. WEIGHT: 0.45 oz. per sq.yd.

9057 118" x 50' \$20.95.

9051 118" x 250' \$69.00.*

7355 118" x 500' \$129.00.*

9050 118" x 1,500' \$429.00.*



Find our recommended organic controls and repellents for many common garden pests in our Pest & Disease Control Comparison Chart at Johnnyseeds.com

*Additional shipping charges may apply when shipping this item. Visit Johnnyseeds.com or call us to confirm up-to-date shipping charges for all items and shipping locations. See page 133 for more details.

Shade Protection

Knitted Shade Cloth

Reduce soil temperatures, prevent bolting and bitterness of heat-sensitive crops like lettuce and spinach, and protect pepper and eggplant fruits from sun damage. UV-stabilized black polyethylene is naturally rot and mildew-resistant. This lockstitch knitted cloth is lightweight with improved ventilation and water permeation when compared to woven shade cloth, and can be cut without unraveling. Choose to block light transmission by 30% or 50%. 5–7 year lifespan. Please allow 7–10 days for delivery.

9558 30% Shade 10' x 100' \$219.00.*

9609 30% Shade 20' x 125' \$539.00.*

9570 50% Shade 10' x 100' \$235.00.*

9612 50% Shade 20' x 125' \$579.00.*

Part #	Compatible With	% Shade	Recommended Uses
9558	Low Tunnels		For cold-loving crops in northern zones
9609	High Tunnels	30%	and crops such as tomatoes and peppers in areas with very hot summers.
9570	Low Tunnels		Added protection for cold-loving crops in
9612	High Tunnels	50%	hot, southern areas. Used in all areas to grow shade-loving plants and flowers.

Snap Clamps

Durable plastic clamp snaps easily over electrical conduit (EMT) or PVC pipe to secure row covers. UV-stabilized and frost-resistant. Space clamps 12" apart, or closer if wind is a concern. 10 count.

9608 For ¹/2" EMT. \$7.95.

9150 For 3/4" EMT or 1/2" PVC. \$8.50.

7035 For 1³/8" Top Rail or 1" PVC. \$9.95.

7036 For 1" EMT or 3/4" PVC. \$8.75.



Snap Clamp

Low Tunnel Supports

Wire Support Hoops

Installs quickly to create a protected growing environment with row covers or insect netting. #10-gauge corrosionresistant steel wire creates smooth. uniform hoops that resist kinking. Space hoops 5' to 8' apart. The 54"long wire creates hoops approximately 26" W x 10-12" H. The 76"-long wire creates hoops 26" W x 16-18" H. 7211 54" 25 Count \$50.50.* 7212 54" 100 Count \$124.00.*



Wire Support Hoops

Hoop Loops

Improved low tunnel design with loops for easily wrapping twine between hoops down the bed, providing increased row cover support and allowing for a wider spacing between hoops. No knots needed for fast setup and disassembly. Great for windy conditions. 22" tall. #6 galvanized steel 10 count

7157 16" Wide \$27.95.*

7218 32" Wide \$29.75.*



7213 76" 100 Count \$155.00.*







Season Extension

Row covers (low tunnel coverings) are widely used on market farms and homesteads because of the tremendous benefits they offer: namely, extending your growing into the shoulder seasons so you can harvest earlier in spring and later in fall.

Agribon+ AG-19

FROST PROTECTION: 2-4° frost protection.

USE: Frost protection and overwintering. GRADE: Standard. LIGHT TRANSMISSION: 85%. WEIGHT: 0.55 oz. per sq.yd.

9029 83" x 50' \$17.95.	9065 10' x 50' \$23.50.
9053 83" x 250' \$59.00.*	9066 10' x 250' \$74.95.*
9537 83" x 500' \$115.00.*	9544 10' x 500' \$159.00.*
9538 83" x 1,000' \$239.00.*	9545 10' x 1,000' \$315.00.*
9543 83" x 2,000' \$449.00.*	7409 14' x 1,000' \$395.00.*
	9054 30' x 100' \$125 00 *

Agribon+ AG-30

FROST PROTECTION: 4-6° frost protection.

USE: Overwintering in moderate climates. GRADE: Medium. LIGHT TRANSMISSION: 70%. WEIGHT: 0.9 oz. per sq.yd.

7365 83" x 50' \$24.95.	7367 10' x 250' \$189.00.*
9561 83" x 250' \$79.95.*	7369 10' x 500' \$269.00.*
7366 83" x 500' \$189.00.*	7368 10' x 1,000' \$469.00.*
9562 83" x 800' \$269.00.*	9563 14' x 800' \$469.00.*

Anchoring Pins™ Fabric Staples

For securing woven fabrics and drip tape. Standard U-shaped steel pins with angle-cut ends for fast and easy installation. 1" W x 6" L. Made in the USA. 9859 12 count \$6.95.

9723 500 count \$79.00.*



Anchoring Pins™ Fabric Staples

Agribon+ AG-50

FROST PROTECTION: 6-8° frost protection.

USE: Heavy freeze protection. Overwintering containerized ornamentals. GRADE: Heavy. LIGHT TRANSMISSION: 50%. WEIGHT: 1.5 oz. per sq.yd.

7372 83" x 50' \$32.00. 9601 83" x 500' \$234.00.* 9605 10' x 500' \$349.00.* 7373 14' x 500' \$435.00.*

Agribon+ AG-70

FROST PROTECTION: 8+° frost protection. USE: Overwintering in harsh climates. GRADE: Extra heavy. LIGHT TRANSMISSION: 30%. WEIGHT: 2.0 oz. per sq.yd.

9628 13' x 100' \$145.00.* 7379 13' x 300' \$335.00.*

Row Cover Hand Pegs

Convenient, lightweight anchors. 8" (20 cm) long, barbed prong holds firmly in the ground, even in areas of strong wind. 6" (15 cm) wide handle.

9151 25 Count \$25.95.* 9814 250 Count \$189.00.*



Quick Hoops™ Low Tunnel Benders

An economical way to create strong low tunnel hoops out of galvanized electrical conduit (EMT) to withstand heavy winds and winter snow loads. The Quick Hoops Bender mounts to any solid surface, such as a workbench or picnic table. Each kit includes one bender and detailed instructions on how to create your own low tunnel hoops using locally sourced materials.

7616 Finished hoop: 3' W x 4¹/₂' H. \$113.00.* 9377 Finished hoop: 4' W x 4' H. \$115.00.* 9520 Finished hoop: 6' W x 3' H. \$113.00.*







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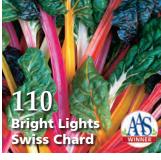
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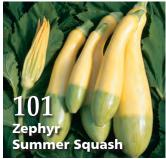
Grower's Favorites Bred by Johnny's



































Classical Plant Breeding Supporting Small Farms & Home Gardens

We breed plants to provide superior crop varieties that offer reliable solutions to the everevolving demands and challenges growers face. We strive to bring unique flavors, shapes, textures, and colors to market—qualities that will capture imaginations and captivate taste buds.

2023 14.3 Miles of Beds

121,900 Plants Trialed

2.275 Taste Tests





CUSTOMER NUMBER

CATALOG NUMBER

For faster service, please include Customer Number and/or Catalog Number with your order.







New Solutions for Growers

Peppers prepared to meet the challenge of increasing regional disease pressure. See pages 80–87.

