

Basil

Variety Selection Guide

Commercial Container and Hydroponic Production

Basil is a popular crop for container and hydroponic production because of its high value, ease of production, and quick crop time (approximately 28 days under optimal conditions, in hydroponic systems).

VARIETY SELECTION

Nearly all basil types and varieties can perform well in container and hydroponic systems. Consider your market demand and production needs to determine which varieties are most appropriate for your system.



 **Johnny's**
Selected Seeds
An employee-owned company



Basil in pots using the Johnny's medium-size Cut Flower Sleeve

THE END PRODUCT

When selecting a variety, it's important to know and consider how you plan to market the final product. There are several primary ways that full-size (not microgreen), container- or hydroponically-grown basil is marketed:

- Live plant with growing medium still attached.
- Live plant in a nursery container/pot.
- Individual leaves or bunches packaged in a bag or plastic clamshell container.
- Baby-leaf crop grown in a hydroponic raft system, harvested at 4–6" tall, and packaged in a bag or plastic clamshell container (this is a less common end product).

Adding a plastic sleeve to protect live product can help prevent plant damage at market and extend shelf life. Note: Johnny's medium-size Cut Flower Sleeves fit 4"-diameter, round nursery containers.



Aroma II grown hydroponically

PLANT HABIT AND GROWTH RATE

For live plant sales, varieties that produce compact, attractive, full, and uniform plants are ideal. On the other hand, if the primary end product is individual leaves or bunches, then plant habit is of less concern, and variety selection may be driven more by yield, flavor, and leaf type. Regardless of the end product, slow-to-bolt varieties extend the harvest window and fast-growing varieties speed crop time for a faster turnover.

VARIETY RECOMMENDATIONS

Our **Container Basil Selection Guide** outlines key attributes of each variety in Johnny's basil line, to help you select the best varieties for your priorities and desired end-product. To compile the chart, we reviewed data from trials by independent hydroponic growers in combination with our own variety knowledge and the information we receive from our suppliers. **View guide-->**





FLAVOR, YIELD, AND LEAF TYPE

There are two primary types of green basil, each with distinguishing flavor, yield, and leaf type features.

- **Genovese basil** is prized for its classic pesto flavor and characteristic, heavily cupped, spoon-shaped leaves. Genovese is largely the preferred type for culinary use.
- **Italian Large Leaf** is known for being highly productive. Plants are dense and produce large, pointed, rugose (wrinkled) leaves that are typically thicker and more durable than the leaves of Genovese types.



Growers like Italian Large Leaf type varieties because of their strong yields and durable leaves, although its sweeter flavor is not appreciated by all eaters. Discerning basil eaters will pick up on the stronger notes of anise or cinnamon commonly present in this type of basil.

In addition to the green basil types, specialty types include red, citrus, Greek, Asian/Thai, and lettuce leaf basil. Each offers variety in color, flavor, and culinary use.

DISEASE RESISTANCE

The two most common diseases of basil are Fusarium wilt and downy mildew, both of which are fungal pathogens. Selecting disease-resistant varieties can be helpful when disease pressure is high.

Johnny's Disease-Resistant or Tolerant Basil Varieties:

- Aroma 2 (Fusarium wilt)
- Cardinal (Downy mildew)
- Eleonora (Downy mildew)
- Elidia (Fusarium wilt)
- Everleaf (Downy mildew & Fusarium wilt)
- Nufar (Fusarium wilt)
- Tuscany (Downy mildew)

For more detailed information about basil diseases, please refer to the Common Basil Pests & Diseases Tech Sheet.

View tech sheet-->



TIPS FOR CONTAINER GROWERS

Most commercial growers use 3–6"-diameter pots for retail herb production. We recommend a 4"-diameter pot to provide a balance between efficient use of growing space and producing plants of a size optimal for market appearance and value. Seeds can either be sown directly into the retail container or into a plug tray and after 2–3 weeks of growth, transplanted into the retail container to finish.

The seeding rates recommended below represent a wide range. Using fewer seeds will produce an attractive container provided the plants are grown under optimal conditions, with plenty of light, space, and time for plants to fill out. Using more seeds per container will produce a fuller appearance for finishing at an earlier stage of production.

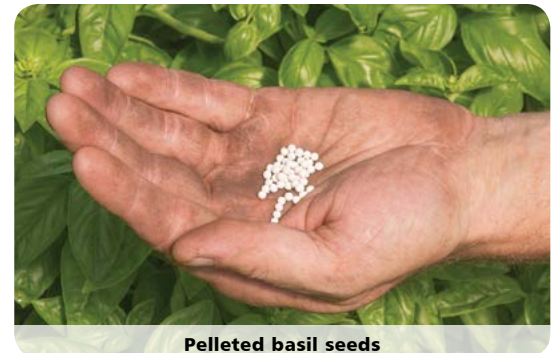
Seeding Basil		
Pot Diameter (inches)	Recommended Seeding Rate (Seeds/Container)	Weeks to Saleable Product
4	5-15	4-6

For additional cultural recommendations, refer to the Growing Information on our website and on our seed package backs.



PELLETED BASIL SEEDS

Save time and labor with pelleted basil seeds. Pellets, made of inert NOP-compliant materials, 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. 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.



Pelleted basil seeds

TIPS FOR HYDROPONIC GROWERS

Unlike some field crops that can grow with little attention for extended periods of time, hydroponic crops, basil included, require daily management and will do best when environmental variables are tailored to crop-specific needs. Of primary importance are temperature, pH, light, daily light integral (DLI), electroconductivity (EC), and nutrient composition. In general, basil prefers warm temperatures, a moderately acidic pH, a relatively low EC level, and responds well to high light levels. However, specific requirements can vary depending upon the growing system and the time of year. In general, we recommend the following conditions for hydroponically grown basil:

- **Temperature:** 65–70°F (18–21°C).
- **pH:** 5.8–6.2 (slightly higher in aquaponic and organic systems).
- **Light:** Minimum 14 hours per day.
- **DLI (Daily Light Integral):** Minimum 12 mol per m² per day or higher; basil performs well with high light levels.
- **EC (electroconductivity):** 1.0–1.4mS, depending on the season; during winter, crops need a higher EC than during summer.
- **Nutrient Solution:** Choose a solution specific to herbs and leafy greens and appropriate for your water type.

We encourage you to conduct your own on-site trials to determine the input levels and environmental conditions that work best in your growing system.

GROWING TIP

As with any hydroponic crop, basil will do best when its environmental conditions are tailored to its crop-specific needs. It is advisable to grow basil in isolation from other crops so that you can adjust the nutrient solution and other environmental variables as needed; basil grown under conditions optimized for another crop may not perform well.

Organic Seeds/NOP-Compliant Pellets

Part #	Variety
3148GP	Eleonora
911GP	Genovese
2946GP	Aroma 2
2178GP	Nufar

Multi-Seed Pelleted Basil

Genovese Compact, Improved Multi-Seed Pellet (A) 3188P

74 days.

Our Genovese Compact, Improved variety in a multi-seed pellet is ideal for retail container or hydroponic production. Simply sow one pellet per 2 1/2" 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; not approved for use on certified organic farms. Ht. 16-18". Avg. 2,000 seeds/oz.

