

# 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 plant ready for market, protected by Johnny's medium-size Cut Flower Sleeve



Aroma 2, grown hydroponically

## 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).

Placing the live product within a protective sleeve 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.

## PLANT HABIT AND GROWTH RATE

For live plant sales, varieties that produce compact, attractive, full, and uniform plants are ideal. If individual leaves or bunches are the primary end product, then variety selection is driven more by yield, flavor, and leaf type than by plant habit. 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 [Hydroponic & Container Basil Comparison Chart](#) (PDF) 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 chart](#) →





## 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. That durability, coupled with strong yields and quick growth, are the reasons that some growers prefer Italian Large Leaf types, although its lighter green leaves and sweeter flavor profile is considered less refined than that of Genovese types. Discerning basil consumers 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, aroma, flavor, and culinary use.

## DISEASE RESISTANCE

The two most common diseases of basil are basil downy mildew (DM), a water mold, and Fusarium wilt (FW), a fungus. Selecting disease-resistant varieties can be helpful when disease pressure is high.

We offer several downy mildew-resistant varieties that offer a stronger level of resistance than the first-generation varieties, though they are not fully immune to this disease. Multiple strains (or races) of downy mildew have been identified in different geographic regions, so we suggest trialing a few different varieties to see which work best for your region.

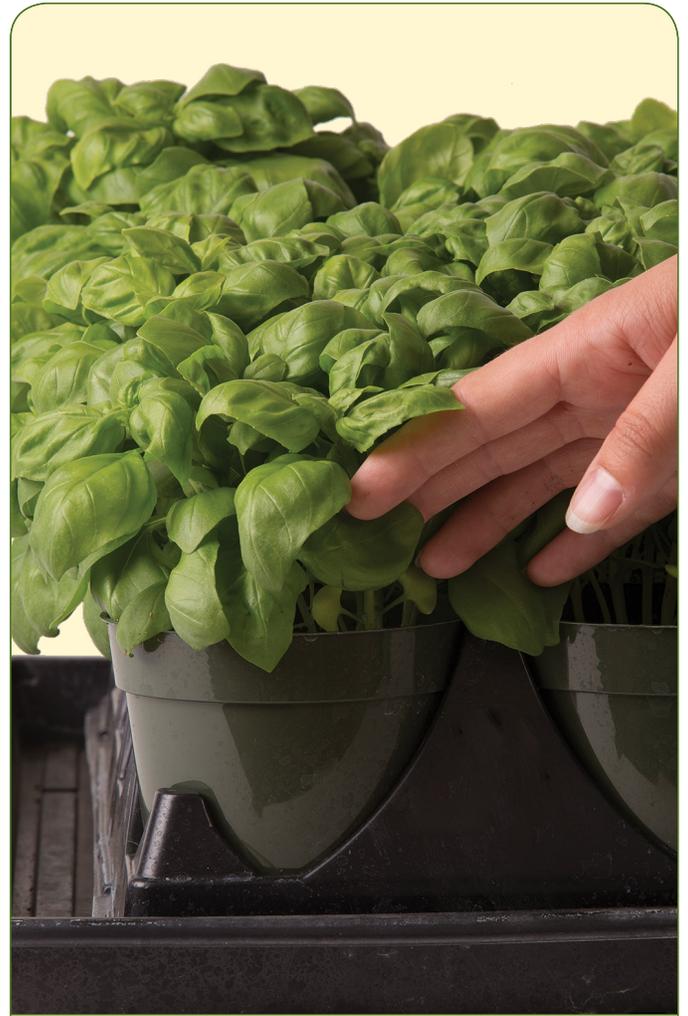
All of our basil seed lots are lab-tested to confirm the absence of seedborne *Fusarium*, and we also offer a range of *Fusarium*-resistant varieties.

### Johnny's Disease-Resistant or -Tolerant Basil Varieties:

- Prospera® DMR (CG1) (DM, FW) #3597G **CG**
- Prospera® Compact DMR (PL4) (DM, FW) #4168G **CG**
- Prospera® Italian Large Leaf DMR (ILL2) (DM, FW) #4589G **CG**
- Rutgers Devotion DMR (DM) #4024G **CG** or #4024
- Rutgers Obsession DMR (DM, FW) #4023
- Rutgers Passion DMR (DM) #4717
- Nufar (FW) #2178G **CG** or #2178GP (Pelleted) **CG**
- Aroma 2 (FW) #2946G **CG** or #2946GP (Pelleted) **CG**
- Elidia (FW) #3622G **CG** or #3622
- Everleaf (FW) #3334
- Newton (FW) #3452

### MORE ONLINE

Refer to our [Common Basil Pests & Diseases Tech Sheet](#) (PDF) for more information on this topic. [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, but the plants will outgrow the container sooner than a single plant would.

### Seeding Basil

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



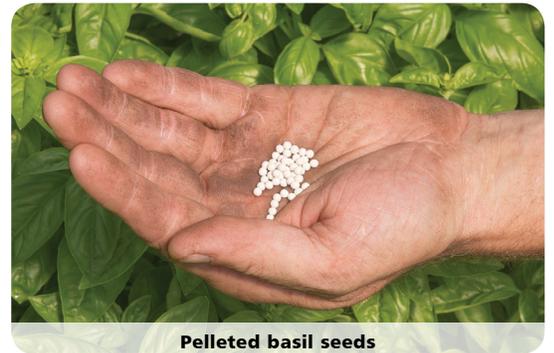
For additional cultural recommendations, refer to the [Key Growing Information](#) on our website and on our seed package backs.



## 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.

Please refer to our [Precision Vacuum Seeder Trial Results: Plate Recommendations for Herbs \(XLSX\)](#). For best results, ensure 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. Specific requirements can vary, however, depending upon the growing system, time of year, and other factors. We recommend the following general 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 m<sup>2</sup> per day or higher; basil performs well with high light levels.
- **EC (Electroconductivity):** 1.0–1.4mS/cm, 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
<a href="#">911GP</a>	<a href="#">Genovese</a>
<a href="#">2946GP</a>	<a href="#">Aroma 2</a>
<a href="#">2178GP</a>	<a href="#">Nufar</a>

### Multi-Seed Pelleted Basil

#### [Genovese Compact, Improved Multi-Seed Pellet \(A\) 3188P](#)

74 days.

For precise and convenient sowing. 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.

