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FS043

# Fact sheet

New Crops for the Home Garden Series



## International Eggplants



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**W**ild ancestors of modern eggplant varieties were consumed over 2,000 years ago in India. Eggplant (*Solanum melongena*) belongs to one of the most diverse crop groups in the world including tomato, pepper, and potato. China began domestic crop cultivation around 500 B.C. and by the 14<sup>th</sup> Century, eggplant had spread through Africa into Italy—the country most Americans associate with this food crop. These early cultivars were so bitter in taste that Europeans used them only as beautiful ornamental garden plants. Different ethnic groups prefer different levels of bitterness in their cuisine. When sweeter varieties were developed in the 18<sup>th</sup> Century, the eggplant reached the gourmet dinner plates of Italy, Greece, Turkey, and France. Known as the Melongene or Aubergine, eggplant was brought to the Americas by the Spaniards. Less than 75 years ago, eggplant in America was still thought of as ornamental with its violet star-shaped flowers, colorful caps, and glossy skin. Since some of the first fruit varieties were white in color and oval in shape, a new common name was the eggplant. Botanically speaking, eggplant is actually a true fruit in the berry group. Fruit colors of white, yellow, orange, red, green, purple, black, or various stripes mix with shapes of oval, round, pear, or cylindrical.

In our Garden State, eggplant is most commonly thought of as a black, pear-shaped vegetable. Commercial growers in New Jersey cultivate about 1,000 acres which dominate the summer markets of the nation. New Jersey is number three in total annual production. Home gardeners can follow this lead and

then get more creative in exploring the international roots of this legendary crop. Gardeners can grow non-traditional varieties having thinner skins, creamier textures, and better flavor.

### Garden Preparation and Planting

Eggplant is best started from transplants because it has a very long seasonal maturity. This perennial plant is grown in New Jersey as an annual vegetable. Varietal choices can be limited at garden centers so the home gardener needs to purchase special varieties from a seed catalog and start transplants at home. Most cultivars are sensitive to cool temperatures and are injured by frost. Therefore, sturdy transplants are started 8–10 weeks after the last frost date in your area. Transplant into the garden when soil temperatures are 65°F and daily air temperatures are 70°F consistently. This timing is generally late May to mid-June in New Jersey.

### Planting procedure:

- Plant seeds indoors ½–¾ inch deep in early to mid-April.
- Produce or purchase 8 inch tall transplants.
- Harden off transplants for 7–10 days by moving plants outdoors to a sheltered location, prior to transplanting.
- Test soil—adjust pH to 6.0–6.8, add recommended fertilizer.
- Flat, bare ground with well-drained soil in the garden is acceptable.



- Raised 4–6 inch mounds provide better drainage.
- Black plastic mulch warms soil faster and keeps weeds under control.
- Full sun garden site—about 10 hours daily.
- Sandy loam soil rich in organic matter or compost.
- Water 1½ inches weekly depending on rainfall.
- Side dress dry fertilizer or liquid feed through the drip system three weeks after planting.
- Side dress fertilizer or feed through the drip system or foliar feed every 2–3 weeks afterwards.



## Planting Plan and Plasticulture

Eggplants thrive with the use of black plastic mulch and drip-tape or soaker-hoses for irrigation. Plastic warms the root zone faster, maintains soil moisture, and provides good weed control. This leads to earlier harvest and higher yields compared to bare ground culture. A 5-foot wide roll of black plastic covers a bed 42 inches wide. Two crop rows can be staggered on the plastic 24 inches apart. Whether transplanted into bare

ground or plastic, 6 inch high mounds of soil can improve drainage and reduce soil disease problems. Two plants per person is a good rule of thumb in estimating how much to plant, but varietal differences in yield vary from fairly low to prolific. For a consistent supply, plant early and late maturing varieties at the same time.

Variety	Days to Maturity	Color	Size and Shape	Country	Comments
Bharta	60	Black	Large, round	India	Very productive
Bride Hybrid	65	White/Lavender	8 x 2 inches, long slender	Asia	Excellent flavor
Black Beauty	80	Black	Large, oval globe	Italy	Big fruited
Black Magic	72	Black	Medium, round oval	Italy	High antioxidants
Casper	80	White	6 x 3 inches, cylindrical	Italy	Mild, tasty flesh
Cloud 9	75	White	7 x 3 inches, elongate oval	Italy	Bitter free
Comprido Verde Claro	65	Orange	4 inch, oval	Brazil	Good yield
Diamond	70	Dark purple	Thin teardrop	Ukraine	Superb Flavor, firm flesh
Ichiban	61	Dark Purple	12 inch, thin cylinder	Japan	Very productive/flavorful
Little Fingers	68	Dark purple	Very small cylinder	Italy	Tiny fruit clusters
Long Purple	70	Purple	12 inch, cylindrical	Asia	High yielder
Kermit	60	Green/white stripe	2–3 inch diameter, round	Thailand	Edible Ornamental
Machiaw	65	Lavender	9 x 1 inch, long—very thin	Asia	Staking for straight fruit
Millionaire	68	Black Skin	Slender	Japan	Tender and popular
Neon	65	Violet	3 x 8 inch, teardrop	Italy	Bitter free, white flesh
Orient Charm	65	Pink and white	8 x 2 inch, long cylinder	Asia	Good 2 <sup>nd</sup> early yield
Pingtung-Long	65	Purple	12 inch, long slender	Taiwan	Large harvest/heat tolerant
Pushpa	55	Blackish/purple	Medium to large teardrop	India	Highly productive
Rosa Bianca	75	White/lavender	5 inch diameter, large round	Italy	Heirloom/sweet
Rosita	70	Violet	3 x 8 inch, teardrop	Puerto Rico	Heirloom/mild, sweet
Red Egg	60	Red	2–3 inch diameter, oval	France	Great container ornamental
Zebra	70	Stunningly striped	7 inch, elongated oval	Greese	Tender, mild white flesh

## Pest Problems

To minimize insect and disease problems, purchase or produce pest-free transplants. Look closely for signs of insect eggs, foliar feeding, or disease symptoms. Also, rotate related crops like tomato, pepper, and potato as a group with your eggplants.

Scout the foliage frequently in your garden. When early season pests arise such as flea beetles and leafhoppers, they can be managed by placing white row covers over the bed to prevent attack. These perforated covers allow sun, water, and heat to penetrate but must be removed when flowers appear for proper pollination. If the plants are in a windy area, leaves may be abraded by the row cover. If this happens, remove the row cover immediately.

If small pests like mites, whiteflies, and aphids are noticed, carefully spray them off with a high-pressure hose in the morning for several days. If infestation persists, apply an insecticidal soap spray two to three times a week until pests are gone. If pests are large, such as caterpillars and Colorado potato beetle, quickly pick off these early intruders. If their numbers increase, first apply microbiological insecticides such as Dipel/Bt (*Bacillus thuringiensis*) or Bull's Eye (*spinosad*) when the insects are small. Consider botanical insecticides pyrethrum and neem oil if the insects are large.

Several diseases are prevented by managing the insect vectors, commonly aphids and cucumber beetle. Soil diseases are suppressed by creating good soil drainage and using proper garden rotation. Some varieties may be relatively disease resistant. Common eggplant diseases are caused by soil nematodes, mosaic viruses, and fungal pathogens. These fungi develop diseases known as verticillium wilt, leaf spot, early blight, and fruit rots. Blossom end rot looks like a disease but is most often caused by physiological stress related to uneven watering and calcium deficiency.

## Harvest

To determine when to harvest, gently grasp an eggplant and press inwards with your thumb on the fruit. It is harvest ready if the flesh of the fruit rebounds back to its original form. If the indentation remains, this indicates that the fruit is over mature and may be too



seedy, spongy, or bitter to consume. When the skin is too firm to press in easily, it is too soon to harvest. Frequent harvests encourage a continuous fruit set and higher yields per plant. Cut the stem about 1 inch from the cap with a knife or pruners. Do not pull ripe fruit off the plant. Wear gloves to avoid long sharp thorns in some varieties. A single 20 foot row may provide 30–60 pounds of produce. Harvest fruit gently or bruising will occur internally which leads to decay. Quickly cool eggplant to reduce water loss by wrapping with moistened paper. Fruit should be prepared soon afterwards because eggplant does not store well. Try a day or two storage in a cool indoor spot around 55°F in paper bags. For 5–7 day use, wrap in plastic and place in the refrigerator crisper at 46–50°F or above.

## Food Preparation

Eggplant is not just parmagan anymore. It can be prepared by steaming, stewing, sautéing, frying, grilling, pickling, or baking. While most familiar as a meat extender in recipes, eggplant also makes a great side dish, dip, or shish-kabob. The only limitation for eggplant is that it cannot be eaten raw. Whether to peel the skin or not is a personal preference, but when picked fresh from the garden, most varieties will have very tender and nutritious skin. Leaving the skin on

actually helps pieces hold their shape. Salting before cooking removes water and will make it less permeable to oil absorption. A good rinse before cooking will remove the excess salt. Once eggplant is cut open, it will brown easily, but browning won't affect flavor when cooked. While not suitable for drying or canning, freezing will preserve your garden's bounty of eggplant. When freezing; wash, peel if desired, and slice. Blanch for 4 minutes in boiling water, cool, drain, and pack.

## Nutrition and Health

Eggplant has always been described as being low in calories, having small amounts of nutrients, and providing fiber if unpeeled. However, recent studies by the U.S. Agricultural Service in Beltsville, Maryland have found that eggplant contains a host

of vitamins and minerals and important phytonutrients, which are plant produced compounds with health promoting qualities found in the skins of fruits and vegetables. Eggplant skin has a potent antioxidant called *nasunin*, which has been shown to protect cell membranes from damage. All eggplant varieties tested contained compounds, which may provide cancer protection and help promote cardiovascular health.

## Seed Sources

Save your seed only if you have planted just one variety which is not a hybrid. Different varieties in the same garden will cross pollinate. Such hybridized seed may produce very odd looking fruit in the following season. A partial list for these specialty eggplant seed sources is provided below.

Seed Company	Telephone	Web Site
Baker Creek	417-924-8917	<a href="http://www.rareseeds.com">www.rareseeds.com</a>
Burpee Seeds	800-333-5808	<a href="http://www.burpee.com">www.burpee.com</a>
Evergreen Seeds	714-637-5769	<a href="http://www.evergreenseeds.com">www.evergreenseeds.com</a>
Johnny's	800-879-2258	<a href="http://www.johnnyseeds.com">www.johnnyseeds.com</a>
Stokes	800-396-9238	<a href="http://www.stokeseeds.com">www.stokeseeds.com</a>
The Cook's Garden	800-457-9703	<a href="http://www.cooksgarden.com">www.cooksgarden.com</a>
Thompson and Morgan	800-274-7333	<a href="http://www.seeds.thompson-morgan.com">www.seeds.thompson-morgan.com</a>
Tomato Growers	888-478-7333	<a href="http://www.tomatogrowers.com">www.tomatogrowers.com</a>

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