



Summer Vegetable Gardening Tips from Joyce Gemmell

Eggplant

Eggplant (*Solanum melongena* L.) is a member of the Solanaceae family, which also includes tomato, pepper and potato. Although tomato, pepper and potato have their origins in South America, the origin of eggplant appears to be Asia where it is found in the wild state. A significant amount of research on eggplant is conducted in India.



Characteristics and Climatic Requirements

Eggplant is a perennial that is grown as an annual. The plant is erect, branched and three to five feet in height. The stems, leaves and calyx of some cultivars are spined. The flowers are self-fertile and do not require insects for fruit set. The name “eggplant” derives from the shape of the fruit of some varieties, which are white and shaped very similarly to chicken eggs. In India, eggplant is called “brinjal”, in Europe “augergine”, and in Mexico “berenjena”.

Eggplant is a warm-weather plant. Optimum temperatures for growth and fruit development are similar to those for okra, sweet potato and watermelon. A long growing season of about 120 days is required for a transplanted crop, with day temperatures in the range of 80 to 90 degrees and nights that do not fall below 60 degrees. Eggplant is intolerant of frost and the growth of young plants will be retarded by night temperatures below 60 degrees. On flowering plants, both cool temperatures and low-intensity light can affect pollen viability and failure of fruit set.

Varieties

Eggplant cultivars are available in many shapes and sizes, with colors ranging from red, very dark purple or violet to pure white or green. Glossy, dark purple oval or elongated types are preferred by the commercial U.S Market. Oval or globular varieties such as “Black Bell” and “Burpee Hybrid” are resistant to tobacco mosaic

Transplanting Dates:

Coastal region: April - June

Inland Region: April - June

virus. A deep oval or teardrop variety, “Dusky”, is an early maturing variety (60 – 65 days) and the long cylindrical variety, “Ichiban” is very prolific.

Soil Selection, Fertilization and Irrigation

Eggplant production can be successful on any good soil by using appropriate management methods. Sandy loam or silt loam soils that are several feet deep, with good internal drainage are ideal. Eggplant is susceptible to root rotting fungi, so saturated soil conditions and heavy clay soils should be avoided. Nematode problems are more likely in very sandy soils, but those soils will warm sooner in the spring. Eggplant has a moderately deep root system (36 to 48 inches), most of which will be in the top 18 inches of soil. The frequency and amount of irrigation should be managed so as to maintain good soil moisture in this upper root zone.

Fertilizer requirements are similar to those for tomatoes - a half-pound of ‘actual’ nitrogen per 100 square feet. One third of this should be applied prior to planting. Broadcast and till into the top few inches of soil and the balance should be applied in two or three side-dressings during crop development. The need for phosphorous and potassium is best determined by a soil sample taken several weeks before planting. All phosphorus and potassium should be applied as a broadcast application



and tilled into the top few inches of soil prior to bed preparation. Most California soils are adequately supplied with potassium, and crops are not likely to respond to additional applications. Pre-plant applications of ammonium phosphate fertilizer (e.g. 16-20-0 or 11-48-0) can be used to supply all of the phosphorus and part of the nitrogen requirements. Animal manure can be used to supply part of the nutrient requirements, but should be broadcast and tilled-in several weeks prior to planting, then irrigated to leach salts out of the surface soil. Poultry manure is a good choice because of its relatively high nutrient content (apply 1 pound to 5 square feet of garden soil.)

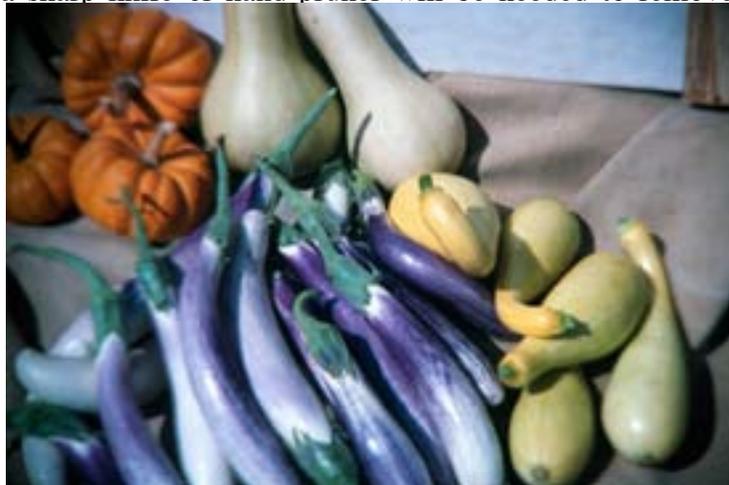
Pest and Disease Problems

Eggplant is susceptible to damage by a number of disease organisms and insects. The principal disease problems that are likely to be troublesome in California are verticillium wilt, tobacco mosaic

virus (TMV), cucumber mosaic virus (CMV), and root-knot nematodes. Cultivars are available that claim to be resistant to CMV, TMV and verticillium wilt. Principal insect problems in California have been spider mites and flea beetles, but eggplant is also subject to attack by aphids, imported cabbage worms, leafhoppers, leafminers, whiteflies and grasshoppers.

Harvest

Flowering and fruit setting begin 6 to 8 weeks after transplanting. The time required from flowering to market size is about 3 weeks, but fruit can be harvested and eaten at an earlier stage of development. Fruit should be harvested while the skin is glossy. When the color dulls, the internal seed becomes dark and the flesh becomes spongy and bitter. At maturity, the fruit stem will be tough and hard, and a sharp knife or hand-pruner will be needed to remove fruit



from the plants. Eggplant does not have a long storage life. Eggplant should be handled carefully to avoid bruising, as pitting and decay will occur in storage. Eggplant can be stored safely for 7 to 10 days at 45 to 50 degrees and 90 to 95% relative humidity. Eggplant is usually categorized as either European or Asian.

The Asian types have thin skin, few seeds and are usually long and slender. There are some differences as well between the Chinese and the Japanese types. The European types are oval or round, with thicker skins and more seeds. Colors vary, but most are dark purple. The eggplants from Thailand are available through catalogs. Some are small, round, about golf ball size, while others are about 12 inches long. These are used for pickling. Some are very bitter and used in flower arranging. Some of the more interesting imported varieties are found in the mail order catalogs of specialty seed companies.

Also check out ...

UC websites for the Vegetable Research and Information Center (<http://vric.ucdavis.edu>) and Integrated Pest Management (www.IPM.ucdavis.edu)

Nutritional Information...

99 g (1 cup, boiled, 1" cubes)

Calories	35 Calories
Protein	0.82 g
Carbohydrate	8.64 g
Total Fat	0.23 g
Fiber, total dietary	2.5 g

Calcium	6 mg
Iron	0.25 mg
Potassium	122 mg
Magnesium	11 mg
Phosphorus	15 mg
Sodium	1 mg
Zinc	0.1 mg

Vitamin A	37 IU
Vitamin B6	0.085 mg
Vitamin C	1.3 mg
Folate	14 mcg
Niacin	0.594 mg
Riboflavin	0.020 mg
Thiamin	0.075 mg

Source: USDA National Nutrient Database

<http://www.nal.usda.gov/fnic/foodcomp/search/index.html>