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G82-603 Eggplant

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Eggplant

How to grow eggplants from transplants and seeds. Includes varietal descriptions, cultural practices, harvesting tips, and possible disease and insect problems.

Dale T. Lindgren, Extension Horticulturist

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The eggplant belongs to the Solanaceae or nightshade family, which includes the sweet pepper, tomato and potato. The ornamentals petunia and Jerusalem cherry, and other plants such as tobacco and horse nettle, are also members of this family.

Eggplant was so named because the first varieties introduced to English-speaking people had egg-shaped fruits. Its scientific name is *Solanum melongena* var. *esculentum*.

Description and Use

Eggplant leaves are large, alternate and lobed, with the underside of most cultivars (varieties) covered with dense wool-like hairs. The flowers are violet-colored and star-shaped, and bloom either as a solitary or in clusters of two or more. These characteristics give the plant an ornamental look. The fruit can vary in shape from oval to round and long to oblong. The color of the mature fruit is typically purple to purple-black, but can also be red, yellowish-white, white or green.

Eggplant fruit is usually baked, sauteed, cut into strips or cubes and fried, or stuffed. Other methods of preparation can also be used.

According to the USDA, a cooked, boiled and drained 100 gram edible portion of eggplant consists of 94.3 percent water. This portion provides 19 calories, 1 gram of protein, 0.2 gram of fat, and 4.1 grams of

carbohydrate including 0.9 gram of fiber and 0.4 gram of ash.

The average yield of eggplant varies with the variety planted and the growing conditions. Two or three plants per family member is usually sufficient—depending, of course, on the acceptability of eggplant into the diet.

Varieties

Eggplant varieties recommended for Nebraska include 'Black Beauty,' 'Dusky,' 'Burpee Hybrid' and 'Ichabod' (or 'Ichiban'). A brief description of these varieties and others follows:

'Black Beauty' -- large, smooth, purplish fruit

'Dusky' -- Medium-sized; adapted to container growing

'Ichabod' or 'Ichiban' -- Long, slender oriental-type fruit; adapted to container growing

'Burpee Hybrid' -- Oval, medium-sized, dark glossy purple fruit

Less common and unusual varieties include:

'While Italian' -- Medium-sized white fruit, slightly milder flavor than purple types

'Golden Yellow' -- Produces yellow, lemon-sized fruit

'Morden Midget' -- Small, bushy plants that bear smooth, medium-sized deep purple fruit. Useful in container gardens or small gardens

'Applegreen' -- Apple green colored fruit

'White Beauty' -- White, medium-sized fruit

Purchasing Transplants vs. Growing Your Own

Most home gardeners find it more convenient to buy their eggplants as transplants rather than to grow their own from seed due to insufficient space, inadequate growing conditions, lack of time, or because they only need a few plants. On the other hand, some varieties are not locally available as transplants so you have no choice but to grow your own from seed.

When purchasing transplants, select those that are sturdy, dark green in color and not yet in bloom. Leaves should be fully expanded and free of diseases and insects. Plants grown in individual containers may cost more, but are usually worth it because their roots are disturbed less when they are set out in the garden.

Eggplants grown from seed in the home should be seeded 4 to 6 weeks before the plants are to be set out in the garden. Commercial mixtures for starting seeds are available. Plant the seeds 1/2 inch deep and keep the medium moist and at a temperature of 75° to 85 °F. Be sure the soil does not dry out during the germination period. When the germinating seeds break through the soil surface, water the soil only as necessary to keep it moist to the touch. Damping-off disease can be a problem. Supplemental artificial light may be necessary if adequate natural light is not available.

Transplant young seedlings into growing containers when the stems have straightened and the first true leaves have opened. This is usually 15 to 20 days after the seed was sown, but may be longer at lower temperatures. The young plants should be exposed to full sunlight if possible. The best temperatures for growing transplants are from 65° to 75°F during the day and 60° to 70°F at night. Growing the plants in a hotbed or cold frame works well.

Transplanting to the Garden

Eggplants require more care than many other types of plants when transplanting to the garden. Hardening off the plants enable them to withstand the planting shock. Start the hardening off process 10 days to 2 weeks

before planting them in the garden. Begin by moving the plants in their containers outdoors to a shady spot (a cold frame works well for this purpose). Move the plants into sunlight for short periods each day, increasing the length of exposure gradually. Reduce the watering frequency to slow growth, but don't allow the plants to wilt. Don't put tender seedlings outdoors on windy days. Once the plants are hardened off and the danger of a frost is passed, they can be planted in the garden.

Planting

The eggplant is a warm season crop and is very tender to frost. It can even be injured by periods of cold temperature above freezing, and is more sensitive to low temperatures than either tomatoes or peppers. The average earliest planting date in southeast Nebraska is May 5, in central Nebraska May 10 and in western Nebraska May 20. Of course, in some years you can get by with an earlier planting date while in other years it may be later. The plants are usually set 2 to 3 feet apart in rows 3 to 4 feet apart.

Plant eggplants in full sun. Those growing in partial shade will produce less than optimum yields and will take longer to ripen fruit. Plants will also perform better with protection from the wind. The site should have fertile, well drained soil. If possible, avoid planting where eggplants, tomatoes, potatoes, or peppers were planted the previous year. All of these can be susceptible to and harbor similar disease problems.

Garden soils can be tilled or spaded in the fall after the harvest season or in the spring before planting. Soil should not be worked while it is wet.

Eggplant is a heavy feeder and therefore may need extra fertilizer for a good crop. A soil test may be necessary to determine the fertility of your soil. If soil nutrition is low, apply 2 to 3 lbs of a complete fertilizer (i.e. 5-10-10, 6-12-12, or 9-16-16) per 100 square feet of garden area when preparing the soil. A cup of starter fertilizer (high in phosphorus) solution can also be poured around each newly transplanted seedling to help stimulate growth. A side dressing of 1/4 cup of fertilizer in a 2-foot circle around the base of the plant immediately after flowering will be beneficial on soils low in nitrogen. Do not over-fertilize.

Individual plants can also be grown in large containers, but these plants need more attention as the soil tends to dry out quickly.

Watering

Eggplants need generous moisture at all times. One inch of water each week is a minimum. This may vary, however, due to air temperature, wind, soil type, rainfall, and whether or not a mulch is used.

Sandy soils require more frequent watering. Heavy soakings at weekly intervals are better than many light soakings as light, frequent waterings promote shallow root systems. Mulching will reduce water loss from the soil.

Weed Control

Weeds compete with eggplants for sunlight, nutrients and water. In the average home garden, weeds are best controlled when small with cultivation or mulches. In large plantings, herbicides can be used.

Mulches help keep weeds down, reduce water loss and stabilize soil temperatures. Inorganic mulches, such as polyethylene and aluminum, are available in many garden stores. Organic mulches, such as straw, leaves or grass clippings, can also be used. Organic mulches should be at least 2 inches, and preferably 3 to 4 inches, deep. Mulching too early in the season with organic mulches will keep the soil cool, resulting in slow growth, poor fruit set, and shallow rooting.

Harvesting

Eggplant fruits are harvested from the time they are one-third grown to full size. However, remove the fruit before the flesh becomes soft and the seeds begin to harden. Over-mature fruits that have passed the prime stage for eating become spongy, the seeds harden and darken, and the fruit surface becomes dull. Fruits can be snapped from the plant, but less damage usually occurs if they are clipped with a sharp knife or scissors. The short stem that attaches the fruit to the stalk is often covered with sharp spines so gloves may be necessary when harvesting. The harvested fruits are delicate; be careful when handling them.

Staking may be necessary later in the season as the number and size of the fruit increase. Rain, wind and irrigation can cause the branches to break or droop. Fruit touching the ground may spoil.

Problems

Eggplants are subject to a number of problems, including diseases, insects and those brought on by weather and other environmental factors.

Diseases of eggplants include seed rot and damping-off, anthracnose, late blight, alternaria leaf spot and verticillium wilt. Seed treatment and proper growing conditions can reduce seed rot and damping-off. Verticillium wilt is best controlled by long term rotations with non-related crops that are not susceptible to wilt, and by planting in well-drained soil.

Insects can also cause damage to eggplants grown in Nebraska. Cutworms may feed on new leaves or cut stems on small plants. Spider mites can be a problem during hot weather. Flea beetles, which chew small holes in the leaves of eggplants, can be severe in some years. The Colorado potato beetle can also cause severe damage if left uncontrolled. Insect identification and control recommendations are found in *Extension Circular 523, Insect Control Without Synthetic Insecticides for Home Grounds* and *EC 1552, Insecticide Recommendations for Garden Vegetables*. These publications are available at the Nebraska Cooperative Extension Service Office in your county.

Poor performance of eggplants can also be caused by unsatisfactory growing conditions, including improper soil fertility, low temperatures, lack of moisture, lack of light and wind damage.

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