

# Growing Tomatoes, Peppers & Eggplants

Resource: U of M Extension

3352 N Service Dr.  
Red Wing, MN 55066  
[www.sargentsnursery.com](http://www.sargentsnursery.com)  
P: 651-388-3847  
E: [sargents@sargentsnursery.com](mailto:sargents@sargentsnursery.com)



Eggplants (*Solanum melongena* L.), peppers (*Capsicum spp.* L.) and tomatoes (*Solanum lycopersicum* L.) are all heat-loving vegetables that require a long, frost-free season and full sun. They are all related to potatoes, and they have similar cultural requirements.

There are many varieties of each. Eggplants can be white, purple, or lavender with white stripes, and globe- or cucumber-shaped. Peppers can be sweet or hot, and range in color from green, yellow, orange, red, and purple to brown. Sweet peppers include banana, bell, cherry, and pimiento types. Hot peppers include ancho, chile, habañero, jalapeño, and serrano types. Tomatoes can be green, yellow, red, or purple in color, determinate or indeterminate in growth type, and categorized as beefsteak, cherry, clustered, grape, heirlooms, or roma types. Determinate or bush-type tomatoes generally do not need pruning, staking, or trellising, and plants stop growing and fruit ripen within a certain time period. Indeterminate, or climbing, tomato plants will need some type of support, such as cages, stakes, or trellises, and should be pruned for best results. Fruit of these types of tomatoes ripen over an extended period.

## PLANTING

Eggplants, peppers, and tomatoes are started from seeds indoors, and then transplanted into garden beds. Start eggplant and pepper seeds about 8 weeks, and tomato seeds 5-6 weeks, before planting outside. Plant seeds ¼ inch deep in flats containing sterile, soilless germination mix. For optimal germination, keep the flats at 75-85 F until seedlings emerge. Keep the soil mix evenly moist and use heating mats can help optimize seedling growth, keeping seedlings at 70 F. Carefully monitor soil mix moisture as heating mats will increase drying rate which could negatively impact germination uniformity.

Thin or transplant seedlings after true leaves appear so that seedlings are 2 inches apart.

When plants are about 5 inches tall and 6-8 weeks old, start hardening them off so that they will adapt well when transplanted outdoors. Reduce watering. Place plants outside where they will receive a couple of hours of sunlight and are protected from wind. Gradually expose them to more sunlight over the next week or two, bringing them indoors if night temperatures approach freezing.

Transplant outdoors in a sunny area after all danger of frost has passed and the soil has warmed. Tomatoes can be transplanted so that some of the stem is placed below the soil line, but eggplants and peppers should be placed so that the shoots are at the soil line as they were before transplanting. Space eggplants 18 inches apart in rows 30-36 inches apart, peppers 12-18 inches apart in rows 24-36 inches apart, and tomatoes 12-24 inches apart, staking indeterminate tomatoes. Supported row covers can be placed over plants to protect from low night temperatures and some insect pests. Be sure to remove covers when temperatures are above 85° F to prevent heat damage. Use of floating row covers is not recommended but if used, great care should be taken to avoid damage or loss of the growing point of the young seedlings which will negatively affect growth and yield.

## SOIL PH AND FERTILITY

Eggplants, peppers, and tomatoes grow best in soil with pH between 5.5 and 7.5. Have your soil tested to determine your soil's pH and whether it should be amended. Incorporate well-rotted manure or compost, or a garden fertilizer before transplanting and sidedress after fruiting. Addition of manure or compost can add micronutrients and organic matter to soil.

## **WATERING**

Proper watering will enhance good production. Soak the soil thoroughly when watering, applying at least one inch each week during the growing season. There is little or no value in light watering that only wets the soil surface. Sandy soils may require more frequent watering.

## **CONTROLLING WEEDS**

Frequent, shallow cultivation with a garden hoe or trowel will kill weeds before they become a problem. The roots of tomatoes, eggplants and peppers are very close to the surface of the soil, so it is important not to cultivate too deeply. Cultivate just deeply enough to cut the weeds off below the surface of the soil. Be careful not to damage the vegetable plants. Mulching with herbicide-free grass clippings, weed-free straw, or other organic material to a depth of 3-4 inches can help prevent weed emergence, decreasing the need for frequent cultivation.

## **HARVESTING**

Harvest fruit when they have reached a usable size and color. Cutting fruit from plants prevents injury to the plant and subsequent possible disease infections. Wear gloves and avoid rubbing eyes when picking hot peppers.

## **COMMON PROBLEMS**

### ***Environmental***

Drought, temperatures above 90° F, or night temperatures below 60° F or above 70° F can cause flower abortion. Uneven soil moisture can lead to blossom end rot, where blackened, leathery spots appear on the fruit bottoms, in peppers and tomatoes, especially when fruit are rapidly growing. Fruit are also susceptible to sunburn, and develop white patches if there is not enough leaf surface to cover fruit and protect them from sunlight exposure during hot, dry weather.

### ***Insects***

Cutworms chew stems at the soil line, leaving the severed tops uneaten. Tomato hornworms are very large caterpillars that chew tomato leaves. Colorado potato beetles can decimate eggplants. Regularly check for orange egg masses on the undersides of leaves to detect their presence.

### ***Diseases***

Early blight and septoria leaf spot are the two most commonly occurring diseases of tomatoes in Minnesota. Both diseases cause leaf spot and leaf loss when severe. Early blight also causes fruit rot. Although the early blight fungi can infect eggplant or peppers, this is not common. Septoria leaf spot only occurs in tomato plants. In very wet years, gardeners may see leaf spots and fruit rot caused by late blight. Verticillium wilt will cause yellowing and wilt in eggplant, peppers and tomato.