

## Tomatoes

The tomato (*Solanum lycopersicum*) is an herbaceous, usually sprawling plant in the nightshade family that is typically cultivated for its edible fruit. It is a perennial but is usually grown outdoors in temperate climates as an annual. Tomatoes are the most common and beloved vegetable crop for home gardeners. They require relatively little space and can yield 10 to 15 pounds or more of fruit per plant. There are many different types and varieties available from seed catalogs:

- Midget, patio or dwarf tomato varieties have very compact vines and are best grown in hanging baskets or other containers. The tomatoes produced often are small (1-inch diameter or less); some produce larger fruit.
- Cherry tomatoes have small, cherry-sized (or a little larger) fruits often used in salads. Plants of cherry tomatoes range from dwarf (Tiny Tim) to 7 footers (Sweet 100). One standard cherry tomato plant is usually sufficient for a family.
- Compact or determinate tomato plants may include cultivars of the above two categories. Determinate cultivars stop growth at a certain height; the plant's growing point is determinate. Many commercial and early-ripening tomato varieties are determinate, but typically produce tomatoes throughout the summer.
- Indeterminate tomato plants have vines that continue to grow until frost or disease kills them. These include many of the standard, long-season tomatoes that are popular with home gardeners.
- Beefsteak-type tomatoes are large-fruited types, producing a tomato slice that easily covers a sandwich. Individual fruits often weigh more than one pound. However, larger fruit are prone to either radial or concentric cracks on the shoulder of the fruit. These are usually late to ripen, so plant some standard-sized or early tomatoes for the longest harvest.
- Paste tomatoes have small to large pear-shaped or elongated fruits with meaty interiors and few seeds. They are less juicy than standard tomatoes, do not have a central core, and are excellent for canning and sauces.
- Grape tomato cultivars are fairly recent hybrids. The fruit is smaller, less watery, and often more flavorful than cherry tomato cultivars.
- Cultivars with orange, yellow, pink, purple, brown, or striped fruit are becoming more commonplace in seed catalogs.

- Heirloom tomatoes refer to older, open-pollinated cultivars grown for eating quality, color, shape and/or genetic preservation. Many have "potato leaf" foliage. They can be located through seed exchanges and most seed catalogs.

### Planting

Tomatoes grow best in loose, deep soil enriched with organic matter. Transplant after all danger of frost is past and when the soil has warmed. Mix 1/4 cup ground limestone or hydrated lime into the soil of each planting hole to help prevent blossom-end rot. When you are ready to put home-grown or purchased transplants into the ground, select stocky transplants about 6- to 10-inches tall. Set transplants in the ground so that only two or three sets of true leaves are aboveground. Horizontal planting, bending the stems with just the top two or three sets of leaves exposed, is an effective way to make plants stronger, especially leggy ones. Roots will form along the buried portion of the stem. Avoid setting the root ball deeply into cold soil. Spacing depends on such factors as growing habit of the plants and whether staked or caged. In general, space plants 2 ft. apart in the row with rows 5 ft. apart.

### Tips for Early Tomatoes

- Select early season cultivars that are supposed to ripen 55-65 days after transplanting.
- Warm the soil where the roots grow and the air where the plant grows. Lay down either black or clear plastic 2-3 weeks before planting to warm the soil.
- After planting, surround the transplants with some type of plastic enclosure open at the top. A tomato cage surrounded by clear plastic sheeting works well. Fill plastic soda bottles with water and line them up inside the cage close to the plants. The water will heat up during the day and release the heat at night. Be prepared to throw a quilt over the cage on nights when the temperature dips into the 30s. Wall-O-Water is a commercially available plant protector that has produced good results for local tomato gardeners.

## Cultivation

- **Fertilizing** – Use starter fertilizer for transplants, as tomatoes are heavy feeders. After first fruits appear, side-dress with ¼ lb. 10-10 or equivalent per 10 feet of row. Additional fertilizer may be needed depending on plant growth, fruit load, and soil fertility. Do not add Epsom salts (magnesium sulfate) to the soil unless soil testing shows a magnesium deficiency.
- **Weeding**–Tomatoes have a relatively shallow, fibrous rooting system, so cultivate carefully or use a thick mulch to prevent weeds.
- **Watering** – Keep the root zone moist by watering deeply and regularly during dry periods. Water at least once weekly, more frequently when during dry periods and when blossoms begin to develop.
- **Pruning** - Suckers are shoots that arise from axils (the angle where a plant stem and leaf branch meet). These shoots will eventually produce flowers and fruit. However, moderate pruning will increase the size of remaining fruit, hasten ripening, and keep your plants more manageable. Prune staked tomatoes to one to three main stems (plant spacing can be reduced in these situations). Remove all other suckers weekly. It is especially important to remove suckers that emerge from the plant base. Pinch shoots off with your fingers.
- **Support** - You can allow your tomato plants to sprawl on the ground if you have plenty of room and thick organic mulch covering the ground. Most gardeners prefer staking, trellising, or caging tomatoes because it requires less space, reduces fruit rots, makes harvesting easier, and increases yields per area of garden space. There are many methods for supporting or trellising tomato plants. When selecting the method best-suited to you and your garden, consider the types and spacing of your tomato plants, and the expense and labor you are willing to invest. Staking and caging are the two most common methods:

- **Staking** requires wooden stakes 6- to 8-feet long and 1½-to 2-inches wide. Drive them one foot into the soil about 4 to 6 inches from the plant soon after transplanting. As the plants grow, pull the stems toward the stakes and tie loosely with twine.
- **Caging** allows the plant to grow in its natural manner, but it keeps the fruit and leaves off the ground. Using wire cages requires a larger initial expenditure and a large storage area, but many gardeners feel that the freedom from pruning and staking is worth it. Use 5-foot wide fencing with a 6-inch mesh to allow easy hand harvest. Pruning may still be necessary to avoid excessive growth of foliage. Space cages at least 4-feet apart and secure cages to the ground with stakes to prevent tipping by summer storms.

## Harvesting

Harvest after the fruit color begins to change but before it is fully ripe. Tomatoes will finish ripening on your kitchen counter if they were not fully ripe when picked. Light is not necessary for ripening mature tomatoes.

## Storage and Preservation

Don't refrigerate tomatoes. Allow them to ripen fully indoors at room temperature. Green tomatoes may be picked before the first killing frost and stored in medium cool (50°- 70°F), moist (90% RH) conditions for 1 to 3 weeks. When desired, ripen fruits at 70°F.

## Nutrition

Good source of vitamins A & C, and the phytonutrient lycopene (especially cooked tomatoes).

## Cooking

Prepare by removing green stems and rinsing under running water. Eat tomatoes raw or cooked (bake, broil, grill, sauté, microwave).

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