

Growing Healthy Tomatoes

Growing healthy tomatoes is easy as long as you get off to a good start. Tomatoes love soil that is rich in organic matter and has good drainage. We add compost and aged cow manure into the vegetable garden every season (either in fall or spring). Full sun (about 6 hours) is also important for healthy plants.

Once you have met these requirements, you are ready to begin. You can either pick up transplants at your local garden center or farmers market, or you can sow your own seeds. If you buy your plants, choose tomatoes that are being grown in individual pots rather than in small six packs; a healthy root system equals a healthy plant.

When growing your own, start the seeds 6–8 weeks before the last frost date. Sow ¼-inch deep in flats or pots and keep the soil moist. Bottom heat from a propagation mat or the top of your refrigerator will improve germination. Thin out seedlings and remember to harden off for a week before you move them outside. Transplant your tomatoes into the garden after the last frost date, usually May 15 in the New York area.

Tomatoes will root from their stem, so plant them deeply. Dig a slightly deeper hole than the pot size, strip off the lower leaves and plant so that the bottom portion of the stem is underground. Alternatively, you can dig a small trench and gently lay the root ball and lower half of the stem horizontally so that only the top of the plant rests above the soil. Space your tomatoes 18–36 inches apart depending on the ultimate size of the plants.

Be creative when staking your tomatoes. Catalog companies sell tomato ladders, tomato spirals, and tomato cages in all shapes and sizes. We often grow our rambling cherry tomatoes over a trellis. Experiment with A-frames and other interesting structures. Attach your plants to the structures with soft twist ties, twine (in a figure eight configuration), or Velcro plant ties.

Determinate and dwarf tomatoes need very little pruning. They are compact plants that are ideal for growing in containers (10–15 gallons is a good size). Indeterminate tomatoes, however, are vigorous growers that benefit from pruning.

Pinch out the suckers or side shoots (the small growth that appears in the V-shaped area where the stems attach). While it is important to keep a decent amount of foliage on the plants for energy and to prevent the tomatoes from getting scorched by the sun, many indeterminate tomatoes are so vigorous that if you don't do some pinching, you will end up with a jumble of foliage. Makes staking easier, you are concentrating the plants energy into a more manageable plant.

Water tomatoes deeply at least once a week if there is no rainfall; consistent watering is important for healthy fruit. Timing is also important; water early in the day so that you will not encourage any fungal or bacterial diseases. We mulch our tomatoes with a salt marsh hay substitute. Mulch keeps the weeds down, maintains even moisture, and aids in the prevention of pest and disease problems.

Fertilize your tomatoes just two times during the season—two weeks after planting and again just when the fruits are starting to set. Use an organic fertilizer with low numbers or a fish or seaweed emulsion. Adding organic matter into your soil in fall or early spring will be of more lasting benefit to your garden.

When Trouble Appears: Pests and Diseases

One problem that I always anticipate in the garden is the presence of **cutworms**. They come out at night and chew through the base of tomatoes. The easiest way to control this pest is to put a homemade collar around the young seedlings to protect them.

I usually take a piece of glossy magazine paper and wrap it several times around the base of the plant. An expert grower recently told me that his wife simply places a toothpick on one side of the plant. That is enough to deter the hunger cutworms from severing the stem.

Tomato horn worms will chew their way through tomatoes and easily defoliate a plant. These little pests have a distinctive green-and-white striped body with black horns on their ends. They are easy to spot, they should be picked off by hand and thrown into soapy water.

Blossom end rot is a common and manageable problem in tomatoes. If the bottoms of your fruits have brown or water soaked patches, your plant suffers from inconsistent watering or drought stress, is getting too much nitrogen, or is not getting enough calcium.

To rectify the problem, wait until the soil has warmed sufficiently in spring to plant your tomatoes, mulch your plants, water consistently (approx. 1 inch per week—a good soaking) and avoid high-nitrogen fertilizers. If a calcium deficiency is the problem, add lime to your soil to raise the pH to 6.5 in the following season—in the meantime spray with seaweed extract to boost calcium levels. Good cultural care is the best prevention.

Cracking is also a symptom of irregular watering. Cracking tends to happen with heavy rainfall and over-watering.

Foliar diseases can be devastating in tomatoes. Verticillium wilt can be a problem in zones 4 to 6, while Fusarium wilt tends to be a problem in the South. Both are fungal diseases that cause tomatoes to wilt and the foliage to yellow and die. Never dispose of any disease-ridden plant in your compost.

More common is early blight and late blight. These diseases generally form spots that start on the bottom foliage and move up. Late blight moves quickly and will rapidly destroy the plant. Early blight can sometimes be contained by pulling off infected leaves.

It is important with all foliar diseases to mulch carefully, properly space and stake your plants for good air circulation, and water early in the day so that moisture will not remain on the foliage. Crop rotation is paramount in these situations as the fungal spores will over-winter in the soil. Rotate crops on a three-year plan and do not plant potatoes, peppers, or eggplants (all in the Solanaceae family) in the same location. Finally, choose from a large selection of disease-resistant cultivars that are currently available.

History

Tomatoes originated in the Andes Mountains of Peru where eight different species of tomatoes still grow in the wild. They were first brought to Central America and domesticated by the Aztec who grew a yellow form of the cherry tomato (*Lycopersicon esculentum* var. *cerasiforme*), which they mixed with peppers and salt to create the first salsas.

They named these little fruits *xitomatl*, which means “plump thing with a navel.” Subsequent Central American tribes renamed them *tomati*, and they were brought to Europe by Spanish and Italian explorers ranging from Hernando Cortez to Christopher Columbus.

When the tomato first arrived in Europe, it was viewed with suspicion. Tomatoes are members of the nightshade family (Solanaceae), and their foliage is similar to deadly nightshade (*Atropa belladonna*), a well-known poisonous plant that was used as a hallucinogenic drug and beauty aid. It was fashionable in medieval courts for women to dilate their pupils with drops of belladonna. When taken as a hallucinogen, the drug induced visions and a feeling of flying associated with the practice of witchcraft.

To make matters worse, the upper class ate on pewter plates that contained a high lead content. High in acid, tomatoes would cause the lead to leach out resulting in poisoning. The first tomatoes, named *pomi d'oro* (golden apple) by the Italians, were thought to be inedible; they were viewed as ornamental plants. Only the lower class who ate on wooden plates consumed the fruits.

By the 18th century, the tomato had finally cast off its bad reputation, although its botanical name, *Lycopersicon esculentum*, encapsulates its dubious history. *Lycopersicon* means “wolf peach,” which harkens back to its association with witchcraft, werewolves, and poison, while *esculentum* means “edible.”

Some tomatoes, particularly heirloom varieties, have colorful histories. One favorite is the story of Charlie Byles, a radiator repairman who, during the Great Depression, turned his attention to hybridizing tomatoes. His goal was to hybridize a tomato that could feed a family of six. A novice grower, “Radiator Charlie” crossed four of the largest tomatoes that he could find to breed a monster tomato.

By the 1940s, Charlie was selling seedlings of his new tomato for \$1. People were driving up to 200 miles to buy his tomato that produced 2-1/2 to 4-lb tasty pinkish-red fruits all summer. Within several years, Charlie was able to pay off the mortgage on his home; hence the name of his hefty heirloom, ‘Mortgage Lifter’.

Sometimes the name of the heirlooms reveals either the grower or hybridizer such as ‘Livingston’s Perfection’ or ‘Aunt Ruby’s Green German’; it often alludes to its site of origin such as ‘Amish Paste’, ‘Arkansas Traveler’, or ‘Hillbilly’ (West Virginia).

Types of Tomatoes

You often see tomatoes described as ‘Determinate’ (D) or ‘Indeterminate’ (I). Determinate tomatoes tend to be fairly compact plants that often require minimal staking. They mature to a determined size (generally 4 ft.) and their fruits tend to mature in a relatively short time span (approx. 6 weeks). Indeterminate tomatoes will grow as big as you let them. I have had several indeterminate types crawl over a pergola and reach 8–10 ft. tall. They will produce fruit as long as the weather co-operates—often in the New York area well into October.

Tomatoes can often be hybrids (F₁ hybrids) or open-pollinated. Hybrids were created to produce a higher yield and better uniformity (e.g., nice, perfectly shaped round fruit). However, if you save the seeds and try to grow them the following year, you will not get the same tomato. These hybrids (crosses) are not stable.

Open-pollinated tomatoes are generally self-pollinating tomatoes that will come true to seed. One advantage of these tomatoes is that they have been grown in specific regions and have adapted to their local climates. Heirlooms fall into this category and are known for an incredible variety of color, shape, and delicious flavor.

There are many types of tomatoes to choose from and they all have distinctive features. There are current tomatoes that are miniscule; cherry tomatoes that are as sweet as candy; paste tomatoes that are wonderful for cooking and sun-drying; medium-sized tomatoes that are wonderful for tossing into a salad; and beefsteak tomatoes that are ideal for BLTs.

The list gets even longer with heirlooms when you realize there are peach tomatoes that have a fuzzy coating; bell pepper tomatoes that possess a hollow cavity for stuffing; oxheart tomatoes that are plump and tapered at the end; and ribbed tomatoes that are a work of art.

Some popular varieties include:

- ‘Amish Paste’ – I, OP (paste)
- ‘Better Boy’ – I, H (large)
- ‘Brandywine’ – I, OP (large)
- ‘Celebrity’ – D, H, (medium)
- ‘Cherokee Purple’ – I, OP (large)
- ‘Early Girl’ – I, H (medium)
- ‘Gourmet Yellow Stuffer’ – I, OP (stuffing)
- ‘Green Zebra’ – I, OP (medium)
- ‘Nyagous’ – I, OP (medium)
- ‘Oregon Spring’ – D, OP (medium)
- ‘San Marzano’ – I, OP (paste)
- ‘Stupice’ – I, OP (small)
- ‘Sun Gold’ – I, H (cherry)
- ‘Sweet Millions’ – I, H (cherry)
- ‘Tangella’ – I, OP (medium)
- ‘Tiny Tim’ – D, OP (dwarf)
- ‘Wapsipinicon Peach’ – I, OP (medium)
- ‘Zapotec’ – I, OP (large, ribbed)

