

Grow Tomatoes from Seed

By Suzanne DeJohn



A crop of tomato seedlings growing in [Biodegradable Cowpots](#).

If you've never bitten into a fragrant, vine-ripened, sun-warmed tomato harvested fresh from your own garden, you haven't tasted a real tomato. And once you do, you'll never again be satisfied with the mealy supermarket impostors. Fortunately, tomato plants are easy to grow and remarkably productive.

Tomatoes are long-season, heat-loving plants that won't tolerate frost, so it's best to set them into the garden as transplants (young plants) after the weather has warmed up in spring. You can purchase tomato transplants, but there's something especially rewarding about starting your own plants indoors. Plus, by growing your own transplants you can choose from among hundreds of tomato varieties that are available as seed but rarely sold as transplants.

Quick to germinate and grow, tomato seeds are best sown indoors about six weeks before your average last frost date. (To determine your last frost date, ask a gardening neighbor or call your [Cooperative Extension](#) office.)

Here's what you'll need to start tomato seeds indoors:

- Tomato seeds
- Sterile seed starting mix
- Containers
- A warm place with sufficient light
- Fertilizer

Seeds

There are hundreds of tomato varieties available as seed, and choosing a few for your home garden can be a daunting task. Here are a few things to consider:

- Decide on the type of tomatoes you want; for example, cherry tomatoes, slicers or tomatoes for making sauce or paste.
- Consider the size of the mature plants. "Determinate" tomatoes grow to about 3 feet tall and are the best choice for containers. "Indeterminate" tomatoes get very large, up to 6 feet tall. (All tomatoes benefit from support with cages or ladders.)
- Look for disease-resistance. Tomatoes are susceptible to a number of diseases that may or may not be a problem in your region. To be on the safe side, I always grow at least one variety with resistance to verticillium and fusarium (designated by a V or F after the variety name).

For more detailed information, read below [How to Select the Right Tomato Variety](#) below.

Seedstarting Mix

Always use a [sterile, soilless mix](#) to start seeds. Avoid garden soil, which often drains poorly and may harbor disease organisms. Look for mixes labeled for seedstarting, such as our [Germinating Mix](#); it has a fine texture that's perfect for delicate seedlings. (Learn more: [Choosing the Right Soil for Seed Starting](#).)

Containers

You can start your seeds in just about anything that holds soil and has drainage holes — I've used small yogurt containers and even egg cartons with holes poked in the bottoms and waterproof saucers underneath. However, I've found it more convenient to use purchased pots, such as [Biodegradable Cowpots](#) and seed starting systems, such as [APS seed starters](#).



Tomato seedlings in a self-watering [APS seedstarter](#).

Warmth and Light

Seeds germinate best at warm room temperature (70-75F); you can speed germination by providing bottom heat with a [heat mat](#). Once they're up and growing, seedlings grow best in cool room temperature, about 65F.

Although you can start your tomatoes on a sunny windowsill, you'll get better results growing them under some type of [grow light](#). Winter and early spring sunlight isn't nearly as intense as summer sunlight, and there are fewer hours of daylight, too. Insufficient light can lead to weak, spindly plants. A light garden with adjustable fluorescent lights is ideal for seed starting. Learn more: [Gardening Under Lights](#).

Step-By-Step Seed Starting

Here are the steps to successfully starting your tomato seeds.

- Thoroughly moisten the seed starting mix, and then fill the containers to within 1/2" of the top. Firm the mix but don't compact it.
- Place two or three seeds into each small container or each cell of an APS. Cover the seed with about 1/4" of soil and gently firm it over the seeds.

- Water to ensure good seed-to-mix contact. You can use a plant mister or just dribble a stream of water over the top. You don't need to soak the soil, just moisten the top layer.
- Place the pots in a warm spot or on top of a heat mat. At this point, the seeds don't need light.
- Keep the mix moist but not soaking wet. If your seedstarting system has a greenhouse top, use it to help hold moisture. Or, you can lay some plastic kitchen wrap over the tops of the pots.

Check pots daily. As soon as you see sprouts remove the covering and place the pots in the sunny window or under grow lights, keeping the lights just an inch or two above the

Growing On

Continue to keep the soil moist but not saturated. Dry seedstarting mix is lighter in color than moist mix — a good indication that it needs watering. Some gardeners run a fan in the room with their growing seedlings; good air circulation reduces the chances of disease problems, such as [damping off](#).

If you're growing plants on a windowsill, rotate pots daily so plants grow upright instead of leaning toward the light. If you're growing under lights, raise the lights as the plants grow, keeping them just a few inches above the plants.



Use scissors to thin out crowded seedlings.

Thinning. For the strongest, healthiest plants you'll want just one seedling per pot or cell. *Thinning* (removing extra seedlings) is a tough task for many gardeners who hesitate to dispatch the seedlings they've been nurturing. But it has to be done. Select the strongest, healthiest seedling and use a pair of scissors to snip off the others at the soil line. You can try to transplant the extras into different pots, but you risk disturbing the roots of the remaining plant and, realistically, how many tomato plants can your garden accommodate?

Fertilizing. Once the second set of true leaves appears, it's time to begin fertilizing. The first two leaves are called "seed leaves;" subsequent leaves are called "true leaves." Use a soluble fertilizer, such as [PHC for Seedlings](#), diluted to half the recommended rate. Apply it once or twice a week.

Repotting. Your tomatoes may need to be transplanted to larger containers if they outgrow their pots before it's time to set them outdoors. Don't allow the plant to get pot-bound, with the roots filling the container, or growth may be stunted. For step-by-step instructions, read [How to Repot a Tomato Seedling](#).

Transplanting into the garden. Wait to transplant your tomato seedlings into the garden until after the average last spring frost date. Be prepared to protect the seedlings with [garden fabric \(row cover\)](#) if a late frost threatens. If all goes well, you'll be harvesting ripe tomatoes in eight weeks or less.

How to Select the Right Tomato Variety

For most gardeners, just any old tomato won't do

By Kathy LaLiberte



A bowl of several kinds of small tomatoes: cherry-, plum- and pear-shaped.

From North to South, and coast to coast, tomatoes are consistently the most popular vegetable in American gardens. But for most gardeners, just any old tomato won't do.

Some like them red, some like them yellow, orange or even purple! Some prefer tomatoes as tiny as a dime and some want them as big as a melon. Some like them juicy, some like them dense and pulpy. Fortunately, there are almost 700 different tomato varieties in cultivation today. Plenty of choices for everyone!

If you've been gardening for many years, you probably already have a few favorite tomato varieties that you plant every year. In my own garden, I've tried at least two dozen different varieties over the years. When spring comes and it's time to decide which tomato varieties to grow, here's what I think about: fruit characteristics, time to maturity, growth habit and disease resistance.



Two varieties with unusual striping.

Disease resistance is important, because **tomatoes are vulnerable to a number of diseases** that can weaken the plant and reduce yields. Look at the catalog description, seed packet or plant label to see if that variety has resistance to verticillium and fusarium wilt, two very common soil-borne diseases that affect tomatoes. Resistance to these diseases is designated by a V or F after the variety name. If tomatoes in your region suffer from root-knot nematode (N), Tobacco Mosaic virus (T) or Alternaria (A), look for resistance to these diseases as well. **Late blight** has been a problem in recent years. Do what you can to understand the disease and prevent it.

Growth habit is important to consider because to get a bumper tomato crop, you need to provide enough room for the plant and adequate support. Tomato plants have one of two growth habits. Determinate (bush) varieties grow to a certain height (usually 2-3 ft), set fruit, and then concentrate on ripening that fruit. Indeterminate (vine) varieties keep growing taller and taller, setting and ripening fruit until they're killed by frost.

If you have a limited amount of growing space or will be growing tomatoes in a container, you should probably select a determinate (bush) variety. Determinate varieties are also good for cold climate gardeners who need to harvest their whole crop within a couple weeks. If you have plenty of space, prefer to pick your tomatoes over several months, and are prepared to provide sturdy support with stakes, [cages](#) or [ladders](#), select a an indeterminate variety.

Heirloom, Open-Pollinated or Hybrid?

If you want to save your own seeds from one year to the next, you should plant *heirloom* or *open-pollinated* varieties. Seeds collected from these plants will "come true", meaning they will grow into an identical plant the following year. Heirloom tomatoes such as 'Brandywine', 'Red Calabash', 'Mortgage Lifter' and 'Arkansas Traveler' are all open-pollinated varieties that have been passed on from one generation to the next.

Hybrids are a cross between two genetically different varieties that have been selected for certain desirable traits. Hybrid varieties often offer better disease resistance or higher yields, but they will not come true from seed.

Most varieties of paste tomatoes are determinate. Because most of the fruit ripens within two or three weeks, I spend those couple weekends [canning](#), [making sauce for the freezer](#), and [running the dehydrator](#). Then it's over! Because these determinate plants only get about 2 ft high, they do fine without any support. I just use [plastic or straw mulch](#) to keep the fruit off the ground.

Most cherry and beefsteak tomatoes are indeterminate. This means the plants get huge, but it also means they produce fruit continuously from early July right to frost.

Time to maturity is important if you have a short growing season. Where I live, I need to harvest my tomatoes by early September, before the light fades and frost comes. So I look for tomato varieties that will start ripening fruit in less than 75 days. Many of the really big beefsteak varieties require a full 90 days to mature.

Fruit characteristics are what I care about most. I use tomatoes in salads, on sandwiches, and just to eat out of hand. I dry them, can them and also use them in fresh and frozen sauces. So I select tomato varieties based on how well they're suited to these uses. Here are three of the varieties I've been planting lately:

- **Sun Gold** is a 65-day, indeterminate golden-orange cherry tomato. The plants are big and rangy, so they need to be well staked, and should be surrounded by a strong cage, such as the [Tomato Tower](#). Support them well, and they'll produce an incredible abundance of 1" diameter ultra-sweet fruit over a full 3 months. If you live where summers are hot, you probably don't have much trouble growing sweet, flavorful tomatoes. But in areas where summer is short and nights are cool, tomatoes never get very sweet. I have been so spoiled by Sun Gold's dependable super-sweet flavor that I now add them to my tomato sauces and slice them onto my sandwiches. I even dry them to toss into winter salads and pasta dishes.
- **Big Beef** is another indeterminate tomato, but it produces big, 4 to 6" diameter fruit that are great for tomato sandwiches. At 80 days, this variety is early for a beefsteak-type, so I usually get a couple weeks worth of ripe fruit before frost. [Tomato Ladders](#) work well for this variety.

- **Juliet** is a 60-day indeterminate that produces a huge crop. The fruit is oval and it's about 2" long. It's firm, glossy and quite dense, like a miniature paste tomato. Juliet ripens fast and furious, and I use it for soups, sauces, salsas and cold salads. They also get stewed whole for canning, and get halved for drying.