GROWING tomatoes

your guide to growing delicious tomatoes at home

JASON JOHNS

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Selecting a Type

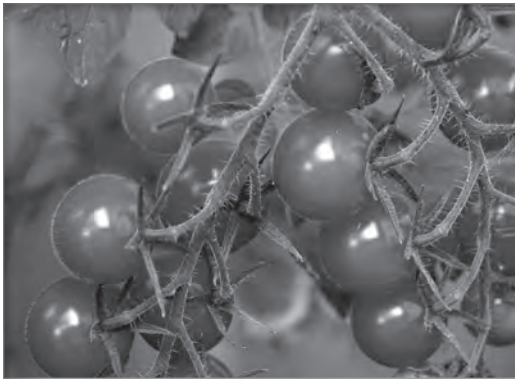
Although there are many different varieties of tomatoes, there are just four different types, which relate to the size of the fruit and the growing pattern of the plants. All of the different varieties fall into one of these five types.

CLASSIC (SALAD) TOMATOES

These are the tomatoes you're most familiar with and see most often in supermarkets. They're the classic red, round tomatoes that can be used fresh in salads and for baking, frying, grilling, and other cooked dishes. Classic tomatoes are the most common varieties grown at home, and there's a huge range from which to choose.

CHERRY AND COCKTAIL TOMATOES

Cherry tomatoes are smaller versions of classic tomatoes and are common in supermarkets. Cocktail tomatoes are slightly larger than cherry tomatoes, though the two are sometimes sold under the same name. They come in a number of different colors, including red, orange, yellow, and golden, and heirloom varieties are available. Sometimes cherry tomatoes are sold while still on the vine, although most commonly they're sold in baskets or containers.



Cherry tomatoes are very sweet, with a concentrated flavor. They're great eaten whole and raw and are ideal for salads and lunch boxes. Their size and flavor make them a favorite with children. You can grill cherry tomatoes whole or halved, cook with them, or make sauces from them.

PLUM, BABY PLUM, PEAR, AND GRAPE TOMATOES

Plum tomatoes are undoubtedly one of the most popular types for cooking because they contain more flesh and less water than classic tomatoes. If you enjoy making your own tomato sauce and ketchup, you'll enjoy growing some of these.

Plum tomatoes are oval and very firm, making them ideal for grilling. They're also popular for making pizza sauces or for use in pasta dishes. Because of their growing popularity, more supermarkets are carrying them in season. Pear tomatoes are a variation on the plum tomato and are more pear shaped rather than oval. Both pear and plum tomatoes are commonly used in Italian cuisine because of their thick flesh.

Baby plum tomatoes are a hit with children because they're sweet, firm, not too juicy, and easy for small fingers to manage. You'll often see small plum tomatoes referred to as grape tomatoes because of their shape.

BEEFSTEAK TOMATOES

Beefsteak (or beef) tomatoes are much larger than salad tomatoes, sometimes massively so. They can grow to a huge size, weighing in at several pounds each. They're ideal for baking whole or stuffed, and there are a variety of different kinds on the market, including some that are pink and even one that's yellow, called Yellow Beefsteak, with a hybrid version called Colossal.

BEST VARIETIES TO GROW IN THE US

VARIETY	DESCRIPTION	DAYS TO MATURITY	DISEASE RESISTANCE*
POPULAR HYBRIDS			
Better Boy	Indeterminate, red, beefsteak	75	V, F, N
Big Beef	Indeterminate, red, beefsteak	73	V, FF, N, T, A
Big Boy	Indeterminate, red, beefsteak	78	A
Celebrity	Determinate, red, globe	70	V, FF, N, TA
Early Girl	Indeterminate, smaller, red, globe	50 to 52	V, FF
Grape	Indeterminate, red, cherry	60	F, A
Independence Day	Indeterminate, small, red, globe	49	None
Jersey	Determinate, small, red, globe	75	V, F, A
Juliet	Indeterminate, very small, red, cherry	60	Crack resistant, early blight resistant, late blight resistant
Sun Sugar	Indeterminate, orange, cherry	62	F, T
POPULAR OPEN-POLLINATED OR HEIRLOOM			
Amish Paste	Indeterminate, red, paste	85	Susceptible to cracking and sunscald due to sparse foliage
Black Krim	Indeterminate, red to brown, beefsteak	69 to 80	F, N
Brandywine	Indeterminate, pink, beefsteak	69 to 80	F
Cherokee Purple	Indeterminate, black-purple, beefsteak	69 to 80	F
Green Zebra	Determinate, small, green	78	None
Mortgage Lifter	Indeterminate, large, pink, beefsteak	85	V, F, N
San Marzano	Indeterminate, small, pink-red, plum	85	Traditionally no resistance, modern hybrids have VF resistance bred into them
Yellow Pear	Indeterminate, small, pear-shaped, yellow, cherry	71	V, FF

V - Verticillium wilt
F - Fusarium wilt
FF - Fusarium wilt races 1 and 2
N - Nematodes
A - Alternaria alternata (stem canker or early blight)
T - Tobacco mosaic virus
St - Stemphylium (gray leaf spot)

(See more about plant diseases on pages 74 to 81.)

Beneficial bugs

Invite industrious insects by planting some French marigolds near your tomatoes; as companion plants, they'll encourage the presence of pollinators and discourage pests. (See more about companion plants on page 65.)

Pruning and Pinching Out

Before flowers appear, a tomato plant concentrates its energy on producing leaves. Eventually, it will need more branches to hold more leaves so it can grow even bigger.

If you're growing indeterminate or vining tomatoes (also known as cordon tomatoes), new branches will grow from side shoots or suckers that develop in the crotch between a leaf and the stem. (Bush or determinate tomatoes don't grow side shoots.) As the season progresses, the plants will rapidly put out more suckers and stems.

Don't be tempted to let these side shoots grow, or you'll end up with an unwieldy, untidy plant, a giant triffid that produces few quality fruits because so much of the energy of the plant is diverted to growing greenery. Either the plant will become too big, and spindly branches will start to break under the weight of the fruit, or the plant will succumb to fungi, mold, and bacteria because air circulation through the branches is poor.

Pruning helps the tomato plant concentrate its energies on producing fruit once flower clusters (trusses) begin to appear. It's much easier for both you and the plant if you remove the sucker shoots when they're small,

though they will sometimes get away from you as you can see in the picture on page 44. (Be warned that tomatoes grow rapidly, and this will need to be done every few days during the growing season.)

Grasp the bottom of the sucker between your thumb and forefinger (see photo at right) and pinch it, using your fingernail if necessary. It should come off very easily. Alternatively, use a sharp knife or a pair of pruning sheers to cut the sucker off. It might be better to use these tools, as you can tear the stem when removing these side shoots by hand, which can lead to the introduction of disease.

Discard the sucker; don't leave it on the ground at the base of your tomato plant because it will rot there and encourage the spread of disease and pests. Similarly, if you damage a leaf in the process, you'll need to remove it so it doesn't attract disease-producing organisms into the rest of the plant.

If your plant has side stems or suckers below the first fruit cluster or truss that appears on the plant, they need to be removed. You'll also want to remove some of the lower leaves at this time to enable light and air to get to the fruits at the bottom of the plant. Don't go crazy as the plant needs leaves to survive and grow, but removing some of them will help with air circulation and prevent diseases from taking hold.

In warmer climates, be careful not to overprune your tomatoes; without enough shade, your fruit can suffer from sun scald. Likewise, in damper climates, you need to be especially careful to regularly prune your plants because moisture will cause problems with your plants and encourage disease. Dead leaves at the bottom of a plant provide a welcome home for slugs and snails that'll happily eat your tomatoes for you.

TIPS AND TRICKS FOR GROWING GREENHOUSE TOMATOES

A variety of tomato that's resistant to cracking and disease is ideal for growing in a greenhouse (see pages 22 to 23). You can buy seedlings from a local store, though you'll find more variety by purchasing seeds. Indeterminate tomatoes will continue to produce as long as growing conditions will allow (as opposed to determinates, which produce only one harvest). Dwarf varieties of indeterminates are ideal for a greenhouse because they don't take up as much of your precious space. Unless you're in a cold area, it is best not to plant your tomato seedlings in the greenhouse until you would normally plant them in the ground. The temperature in the greenhouse may be only a few degrees warmer than outdoors and therefore not be suitable for tomato plants. If you have a heated greenhouse, you'll be able to plant tomatoes in it much sooner than you could in an unheated greenhouse.

It's particularly important to control the size of your plants in a greenhouse, as they can quickly grow rampant and crowd out any other plants you're growing there, so keep a close eye on them. The first year I grew tomatoes in a greenhouse, I went away for two weeks and came back to find I literally couldn't get through the greenhouse door because the tomato plants had grown so big! (It took the better part of a day to prune them, but the crop was fantastic.)

Whether you grow directly in the ground or containers will depend on how you've set up your greenhouse. Many people prefer containers simply because you can dispose of the spent soil at the end of the growing season and are not combating weeds growing up through the soil. If you're planting directly into the soil under your greenhouse, check the pH levels and adjust them accordingly (see page 37); if you're using containers, prepare the right type of potting soil (see page 49).

Because your plants won't have access to rain, they're dependent on you for water. If they're in pots, they'll dry out very quickly, so check

them daily, if possible. Many gardeners set up a drip-feed water system in their greenhouses so they don't have to carry full watering cans. On hot days, pots may need to be watered more than once a day. You can find set-ups in your local garden store or online. Alternatively, you can water your plants by hand, though remember, just as with outdoor plants, morning is best and avoid getting water on the leaves, as plants are particularly susceptible to leaf burn in a greenhouse.

You can use blinds in southern latitudes to shield plants from getting too much direct sun. Some of the darker tomato varieties prefer diffused rather than direct sunlight and can lose their color a little in direct sun. Greenhouse shading comes in different grades that block out different levels of sunlight. Choose one that's suitable for the amount of light your greenhouse receives and provide the right amount of shade for your plants.

A lack of ventilation can cause condensation and high humidity, which can encourage disease. Open the doors and windows of your greenhouse to ensure there's plenty of air circulation. If you can, add automatic window or vent openers to your greenhouse. Because they contain a substance that expands and contracts based on temperature, they don't require electricity to operate. As your greenhouse warms up, the windows will automatically open; as it cools they'll gradually shut. In hotter areas, you can benefit from installing fans in your greenhouse to encourage air circulation, though this will require running electricity to your greenhouse or installing a gas-powered generator.

The feeding schedule for greenhouse-grown tomato plants should be the same as it is for those planted in soil or containers. Remember not to overfeed your plants or to use a feed with too much nitrogen, as that encourages too much leaf growth.

Tomatoes in a greenhouse still need support when they grow, perhaps more so because they grow so vigorously. Remember—if the plant spends too much time growing greenery, it won't produce much, if any, fruit, so pinch out the tops and side shoots just as you would with garden plants.

POLLINATION

Tomatoes are quite sensitive to the length of the day and need at least six to eight hours of darkness to flower. Depending on daylight

Watering

Make sure to water directly on the ground above the roots. You should never water the leaves or fruits; this keeps the plants damp and can encourage leaf mold and fungus growth. Watering the leaves or fruits can also cause sunburn, which damages the plant and stunts its growth. In addition, watering the leaves tends to direct less water to the roots because it runs off away from the base of the plant; the roots need that water to draw up nutrients from the soil into the plant.

Tomatoes benefit from small amounts of water applied regularly. If you live in a dry climate, you may need to put down a slow-drip irrigation hose. You can also create an inexpensive slow-watering system using plastic bottles. Cut the bottom end off a large soda bottle and remove the cap. Poke some holes in the cap, fill the bottle with water, screw the cap back on the bottle, and bury the cap end of the bottle in the ground at the roots of your plant. The number and size of the holes will determine how quickly the plastic bottle drains. One or two small pinholes will allow the bottle to drain gradually over the day and provide water to your tomato plant, ideal for a hot climate where plants tend to dry out during the day. Slow watering allows moisture to go directly to the roots (and can help stop weed growth by starving them of water).

Avoid watering the plants in the afternoon or evening, as soil or leaves that remain damp overnight can also encourage pests and disease. The best time for plants to be watered is in the morning because that's when they naturally suck up water; this also gives them all day to dry out. Consider this morning water as breakfast for your plant.

Mulch

Apply a two-inch thick layer of mulch at the base of your plants and about twelve to eighteen inches around them. In dry spells or hot climates, mulches are essential to keep moisture in the soil and prevent plants from drying out. Mulch also helps keep down weeds and can deter certain pests that attack the roots of your plant.

A mulch could be anything from compost to cardboard and from lawn clippings to straw or rotted leaf mold. Well-rotted manure can be used, but avoid using fresh manure; it's still composting, and the heat will damage your plants. You can use a good-quality woven weed membrane underneath the mulch to help retain moisture more effectively. Combine this with a slow-drip irrigation system, and your plants will thrive even in the driest of times.

Spacing

Make sure your plants are well spaced, as this will discourage pests and help to slow any spread of disease or pests between the plants. You need to leave twenty-four to thirty-six inches between plants; indeterminate varieties will need more space than the bush varieties. The instructions on the seed packet will also tell you the ideal spacing for the variety you are growing. It's difficult to examine plants that are planted closely together without causing some damage to them as you walk between them. Also, the plants can't get the air circulation they need to stay healthy and free of a wide variety of fungal diseases, including the dreaded blight.

By taking preventative measures and keeping a close eye on your plants, you'll be able to keep them healthy throughout the growing season. It's much better to spend a few minutes each day checking your plants than to ignore them and find you have lost your entire crop.

Companion Planting for Tomatoes

Companion planting is one of the best organic practices for keeping tomato plants healthy and reducing the risk of pests and disease. Companion planting is where two different types of plants with mutually beneficial characteristics are planted close together. (Likewise, some plants need to be kept apart, as they can cause each other a lot of problems!)

Using this traditional gardening method, you can improve the health and flavor of your tomatoes and reduce pest problems and disease. Certain plants will not only help your tomatoes grow strong and look fantastic, but are useful in their own right.