UT Extension
SP 291-K

Vegetables

Tomatoes for the Home Garden

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Tomatoes are the most popular vegetable grown in home gardens. They are more nutritious than many vegetables and provide significant amounts of both vitamins A and C. Tomatoes are served fresh, are a major component of many salads and are used in many cooked dishes.

Types

Tomatoes are either determinate or indeterminate. Determinate tomatoes are referred to as self-topping or low-growing types. They may grow to a height of 3 or 4 feet with proper cultural care. The terminal bud then forms a flower and the plant does not grow any taller. Numerous fruit is set over a very few weeks and ripens over a short harvest interval, usually four to five weeks.

Indeterminate varieties continue to grow taller throughout the growing season unless they are killed by insects or disease. They set and produce fruit throughout the summer and fall. They require 5- or 6-foot stakes to provide good support. Fruit of indeterminate tomatoes is usually softer and has more gel and thinner walls than determinate types.

The tomato varieties listed below allow a gardener to produce the type of tomato of his/her choice and to produce fruit throughout the growing season.

Early Girl is an extremely early variety that will continue to bear throughout the season. Its fruit size is smaller than most tomatoes, however.

Sweet Million is a very prolific cherry tomato that is resistant to several diseases. It is extremely sweet and liked by most who try it.

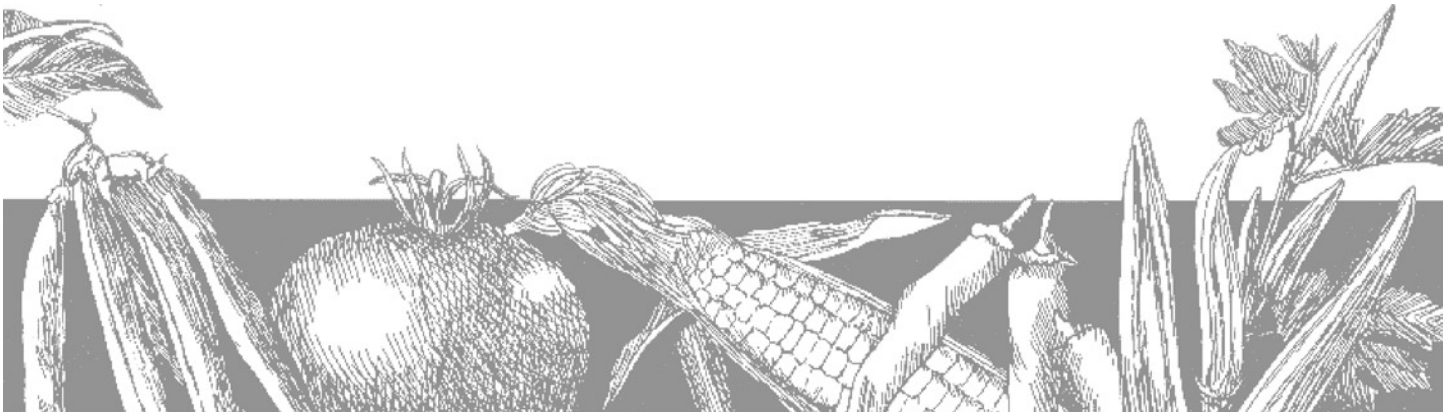
Floramerica and Celebrity are good-quality, determinate varieties for those who want concentrated harvest. Jubilee and Pink Girl fulfill the need for tomatoes of various colors. Big Boy is a large "beef-steak" type for those who want large, solid fruit.

Better Boy is a good-quality, hybrid tomato that is widely available. It is the standard by which other home garden tomatoes are compared.

Long Keeper is a tomato designed to be harvested in the fall. It is below average in taste but will keep two or three months or more at room temperature. It has orange skin but red flesh.

Soil Preparation

Soil should be prepared as for any garden vegetable. Turn it in time to allow undecayed plant material to decay before planting. This may require four to six weeks. Apply fertilizer and lime and work them into the soil before planting. Lime should be applied several weeks ahead of planting for maximum effectiveness. The soil pH should be 6.1 or above to help prevent blossom-end rot. The soil should be worked 6 or more inches deep and until it has a fine but not powdery texture. A soil test is the only way to be sure



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Varieties				
Variety	Determinate (D) Indeterminate (I) Harvest	Days to First	Size (oz.)	Comments
Early Girl	I	54	4-6	earliest
Sweet Million	I	60	1 inch	cherry
Floramerica	D	70	7	
Celebrity	D	72	8-10	
Jubilee	I	72	8	orange
Betterboy	I	75	10-16	
Pink Girl	I	76	8	
Big Boy	I	78	10-16	
Long Keeper	I	78	7	

exactly how much lime and fertilizer are needed. If no soil test has been done, two to three pounds of a common fertilizer such as 6-12-12 per 100 square feet of garden space may be used.

Blossom-end Rot

Blossom-end rot is a leather-like decay of the blossom-end of the fruit. There are several ways of reducing the amount of blossom-end rot on your tomatoes. These are based on maintaining proper calcium levels in the tomato fruit. First, be sure to lime your garden according to the soil test recommendation. Lime is calcium carbonate and supplies calcium to the soil. It also raises the pH, making it easier for the plant to take up calcium. Second, maintain uniform soil moisture by using irrigation and mulches. Calcium must dissolve in soil moisture to be taken up by plants. Tomatoes will also have less blossom-end rot if they are not pruned too heavily and if they are not fertilized too heavily with ammonium nitrate.

Plants

Good yields are possible only when a gardener begins with high-quality plants. The plants should be short and stocky with well-developed root systems. Plants that have been grown in containers normally have better-developed root systems and grow better than bare-root plants. Both plants grown in containers and bare-root plants must be kept moist or the roots will die and the plants will be stunted. Stunted tomato plants usually grow but will produce smaller, later crops.

Stocky tomato transplants will be 7 or 8 weeks old. They should be hardened before they are set into the garden to prevent injury from hot sun, cold temperatures and drying winds. Tomatoes may be hardened by exposing them to temperatures 10 degrees below normal for a week or so before they are set into the garden. It is also possible to harden tomato transplants by withholding water until the plants just begin to wilt. This requires very close attention and is difficult for most home gardeners.

When a tomato plant is properly hardened, the veins on the underside of the leaves will have developed a tinge of purple. If the entire underside of the leaf is purple, the plant has been over-hardened and will be stunted.

Avoid purchasing tomato plants that have wilted excessively, have spots on their leaves, are excessively yellow or have purple lower leaves. If possible, purchase varieties that have the letters VFN after their name. This indicates that they have resistance to verticillium and fusarium wilt and to nematodes.

Rotation

It is best not to plant tomatoes in the same location in the garden two years in a row. If possible, rotate plants around the garden so they are not planted in the same location more than once every three or four years. This does not eliminate but will help prevent disease and nematodes from building up in the soil.

Planting

When tomatoes are 6 to 8 inches tall, they should be planted deep enough to completely cover the root ball. Planting can be done after the last spring frost through June 25. If plants have been grown in fibrous containers, the top of the container must be completely covered with soil. This prevents the container from serving as a wick, slowing water loss. The distance between plants in the row depends upon the type of tomatoes being grown and the severity of pruning or intended suckering. Suckering consists of removing growth in the leaf axis. Determinate varieties do not grow as tall as indeterminate and can normally be spaced closer in the row. If suckering is not intended, plants will need to be spaced further apart. The in-row

spacing varies from 18 inches to 24 inches between plants. Between-row spacings can vary from 4 feet to a width suitable for use with the cultivation equipment available. If tall, leggy plants are to be planted, it is advisable to either lay a portion of the plant horizontal or plant it 6 to 8 inches deep. This allows the plant to develop a root system along all of the buried stem.

Mulches

Organic mulches such as straw, leaves, grass clippings or compost can be applied after plants are set. Mulches applied 4 to 6 inches thick provide weed control, uniform moisture levels, reduce certain disease problems and improve fruit quality. Organic mulches should not be applied until the soil is warm. Black plastic can be used to maintain uniform moisture, control weeds, enhance and improve fruit quality. If plastic is used, lay 4-foot wide strips in the row area and seal the edges with about 6 inches of soil about two weeks before the planned transplanting date. Plant the tomatoes through slits cut in the plastic.

Providing Support

The best-quality tomatoes are grown on supports. It requires less space to produce the same quantity of edible fruit with supports. Tomatoes are normally supported with stakes or cages. If stakes are used, each stake should be about 4 feet tall for determinate types or 6 feet for indeterminate types. Stakes can be provided for each plant. Tie plants loosely to the stakes at 8- to 10-inch intervals. Stakes can also be placed between each two plants and supports provided by the "Florida Weave" technique. In this technique, string is tightly stretched horizontally along both sides of the stakes at the same height, with plants held between the string layers. String layers are repeated every 8 to 10 inches vertically as the plant grows. When stakes are strong and well-anchored, this system provides sufficient support to keep plants off the ground. Usually, two plants are set between stakes. Tomatoes are often suckered with this system. When cages are used for support, the cage must be of strong materials, such as concrete reinforcing wire. Cages should be well anchored to support the weight of the plants and fruit. The cage should have sufficient openings to allow removal of ripe fruit. A 6-foot length of wire will form a cage about 21 inches in diameter. Unsuckered tomatoes are allowed to grow in the cage. Yields per plant are usually higher in a cage than when supported by stakes.

Nitrogen Sidedressing

Nitrogen sidedressing applied at the right time and at the correct rate can greatly enhance the production of tomatoes. Sidedressings are applications of fertilizer along the plants at some stage of growth. They are started when fruit on the first cluster is about the size of a half-dollar, and repeated every four weeks through harvest. If they are applied prior to this time, it is very likely that blooms will drop and fruit set will be eliminated or reduced. Ammonium nitrate is the most common nitrogen source. Apply one tablespoon in a circle around the plant at each sidedressing about 12 inches from the plant.

Watering

For best tomato growth, keep the soil in the root zone moist enough to prevent wilting of tomatoes. This is best done by applying 1/2 to 3/4 inch of water twice a week to the root zone during periods of dry weather. If possible, use trickle irrigation. Less foliage disease occurs with trickle than sprinkler irrigation. If sprinkler irrigation is used, apply as late in the afternoon as possible, but early enough to allow foliage to dry before nightfall.