



GARDEN INFORMATION SERIES



The University of California prohibits discrimination against or harassment of any person on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (special disabled veteran, Vietnam-era veteran or any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized).

University Policy is intended to be consistent with the provisions of applicable State and Federal laws.

Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 1111 Franklin, 6th Floor, Oakland, CA 94607-5200 (510) 987-0096

University of
California

Cooperative
Extension



GARDEN INFORMATION

GROWING TOMATOES IN YOUR GARDEN



GROWING TOMATOES IN YOUR GARDEN

VARIETIES

Variety selection is an important decision when growing tomatoes. Gardeners should select two or more varieties so they can compare flavor and quality. Look for disease-resistant varieties. Choose a variety that is labeled with one or more of the letters VF, N, or T if possible. These letters mean the variety has resistance to certain soil-borne plant diseases (V or F), nematodes (N), and certain viruses (T). Also, consider whether you want your tomatoes for canning and preserving or for fresh use. Some varieties are better suited for one use than the other. For maximum numbers of fruit, avoid planting varieties with "Beef" in their names since they set fruit poorly, especially in the hot inland areas of California.

PLANTING DATES

For most California areas, best planting time is the spring. Set out transplants in the ground March through April for early to mid-summer production. A second planting in June through mid-July can produce a fall crop in most years. In the cool central and northern coastal regions and high elevation areas, planting should be delayed until

May, and mid-summer planting avoided. Direct seeding in the garden during late March or early April can also be successful in warmer coastal and inland regions of the state.

SOIL PREPARATION AND PLANTING

Till the soil to a depth of one foot or as deep as possible before planting. Also, thoroughly mix about two pounds of ammonium sulfate or a fertilizer with comparable nitrogen content per 100 square feet of planted area (about 1/10 lb. of fertilizer per plant) along with two to four inches of organic material if desired. Add the same amount of fertilizer when your plants set their first fruit and every four to six weeks thereafter. Always water well after applying fertilizer. If some form of manure was used initially, reduce the fertilizer rates by one-half. Do not apply more fertilizer than recommended. Applying relatively high amounts of nitrogen, from organic or chemical sources, before plants begin setting fruit will cause plants to produce lush leafy growth but significantly delay fruit set.

When planting seeds, follow the instructions on the seed packet. Set transplants so the soil ball is buried about one inch. Thin seedlings and set transplants so plants are spaced about two to three feet apart.

IRRIGATION

Keep the soil around new transplants and seedlings moist for the first three to four weeks. Water established plants when the soil dries to about two to three inches deep. Apply enough water to wet the root zone thoroughly. Since weather varies and the depth of rooting varies from six inches to three feet depending upon the soil type, the right interval for applying water in the summer can vary from one to three times a week to once every 10 days or two weeks. Plants are best irrigated by using soaker hoses, drip irrigation or another means that applies water slowly without wetting the foliage.

HARVESTING AND STORAGE

Growing your own tomatoes allows you to pick them when they are red and vine ripe and at the best eating quality. It usually takes 10 to 12 weeks from the time transplants are set in the garden or 18 to 20 weeks from seeding to have the first ripe tomatoes. Ripe tomatoes should be stored at 55 to 70°F to maintain their fresh, ripe flavor. Lengthy refrigeration causes fruit to lose flavor.

SUPPORTING AND TRAINING PLANTS

Support tomato plants rather than let them sprawl on the ground. When plants are off the ground, fruit rots are reduced, pest management is easier, and

harvesting is less work. Drive sturdy wooden stakes, six feet long by 1 to 1-1/2 inches wide, into the ground about one foot deep and spaced three to four feet apart within the row. Twist and loop heavy twine fairly tautly from stake to stake across plants at intervals of 10 to 12 inches up the stakes as plants grow.

Another method is to tie plants individually to a fence or a wooden stake. As plants grow, pull the stems toward the fence or stake and loosely tie them at intervals of 10 or 12 inches. Plants supported in this manner often require pruning or pinching out of some shoots or "suckers" from the main stem lest the plants become too heavy and large for their support.

A heavy gauge metal cage is a third alternative, and one that requires the least amount of work. Cylindrical cages about 18 to 30 inches in diameter and four to five feet tall are set over each plant, and no tying or pruning is needed.

TOMATO FRUIT-SET FAILURE AND FLOWER DROP

Tomato plants might fail to set fruit for several reasons. The most frequent problems are:

- Cold nights in the spring-several consecutive evenings with temperatures below 55°F.
- High daytime temperatures in the summer.
- Low light intensity created by dense shade from trees, buildings or other sources.

- High applications of nitrogen fertilizer or manure.
- Too much or too little water.
- Smog or ozone.

Tomato varieties vary in their tolerance to cold or hot temperatures and their ability to set fruit under one or both of these sets of conditions. Spray applications of fruit-setting hormone products containing 4-CPA (parachlorophenoxyacetic acid) can improve fruit set during periods of cool nights. Fruit-setting hormones are not effective in hot weather.

No tomato varieties are tolerant of shade, so locate plants where they receive at least eight hours of full sun daily. Tomatoes should receive only a moderate amount of nitrogen fertilizer until the first fruits are set (see Soil Preparation). Varieties vary in their tolerance of smog, but all are likely to have reduced fruit set when smog levels are moderate or greater.

YELLOW DISCOLORATION OF FRUIT

The reason for the yellow or yellow-orange fruit color, rather than the normal red, is that the red pigment (lycopene) fails to form in fruits when air temperatures are above 86°F. During hot weather orange-red color results. There are no practical means of overcoming this disorder.

LEAF ROLL OF TOMATO

Leaf roll of tomato is a very common disorder in many varieties. Leaf roll does not develop

markedly on plants until about the time of fruit setting of the first and second flower clusters. At this time, the older leaves begin to roll upward in inward rather suddenly. Affected leaves are stiff to the touch, brittle, and at times, nearly leathery. The severity of leaf roll varies with climatic conditions, cultural practices, and the variety grown. Maintaining high soil moisture content for prolonged periods is also believed to accentuate the disorder. No pathogens have been identified as casual agents. No control methods for leaf roll are recommended since it is not known to damage plants or fruit production severely, and its actual cause is not fully understood.

BLOSSOM-END ROT

Blossom-end rot is the term used to describe a dark brown-to-black, leathery, sunken area on the bottom of fruits. The disorder occurs when fruits develop on water-stressed plants. A calcium deficiency can make the problem worse. Providing regular irrigation to keep plants well watered can prevent the problem.

Ask your nursery or garden center professional for additional information and assistance about growing tomatoes.

The author is Dennis R. Pittenger, Area Environmental Horticulture Advisor, University of California Cooperative Extension, Southern Region.