

Trouble with Tomatoes

By Mark S. Brunell

With summer just around the corner, gardeners are either starting to set out plants in the garden, or already have small tomato plants in the ground. Tomato gardeners must prepare themselves for a litany of disorders and pests that could potentially afflict their plants. The problems can be either physiological disorders (not caused by pest organisms) or pest problems (caused by viruses, fungi, insects, etc.). In this article, we discuss common physiological disorders.



Blossom end rot on tomato

Physiological disorders of tomatoes are many and are generally caused by irregular watering, unusually cool or warm weather, very dry or humid weather, excessive pruning and/or fertilizing, or exposure to excessive sunlight.

Sunscald: caused by exposure to excessive sunlight and heat and results in white or yellow patches on the fruits; once damaged the fruit will not ripen properly.

Control: Shade the fruit by the leaf canopy, avoid excessive pruning, and maintain the general vigor of plant, which results in more leaves. Another option is to use shade cloth.

Blossom end rot: starts as a small brown spot at the blossom end of the fruit and gradually expands into a sunken, brown, leathery lesion; inside the fruit, hard brown areas may develop. This condition is caused by low calcium levels in fruit, and insufficient water reaching the fruit.

Control: maintain steady soil moisture (mulching helps), do not over-fertilize (salt buildup in soil slows water absorption by roots), and do not injure roots (which will limit water uptake). Therefore, avoid careless weeding, which could damage roots. Planting too early in cold weather could promote root rot, again limiting water uptake. In extreme heat and drying winds, plants should be shaded to avoid desiccation. Calcium can be provided in the form of gypsum added during bed preparation. Calcium sprays might work as a last resort.

Catfacing: describes misshapen fruit with large scars and cavities. It starts in the early stages of flower bud formation, during which the tissue between the stigma and style develops abnormally. It is caused by unfavorable growing conditions, especially extended cool weather below 60°F, and is aggravated by excessive pruning and high levels of nitrogen in soil.

Control: do not set plants out too early in spring, exposing young plants to cool temperatures.

Cracking: a condition often caused by rainy periods following long dry periods, or uneven watering when the fruit is transitioning from green to red; exposure to sunlight and heat may also cause cracking.

Control: provide a uniform water supply (drip irrigation and mulching), and maintain the leaf canopy for shade. Also, choose varieties that are crack resistant.
Blossom drop: describes a condition when flowers dry up and fall off, with no fruit set. It occurs when temperatures are outside the optimum range for pollination for several days, which makes pollen tacky and non-viable and leads to blossom abortion. Generally, night temperatures below 55°F or over 70°F, and day temperatures above 85°F will cause this problem. This problem can also be caused by very high temperatures (over 100°F) lasting just a few hours.

Control: Some control is possible with hormone sprays but only for the low temperature situations, and even when successful, the fruit will be of poor quality. There is no easy control for the high temperature problem. Blossom drop can also be caused by too low or high humidity, lack of pollination, too much nitrogen fertilizer, lack of water, pest damage, or too heavy fruit set. In general, good cultural practices combined with growing heat tolerant varieties can minimize this problem.

Tomato leaf roll: a condition in which the lowest leaves get firm, leathery, and roll upward, and the plant may look wilted. This is common in wet spring conditions, and no control is necessary as the condition will disappear when the weather warms up; no damage occurs to the plant or fruit.

By becoming aware of these conditions, and by understanding their causes, we can all grow higher quality fruit this summer.

Alameda County Master Gardeners will offer free monthly garden talks this summer and fall.

At the Livermore Demonstration Garden, at 3575 Greenville Road in Livermore, talks are presented on second Saturdays from 10:00 to 11:00 am.

May 12: UC Davis Arboretum All Stars in the Demo Garden

June 9: Irrigation in Summer Heat

July 14: Keeping the Gardener Healthy—Caring for Knees and Back

August 11: Bouquets of Summer

September 8: Selecting Shade Trees that Cope with Livermore Valley Soil

October 13: Cleaning Up Your Garden

November 10: Garden Gadget Must Haves

At the Lake Merritt Trials Garden, at 666 Bellevue Avenue, Oakland, talks are offered on fourth Saturdays at 12:00 noon.

May 26: Great Vegetables in Containers ~ tips and tricks for a productive potted garden

June 23: Got bugs? Learn more about whom and what may be eating your plants and the safest ways to deal with them. Bring leaf & bug samples!

July 28: Native bees: learn all about our amazing bees and how to attract them to your garden.

August 25: Keep your garden productive all winter long: how to plan and plant a great winter garden

Sept. 22: How to create backyard butterfly habitat

October 27: Tips for how to put your garden to bed for winter: cleanup, compost, pruning and feeding

November 10: Learn about truly outstanding perennials for the Bay Area & Fall Plant Sale

For more information, contact the Alameda County Master Gardeners at <http://acmg.ucdavis.edu/>