

# Blossom Drop in Tomato

► The tomato is the most popular vegetable in the home garden and is still a significant commercial crop throughout the state. During the hot weather of summer, many concerned tomato growers see flowers on their tomato plants dry up and fall off without setting any fruit.

If the tomato plants are otherwise healthy and have had sufficient water and fertilizer, good insect and pest and disease control, and correct soil pH, your plants might be suffering from a condition known as blossom drop. This condition is not related to any nutritional disorder or any disease or insect damage. It is related to temperature.

Although tomatoes evolved in the tropics, their flowers are sensitive to temperature. When day temperatures exceed 85 degrees F and night temperatures exceed 72 degrees F, tomato flowers often abort. Another important factor linked to temperature is the length of exposure. The longer the plants are exposed to high temperatures, the longer the condition will last and the more serious the effect on flowering. Short exposures such as a week or less should not cause much of a problem. For some varieties, night temperatures alone (above 72 degrees F) can be detrimental to flowering, even if day temperatures remain below 85 degrees F.

Heritage and heirloom varieties tend to be more sensitive to the conditions that induce blossom drop compared to modern varieties. Commercial growers in the southeastern United States have suffered from this problem for many years until the advent of heat-set tomato varieties in the 1990s. Heat-set varieties were bred to tolerate the high day and night temperatures that are common in the summer and early fall. In fact, many of these heat-set varieties set fruit well even under poor growing conditions from other external stresses such as extended cool and rainy periods.

What to do. For an existing planting, keep the plants healthy. Keep plants watered and maintain fertility levels. Control any pest problems that would add additional stress to the plant and make the condition worse. Once temperatures become more favorable, the plants will produce flowers and set fruit.



For the next year, try growing a heat-set variety. Many seed catalogs carry a wide range of these tomatoes. Read the descriptions carefully looking for phrases such as heat-set, hot-set, or heat-tolerant. These varieties often have references to heat tolerance in their names, such as 'Solar Fire.' Other heat-set varieties such as 'Bella Rosa,' 'Phoenix,' 'Red Bounty,' and 'Tribute' have performed well in Alabama even during extended periods of hot weather and have become a mainstay for many commercial tomato growers.

## Tips and Other Factors

- If you want to grow your favorite heirloom that does not do well in the summer heat, plant it in the early spring soon after the last frost.
- For mid to late-season production, plant heat-tolerant varieties to ensure that you have fruit.
- Support healthy plants by managing pests—scout daily.
- Avoid overwatering your tomatoes. Tomatoes need about 1 inch of water each week. Insufficient watering or drought stress can cause blossoms to abort.
- Avoid overfertilizing. Too much nitrogen fertilizer can cause excessive vegetative growth that can result in blossom drop or delays in flower development. Too much of any fertilizer can cause salt levels to increase around plants. These high salts levels can cause blossom drop and other plant problems. Get a soil test before you plant so you will know how much fertilizer to apply. For more information on soil testing, visit the [Soil, Forage, and Water Testing Laboratory website](#).
- Aside from the high temperatures discussed above, temperatures lower than 55 degrees F can inhibit fruit set.
- Make sure that the plants get at least 6 hours of full sun every day.



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