



VEGETABLE SERIES

TIMELY INFORMATION

Agriculture & Natural Resources

EXTENSION HORTICULTURE, 101 FUNCHESS HALL, AUBURN UNIVERSITY, AL 36849-5649

BLOSSOM DROP IN TOMATOES

Many of you have likely received phone calls or office visits from concerned tomato growers insisting that flowers on their tomato plants dry up and fall off without setting any fruit. Next, they are hoping that you have an answer for them that will stop this problem.

This condition is NOT related to any nutritional disorder, or any disease or insect damage. It is related to temperature. Despite the fact that tomatoes evolved in the tropics, flowering in tomato is sensitive to temperature. When day temperatures exceed 85°F and night temperatures exceed 72°F, tomato flowers will abort. An important factor involved with temperature is time of exposure. The longer the plants are exposed to these 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. It is interesting to note that although the combination of high day and night temperature causes blossom drop, high night temperatures alone can be detrimental to flowering even if day temperatures are not over 85°F.

Older or heirloom, home garden varieties are more sensitive to high temperatures than many of the newer hybrids that are presently available. When fruit do not set and all other conditions are otherwise favorable (sufficient water and fertilizer, good pest control, appropriate pH) plants generally

become vigorous and dark green. Even new hybrids, however, are susceptible to blossom drop. Commercial growers in the southeastern US have suffered with this problem for many years until the recent advent of “heat set” tomato varieties. These varieties have been bred for tolerance to high day and night temperatures common in the summer and early fall. In fact, many of these varieties set fruit under poor growing conditions – extended cool, rainy periods as well as during extended periods of hot weather.

What to do. For this year or for an existing planting, keep the plants healthy. Keep plants watered. Maintain fertility levels and control any pest problems as any additional stress will make the condition worse. The plants will produce flowers and set fruit when temperatures become more favorable.

For next year, try growing a “heat set” variety. Many seed catalogs carry a wide range of tomatoes. Read the descriptions carefully looking for phrases such as “heat set,” “hot set” or “heat tolerant.” Often these varieties have references to their heat tolerance in their names. Varieties such as ‘Mountain Crest’, ‘Sunbeam,’ ‘Sunmaster,’ ‘Suncrest,’ and ‘Sun Leaper’ have performed well in Alabama even during extended periods of hot weather and have become a mainstay for many of our commercial tomato growers.

J.M. Kemble, Extension Vegetable Specialist and associate Professor, Alabama Cooperative Extension System

Issued in furtherance of Cooperative Extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, and other related acts, in cooperation with the U.S. Department of Agriculture. The Alabama Cooperative Extension System (Alabama A&M University and Auburn University) offers educational programs, materials, and equal opportunity employment to all people without regard to race, color, national origin, religion, sex, age, veteran status, or disability.

TISVS-29-Mar-04