

## ALABAMA COOPERATIVE EXTENSION SYSTEM/ LIMESTONE COUNTY OFFICE

### The Garden Spot For week of July 13, 2009

#### Tomato Problems and Possible Answers

There have been many calls about flowers on tomato plants drying up and falling off without setting any fruit. There is an answer to this problem, but not necessarily a solution growers can control.

First the good news 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 degrees and night temperatures exceed 72 degrees F, tomato flowers will abort. An important factor involved with temperatures, the longer the conditions last, the more serious the effect on flowering. 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 degrees F.

Older or heirloom home garden varieties are more sensitive to high temperatures than many of the newer hybrids. When fruit do not set and all other conditions are favorable (sufficient water and fertilizer, good pest control appropriate pH) plants are generally vigorous and dark green. Even new hybrids, however, are susceptible to blossom drop.

**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 and garden centers carry many varieties 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 'Sunbeam,' 'Sunmaster,' 'Suncrest,' and 'Sun Leaper' have performed well in Alabama and have become a mainstay for many of our commercial tomato growers.

For those growers that are now harvesting tomatoes, there are some other flaws that are surfacing here in the middle of summer. Many of the cosmetic flaws found on the fruit to be harvested may be attributed to drastic changes in temperature and moisture levels during flowering and as well as during fruit development.

**Catfacing** and rough blossom scars are commonly seen on tomatoes giving them an imperfect appearance. *Catfacing* is the term used to describe fruit with deep indentations in the blossom end or fruit with significant distortions. These problems are more serious with large-fruited varieties. Unfortunately there is little that can be done for control of *catfacing*, except selecting varieties that are not prone to the problem.

**Cracking fruit** is another common environmental disorder on tomatoes. There are two distinct types of fruit cracking: radial and concentric. Cracking occurs when internal expansion is faster than the expansion of the epidermis, causing the outer skin to split. It occurs more often during rainy periods when the temperature is relatively high, especially when rains follow a long, dry period. Cracking can occur at all stages of fruit growth but as fruit mature they become more susceptible. Maintaining a uniform water supply throughout the growing season with drip irrigation and mulches will help reduce fruit cracks.

Other late season woes are probably from heat stress. Mature tomato plants suffering from such stress may produce small fruit, hold its fruit on the plant but not enlarge, or drop its flower blossoms. Regular watering and general care may help improve the situation but it may be best to start new young plants around mid summer for fall harvest rather than relying on the poor vigor of an old and depleted tomato plant.

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Catfacing on Tomatoes