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Hot Weather Tomato Problems

by Ted Caudle, "the Plant Doctor"

Tomatoes are the most popular home garden vegetable in the country, and now is a great time to review 3 big problems associated with hot summer weather.

Yellow-Shouldered Fruit

Yellow shoulder is a physiological disorder characterized by areas at the top (shoulder) of the fruit remaining yellow as the remainder of the fruit ripens and turns red. These yellow areas never ripen and the tissue below them is tough and poorly flavored. It is thought that both temperature and nutrition are involved in the development of yellow shoulder. High night temperatures (between 70F and 77F) retard, or prevent, the production of the red pigment lycopene. As 37% of the lycopene of a tomato is contained in its skin it is no wonder why tomatoes growing in excessively hot conditions produce poorly-colored fruit. Additionally, it has been found that tomatoes with yellow shoulder most often are deficient in potassium. When plant tissue levels drop from adequate (4-6%) to low (2-4%) yellow shoulders often develop, especially if night temperatures are high.

White Core

When under stressful growing conditions, tomato fruit can often develop a tough, white core in the center. The white tissue might be expressed only in the area of the fruit just beneath the stem, or in extreme cases throughout the entire depth of the fruit. Once again excessive heat and improper fertility seem to be related to the formation of white core. Malnourished plants with poor foliage cover tend to bear fruit exposed to the sun, thus adding to the problem of temperature stress on the fruit. As was the case with yellow shoulder, insufficient tissue potassium levels have been associated with white core development. Choosing newer varieties less prone to white core development, maintaining a fertility and moisture program that encourages good foliage cover and supplying ample amounts of potassium are best management practices for preventing this disorder.

Poor Fruit Set

High temperatures, especially if coupled with low humidity, hinder fruit set through failure of formation of viable pollen, after which fertilization cannot occur. Temperatures above 90F during the day and above 70F at night usually result in poor flowering and reduced or no fruit set. Research indicates that night temperature is likely more critical than day temperature with the optimal range for fruit set being 59F to 68F. Temperature alone cannot always be blamed for poor fruit set. A heavy fruit load combined with inadequate nutrition or moisture can reduce fruit set on flower clusters located in the middle to upper part of a tomato plant.

Renfrow Hardware has an experienced, knowledgeable staff ready to diagnose and make recommendations for the best management practices for all your garden growing needs.