Blossom-end rot is preventable

As summer heat sets in, tomatoes may show many disorders. One common fruit problem is blossom-end rot. In addition to tomato, blossom-end rot can cause problems in other crops, particularly peppers, eggplant and melons.

While it happens to some degree almost every year, the extended drought and now hot weather complete a recipe for an avalanche of blossom-end rot this summer.

Home gardeners sometimes confuse blossom-end rot with other diseases. The first indication of blossom-end rot is a slight discoloration occurring at the blossom-end (bottom) of the fruit. This area enlarges rapidly producing a brown or black sunken area. The skin over the affected area becomes dry and leathery.

Blossom end rot is caused by a shortage of calcium in the developing fruit. Calcium moves slowly in plants and even slower in the fruit, so deficiencies can occur even when there is adequate calcium in the soil.

As the plant takes up water, it takes up calcium from the soil. The plant is acting almost like a straw as it sucks water from the soil and moves it through the plant and out through pore-like structures in the leaves. Under hot, dry conditions, the plant is taking up great amounts of water, which is quickly transpired through the leaves to keep the plant alive. Unfortunately, this doesn’t allow for a lot of lateral flow of calcium to the developing fruit. And they can become calcium deficient.

The disorder may be more serious on the windward side of the garden and on staked tomatoes rather then on unstaked or bushy plants.

By the time you see blossom-end rot on the tomato, it’s too late to do anything for that fruit. It’s best to remove fruit showing symptoms when the problem is first seen. This practice will reduce the drain of food and nutrient materials which otherwise would be available for development of other non-affected fruit.
It’s best to prevent blossom-end rot by following best management practices. Maintain a soil pH around 6.4. Be sure to keep uniform soil moisture by irrigating properly and by mulching. Avoid heavy applications of nitrogen.

It’s especially important to follow a recommended program of fertility and avoid excessive application of nitrogen fertilizer. Excess nitrogen will promote leaf growth and divert calcium away from developing fruit and into the rapidly expanding leaves.

Use a nitrate form of nitrogen and keep ammonium nitrogen as a minor component. Ammoniaca nitrogen may increase blossom-end rot as excess ammonium ions reduce calcium uptake.

Once you get blossom-end rot, the biggest factor is moisture. It's hard to keep the soil moist when it's this dry. And too much water can be just as bad for blossom-end rot as too little. As a general rule, during the growing season, tomato plants need at least one inch of water per week in the form of rain or supplemental irrigation.

A consistent supply of moisture is the best course of action. Avoid cycles of very wet followed by excessive drying. This will help keep calcium flowing into the plant.

If blossom-end rot becomes severe, foliar applications of calcium can be used but they are not always effective. Sprays of calcium chloride are readily available at garden supply stores under a variety of trade names. Begin spraying as soon as symptoms first appear.

Be sure to follow label directions carefully. Overdosing plants with calcium chloride may result in leaf burn. Spray on cloudy days or wait until the sun is low.

Just remember, foliar treatment is not a substitute for proper treatment of the soil to maintain adequate supplies of water and calcium.

Theresa Friday is the Residential Horticulture Extension Agent for Santa Rosa County. The use of trade names, if used in this article, is solely for the purpose of providing specific information. It is not a guarantee, warranty, or endorsement of the product name(s) and does not signify that they are approved to the exclusion of others.

For additional information about all of the county extension services and other articles,

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information, and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions, or affiliations. U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A&M University Cooperative Extension Program, and Boards of County Commissioners Cooperating.
of interest go to: http://www.santarosa.fl.gov/extension