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ALABAMA A&M AND AUBURN UNIVERSITIES

Horticulture Notes

Blossom-End Rot in Tomatoes: Causes and Prevention

Tomato growers must take care to avoid blossom-end rot (BER), a disorder that can dramatically reduce both quality and quantity of tomato fruit. By using a few simple irrigation and fertilization practices, damage due to BER can be prevented or reduced.

Blossom-end rot is a physiological disorder, **not a disease.** It is easily identified as a brown, leathery rot developing on or near the blossom-end of the fruit. It starts with a dry brown legion the size of a dime, generally increasing in diameter as the condition worsens. In time, lesions often become covered with a black mold.

BER is caused by calcium deficiency, usually induced by fluctuations in the plant's water supply. Because calcium is not a highly "mobile" element in the plant, even brief changes in the water supply can cause BER. Droughty soil or damage to the roots from excessive or improper cultivation (severe root pruning) can restrict water intake preventing the plants from getting the calcium that they need. Also, if plants are growing in highly acidic soil or are getting too much water from either heavy rain, over-irrigation, or high relative humidity, they can develop calcium deficiency and BER.

To control BER, take the following steps:

• Keep the pH of the soil at 6.0 to 6.5. Perform a soil test and apply the recommended rate of lime, using dolomitic or high-calcium limestone. Be sure to apply lime 2 to 4 months before planting tomatoes.

• Apply the required amount of fertilizer when necessary based on soil test results for tomato. Applying too much fertilizer at one time can induce BER. Following soil test recommendations is the surest way to fertilize properly.

• Use mulches to conserve moisture. Use pine straw, straw, decomposed sawdust, plastic or newspapers. Mulches conserve soil moisture and reduce incidence of BER.

• Give your plants adequate water. Tomato plants need about 1.5 inches of water per week during fruiting. Extreme fluctuations in soil moisture can result in a greater incidence of BER.

• If your plants develop BER, spray them with a calcium solution at the rate of four pounds of calcium nitrate or calcium chloride per 100 gallons of water (or four level tablespoons per gallon of water). Be careful with calcium chloride. If day temperatures are greater than 85 to 90°F, calcium chloride can burn plants. Under high temperatures, use calcium nitrate. You

should spray 2 or 3 times each week, beginning when the second fruit clusters are blooming. Spraying calcium is not a substitute for proper irrigation and fertility management.

• Some varieties of tomato tend to be more sensitive to conditions that cause BER. Try growing several varieties and keep notes as to their performance.

• If you experience severe problems with BER, you should remove the infected fruits. Once a fruit develops BER it will not re-grow or repair the infected area. Remove the fruit, otherwise the damaged area could serve as an entry point for disease-causing bacteria or fungi.

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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