

Plant Diseases

Blossom-end Rot

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Blossom-end rot is a common problem of peppers, tomatoes and watermelons. It is most often seen in home gardens, but has been quite a factor in droughty years in commercial plantings of these crops.

Symptoms

On tomatoes, blossom-end rot begins as a light-colored area on the blossom end of the fruit. The affected area enlarges and darkens, sometimes involving up to half the fruit surface. The affected tissue becomes blackened, sunken and leathery (Figure 1). The skin of the fruit is often not broken, but remains intact. Affected fruit may ripen prematurely.

On peppers, the rot is tan and may be mistaken for sun scald. Sun scald, however, results in a bleached, white area on the fruit. On bell pepper, the rot usually occurs on the tip of the lobes. On pimento pepper, the side of the pod near the tip is affected. Secondary fungi may cause the tan area to turn dark.



Figure 1. Blossom-end rot on tomato.

Cause

Blossom-end rot is caused by a calcium deficiency in the developing fruit. This problem results from low levels of calcium in the soil or from a lack of soil moisture. Uptake of calcium from the soil depends on adequate moisture moving into the roots. Any condition that reduces roots' ability to absorb water, and hence, take up calcium, can cause blossom-end rot. Heavy fertilization, resulting in an



accumulation of ammonium, potassium, sodium or magnesium salts in the root zone, often increases the incidence of blossom-end rot by reducing calcium uptake. Also, excessive vegetative growth demands calcium, and may divert it away for the fruit.

Control

Blossom-end rot is often a passing problem, occurring only on the first and second clusters of fruit. Succeeding clusters then may show no problems, with no action taken by the grower. The following preventive steps should be taken to minimize losses, however.

Soils on which melons, peppers or tomatoes are to be grown should be tested and limed according to soil test recommendations. Applying lime or gypsum can provide calcium. Lime corrects both low pH and low calcium levels, while gypsum only affects calcium level.

Calcium chloride sprays applied to the foliage may help prevent blossom-end rot on developing fruit. Calcium chloride is applied at four pounds per 100 gallons/acre four times on a weekly schedule, beginning when symptoms first appear. Calcium chloride solutions are also available on a small scale for garden use. Application is suggested only for tomatoes. Calcium chloride can be applied with insecticide-fungicide spray combinations.

Maintain an adequate moisture level in the soil by applying mulch. Provide supplemental water during drought periods where feasible. Try to prevent excessively wet soil conditions by avoiding poorly drained soils and by planting on raised beds, if necessary.

Avoid excessive rates of ammoniacal nitrogen fertilizer. Damage to the roots by deep cultivation should also be avoided, especially after fruit set and in dry weather.

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