



AVRDC - The World Vegetable Center

Fact Sheet

Tomato Disorders

Blossom End Rot

Found worldwide

Symptoms

This is a non-infectious disease that is associated with environmental conditions. It can occur at any growth stage but often is found on the first fruit clusters. At the earliest stage, light brown patches appear at the blossom end on young fruits that are a third or more developed. These patches darken and an area of sunken black leathery tissue forms that is dry and firm. An area up to half the fruit may be affected. The dead tissue may be invaded by secondary organisms, which causes a soft fruit rot. Internal blackening can be found when the fruit is cut open.

Conditions for Disease Development

This disorder is due to a localized deficiency of calcium



in the fruit induced by unfavorable growing conditions, particularly drought. The disorder develops when a rapidly growing fruit is suddenly unable to obtain the calcium needed for cell growth. This occurs when there are fluctuations in the water supply during periods of rapid plant growth, particularly if long periods of hot, dry weather are followed by excess availability of water. The plant is unable to absorb calcium quickly enough even though it may be available in the soil.

Other factors that predispose the plant to blossom end rot are high humidity, damage to the roots, use of ammonium nitrate which reduces calcium uptake, low potassium and calcium levels, high levels of magnesium and nitrogen in the soil, and high soil salinity which reduces uptake of calcium.

Control

Ensure steady plant growth and a constant moisture level in the soil through careful irrigation. Enrich the soil with organic matter as this will help the soil to retain moisture during dry periods. Use mulches that conserve soil moisture to avoid fluctuating moisture levels in the soil especially during the flowering and fruiting stages.

Provide balanced fertilization and avoid root damage of young plants. Keep cultivation shallow to avoid destroying feeder roots. Test the soil for calcium levels; if found deficient, apply dolomitic or high-calcium limestone 2–4 months before planting.

Apply foliar sprays of calcium chloride or calcium nitrate prior to onset of symptoms when fruit are about 2.5 cm in diameter. If available, use varieties that are less susceptible to the disorder.

How to Identify Blossom End Rot



Brown patches develop on blossom end of fruit. Patches become black, sunken and leathery.

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