

BLOSSOM END ROT OF TOMATOES – WHAT IT IS, WHAT IT IS NOT

If you have ever grown tomatoes, you have probably experienced the heartbreak of what is called “blossom end rot”. Blossom end rot is not a disease, but a physiological disorder related to a localized calcium deficiency and uneven water availability as the fruit develops. As we begin to get into our fall tomato growing season, let’s take a closer look at this common problem.

Blossom end rot begins as a water-soaked patch at the bloom end of the tomato fruit. It can appear on the side of the fruit or sometimes remains unseen on the inside. As time progresses, the damaged patches enlarge turning brown and shriveled and eventually black in color. Secondary opportunistic microorganisms such as fungi often take advantage of the damaged tissue as a food source, but are not a cause of this problem. While we are only focusing on tomatoes in this article, keep in mind that other tomato relatives such as eggplants and peppers can also develop blossom end rot.

As mentioned above, the main cause of blossom end rot is a water/calcium imbalance. While calcium may get to the leaves in sufficient amounts when water is scarce or uneven in availability, this mineral may not get to the fruit in sufficient amounts to supply the rapidly growing area found at the blossom end. As a result, the tissue at the end of the fruit does not get enough calcium and collapses and rots.

So the cure for blossom end rot does not involve fungicides as it is not caused by a pathogen. What

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can you do to reduce the incidence of blossom end rot? To begin, use healthy transplants with good roots that can easily uptake nutrients. Also add plenty of organic matter to the soil to increase the soil's ability to hold water. Make sure to select a planting site that has well-drained soil so that root rots will not occur. Keep your watering of tomatoes even and regular. Tomato plants will need about one-inch of water a week. Use compost as mulch to help conserve water. A soil pH of 6.5 to 6.7 is best for tomatoes in regards to calcium uptake by the plant. Most of our Florida soils already have plenty of calcium, but a soil test could confirm the levels present in your soil. Sometimes too much nitrogen can affect calcium uptake. High salt levels or too much

potassium or magnesium can also result in low calcium levels.

Cultural practices such as weeding, pruning or other mechanical damage can affect the roots and damage the plant's ability to take up calcium. When you weed and hoe around your tomato plants, get no closer than one foot so that the roots are not damaged. Nematode activity can also add to root damage and the subsequent lack of calcium absorption. Select nematode resistant varieties of tomatoes, add organic matter and rotate crops in order to suppress nematode damage.

Some cultivars of tomatoes are simply less susceptible to blossom end rot. Try varieties such as 'Flora-Dade', 'Better Boy', 'Early Girl' and 'Jet Star' if blossom end rot has been a problem in the past.

Blossom end rot can be limited with some understanding of the actual cause of this calcium/water imbalance and some cultural practices that work.

Resources:

- Culbert, D., (2008) *Got Rot? Okeechobee County UF/IFAS Extension Service.*

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