Gardening Basics

Blossom End Rot

Do you have mushy black spots on the bottom of your tomatoes? It is blossom end rot, a disorder of tomato and pepper fruits caused by a deficiency of calcium, characterized by decay at the blossom end (bottom) of the fruit.

Symptoms

Water-soaked spots appear on the blossom end of the fruit. The tissue breaks down quickly and becomes dark brown to black. The area can be mushy or have a leather texture.



Blossom end rot, Cheryl Huckabee, CC BY-NC-SA 4.0, Denton County MGA

Causes

Insufficient calcium in the tissues of the tomato causes blossom end rot. Calcium is pulled from the soil through the plant's roots. Actively growing parts of the tomato plant need a continuous supply of calcium to prevent blossom end rot. High salt content in soil or water can affect the uptake of calcium and other nutrients. For example, if baking soda is used to reduce fungus, it introduces salt to the soil. Therefore, never use baking soda just before plant tomatoes. Soil and water testing is available from Texas A&M AgriLife Extension: https://soiltesting.tamu.edu/

Inconsistent soil moisture is linked as a cause of blossom end rot. Consistently moist soil allows the tomato plant to pull the calcium from the soil through its roots into the tissues and fruit.

Prevention

Tomato plants do best in well-drained soil high in organic matter. Have your soil tested and apply fertilizer and lime as recommended in the analysis results.

Water your plants at least 1 inch per week, depending on rainfall. Watering with a soaker hose or drip irrigation is best to keep soil from splashing on the leaves, which can lead to fungal diseases, and is undoubtedly more efficient. Apply 2-4" of mulch to the soil around the base of your plants. The mulch will help hold moisture in and keep weeds at bay.
Remove all infected fruit. Blossom end rot on the fruit cannot be stopped once it begins.
Repeated applications of a calcium chloride spray on the foliage and fruit can be helpful.
Texas A&M's Aggie Horticulture has a terrific site devoted to identifying and solving problems with growing tomatoes: https://aggie-horticulture.tamu.edu/vegetable/problem-solvers/tomato-problem-solver/

Resources

"Blossom-end Rot of Tomato Tip Sheet," Michigan State University Extension, (accessed 8 Nov 2026) https://www.canr.msu.edu/resources/blossom_end_rot_tip_sheet

Provin, Tony and J.L. Pitt, "Managing Soil Salinity", Texas Agricultural Extension Service, (accessed 8 Nov 2026): https://peanut.tamu.edu/files/2012/04/SoilSalinity01_5.pdf

"Tomato," Texas Plant Disease Handbook, Texas A&M AgriLife Extension, (accessed 8 Nov 2026): https://plantdiseasehandbook.tamu.edu/food-crops/vegetable-crops/tomato/

"Tomato: Blossom End Rot", Washington State University, SWU CAHNRS and SWU Extension Hortsense, (accessed 8 Nov 2026): https://hortsense.cahnrs.wsu.edu/fact-sheet/tomato-blossom-end-rot/

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