

*from the* Bedford Extension Master Gardener  
**HELP DESK**

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## Blossom End Rot

The client called in early June with what appeared to be blossom end rot on squash. Results from a soil test kit purchased from Lowes indicated a pH of 7-8 and a nitrogen level between low and medium. The client requested suggestions on how to improve squash going forward.

### DIAGNOSIS / RECOMMENDATION

Squash needs a pH of 6 to 7.5 to grow well, so the pH in the soil may be too high. As with other crops, blossom rot is largely a result of inconsistent watering or moisture in soil [1], [2], [3], [4]. That results in a calcium deficiency, which appears as blossom end rot.

The first recommendation was to “obtain a complete soil sample analysis from Virginia Tech and then amend soil as recommended. Next, mulch and water plants properly to ensure consistent and proper soil moisture. It also is a good idea to limit use of high ammonia fertilizers and fresh manure that may stimulate growth and add additional salts, which also limits calcium uptake.” Even though the final recommendation to the client was to “add calcium nitrate to the soil or spray with 1% calcium chloride solution to boost the calcium available to developing fruit,” [5] there are certain caveats that might limit the usefulness of calcium chloride solutions.



Photo: squash with Blossom End Rot  
<https://www.ces.ncsu.edu/wp-content/uploads/2013/05/SquashBER3>

### ADDITIONAL INFORMATION

As the growing season moves into June, evidence of nutrient deficiencies begins to appear along with the rapid plant growth. Blossom end rot, a physiological condition, shows up when plants are growing rapidly and first fruit are developing.

Anytime the absorption or movement of calcium into the plant is slowed, blossom end rot will likely develop. Blossom end rot can be a sporadic or persistent problem, depending on what is preventing calcium from reaching the developing fruits. Blossom end rot is most often caused by low soil pH or plant stress due to unusually cool or hot

weather, drought, or wet soil conditions. Plants that are growing very quickly often cannot move enough calcium into fruits to support proper development, leading to blossom end rot. [1]



Photo: tomatoes with Blossom End Rot

<http://extension.missouri.edu/news/DisplayStory.aspx?N=495>

For the current year if blossom end rot does develop, recommendations include removing any affected fruit, as it will not recover. Spraying with a calcium chloride solution may offer some temporary relief. However, because these types of solutions are somewhat caustic, they should be used no more than once a week and applied during the cooler part of the day to avoid leaf damage. Probably the most effective step to take is regular and deep watering, as long as calcium levels in the soil are adequate. [2]

The best approach is to plan for next year, with proper soil and water management. [1], [2], [3], [4]. A soil test is important because there actually may be sufficient calcium in the soil but the availability may be limited, either due to insufficient water or another factor limiting its uptake (such as too low or too high pH). Insufficient calcium along with insufficient water can result in blossom end rot. Maintaining proper soil fertility will help prevent blossom end rot and help ensure overall proper plant health, resulting in a better harvest.

## RESOURCE LINKS

- [1] <https://pender.ces.ncsu.edu/2013/05/why-are-my-squash-rotting/>
- [2] <https://extension.umd.edu/growit/blossom-end-rot-vegetables>
- [3] <http://extension.psu.edu/plants/vegetable-fruit/news/2016/blossom-end-rot>
- [4] <http://www.clemson.edu/extension/hgic/plants/vegetables/crops/hgic1321.html>
- [5] <http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/advice-tips-resources/pests-and-problems/environmental/blossom-end-rot/blossom-end-rot-of-cucurbits.aspx>

*All resource links accessed April 17, 2017*

Answers provided herein were based on specific situations and growing conditions.

These recommendations may or may not be appropriate for all circumstances.

For specific recommendations for your particular situation please contact your local Cooperative Extension Office.

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### MASTER GARDENER HELP DESK

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