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May 23, 2022

Plant Health Clinic Disease Note

Issue 13

This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture.

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UAEX Plant Health Clinic

Crown Gall

Crown gall is a serious disease of roots, stems, and crowns on a wide range of plants. Some of the most common hosts are apples grapes, plums, roses, blackberries, raspberries, muscadines, hollies, euonymus, and numerous other trees and shrubs. Crown gall is caused by the bacterium *Agrobacterium tumefaciens*. The bacteria enter through wounds made by animals, insects, grafting, pruning, transplanting, and cultivation tools. Rough, knobby galls develop on the crown at the soil line. Lateral roots and support roots may also develop galls. Some aerial galls may develop on heavily infected plants. Newly formed galls are light tan-colored and soft. Older galls become hard, woody, and dark brown to black. Galls vary in size from a few inches to more than a foot across. A few small galls do not seriously impact the plant. However, large numbers of galls can cause stunting, chlorosis, and eventual plant death. Infected plants in orchards and landscapes should be pulled up and destroyed. Care should be taken to avoid injury to plant when mowing or weed eating around them. Growing non-susceptible crops such as grasses for three years will nearly eliminate the bacterium from the soil. In states where it is labeled, competing, non-pathogenic strains of agrobacterium may be applied as a preventative. NOGALL is effective.

Take Aways:

- Pull up infected plants.
- Do not plant susceptible species in that spot for three years.
- Avoid injuring plants with tools and weed eaters.

Euonymus Crown Gall-

Agrobacterium tumefaciens

Photo by Olivia Foster, University of Arkansas Cooperative Extension

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Blackberry Crown Gall-

Agrobacterium tumefaciens

Photo by Allen Bates, formerly University of Arkansas Cooperative Extension