



Arkansas Plant Health Clinic Newsletter

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Tulip

Phytophthora Rot

Several species of *Phytophthora* attack tulip bulbs. Bulbs that are planted in heavy, continually wet soils are most susceptible to infection. The zoospores of the pathogen are attracted to the bulb as soon as it produces roots. *Phytophthora* moves from the roots through the basal plate of the flowering stem. If this occurs early, no stem is produced. If infection of the flower stalk occurs after the stalk is up, no flower is produced because the stalk becomes rotted at the base (shanking). If a flower is produced, it will be of poor quality. The entire bulb becomes colonized with *Phytophthora* and rots in the ground. It is very important that tulips be planted in soils with excellent drainage. They should NOT be planted in a bed with a history of the disease. There are no chemical treatments effective for bulbs already rotted. Homeowners may use Actinovate Lawn and Garden Biological Fungicide as a preventative but will probably have to order it over the internet. Commercial growers may use Subdue Maxx, or Aliette, or Segway, or Stature, or Banrot, or Fenstop, or

Hurricane, or Adorn, or Segovis, or Insignia, or Alude, or Compass O, or Strike Plus.

Tulip *Phytophthora* Bulb and Shank Rot-*Phytophthora* sp.



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Tulip Fire

Tulip Fire, caused by the fungus *Botrytis tulipae*, only affects tulips. Leaves newly emerging from the soil may be distorted and twisted and wither. If leaves survive emergence, they may have brown lesions that under wet environmental conditions enlarge to large blighted scorched areas, hence the common name "Tulip Fire." Small oval spots may appear on flowers. During wet weather



damaged leaves, stems, and flowers will become covered with a fuzzy, grey mycelial mat. Eventually, small black sclerotia, (seed-like structures) form on the dead tissue. These are the survival stage of the fungus and can persist for long periods of time in the soil and on debris. Tulips should not be planted for at least three years in a site where the disease has occurred. All bulbs should be checked carefully for signs of decay and the small black sclerotia. This is a very difficult disease to control, and chemicals are not always effective. It is more effective to plant in a different location. Do not save bulbs from an infected crop.

Tulip Fire-*Botrytis tulipae*



Photo by Sandra Jenson, Cornell University, Bugnet.org

Elaeagnus

Canker diseases are very difficult to manage in the landscape. Trees and shrubs are more susceptible to cankers when stressed by any number of environmental conditions. Stresses

include drought, or flooding, freeze injury, sunburn, nutritional deficiencies, transplant shock, and mechanical injury from weed eaters and mowers, among others. Fungi in the Genus *Botryosphaeria* are a common cause of cankers of *Elaeagnus*. Symptoms are chlorosis and wilting of individual stems and branches. Lesions with gummy exudates are diagnostic. Cankered tissue should be pruned out well below the canker. Do this during dry weather conditions. Chemicals are not usually too effective. The best preventative is to provide good growing conditions for the plant.

Elaeagnus Botryosphaeria Canker-*Botryosphaeria dothidea*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Elaeagnus Botryosphaeria Canker-*Botryosphaeria dothidea*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Herbicide Damage

We are getting plant samples from lawns, greenhouses, and cold frames with herbicide damage. Many growers do not realize how sensitive growing plants are to herbicides. Some herbicides such as glyphosate (Roundup) can drift over long distances to affect tender plants. Roundup, however, does not have any soil activity. Note that in tomato, Roundup causes bleaching at the base of leaflets. This sign of Roundup damage also occurs in dogwood. In wheat, Roundup causes shortened flags, severe leaf twisting, stuck in the boot, and bleached interveinal areas. Other classes of herbicides such as the phenoxy

herbicides (2-4-d), also kill by direct contact, but have a long residual in soil. Badly affected plants will not grow, flower, or fruit properly even if they survive the initial exposure. Symptoms are leaf curling, twisting, chlorosis, strapping, and stunting.

Tomato Roundup Damage-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Dogwood Roundup Damage-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Rose Roundup Damage-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Green Bean Phenoxy Herbicide Damage-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Coleus Phenoxy Herbicide Damage-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Squash Phenoxy Herbicide Damage-Abiotic



Photo by Olivia Foster, University of Arkansas Cooperative Extension



Squash Phenoxy Herbicide Damage-Abiotic



**Photo by Olivia Foster, University of Arkansas
Cooperative Extension**

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

"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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