



Arkansas Plant Health Clinic Newsletter

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Pine

Pine Aster Rust is one of the most common rusts found on pine. The causal agent is the fungus *Coleosporium asterum*, just one of over 20 species of *Coleosporium* that cause rust diseases on pine. *Coleosporium asterum* infects both 2- and 3-needle pines, including popular landscape species such as Austrian and Scots pines. Alternate hosts include aster, goldenrod, and some other Compositae species. Pine needles become infected in late summer to early fall from rust basidiospores produced on an alternate host.

In the spring, yellow spots develop on the needles. White, tongue-like fruiting bodies called aecia also grow from these spots. They burst, releasing bright orange spores that re-infect the alternate host. Uredinial pustules form on the alternate host producing more spores to infect that host.

In late summer, telia develop on the margins of the uredinia. Basidiospores are produced which infect pine needles, and the disease cycle begins anew.

An important control method is good weed control, removing the alternate hosts either by mowing or herbicides. This breaks the disease cycle. For trees that are small enough to make

spraying practical, homeowners may use a fungicide containing azoxystrobin, or propiconazole, or triadimefon, or myclobutanil, or flutolanil.

Pine Aster Rust-*Coleosporium asterum*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension



Pine Aster Rust aeciospores- *Coleosporium asterum*

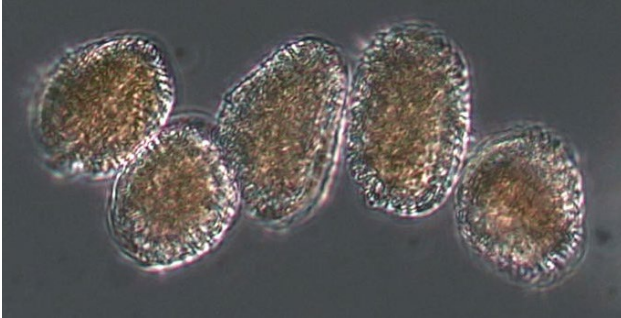


Photo by Sherrie Smith, University of Arkansas
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Herbicide Damage

Every year, the Plant Health Clinic receives samples suffering from herbicide damage. Vegetables, fruits, and ornamentals are all quite sensitive to both phenoxy-based herbicides, such as 2,4-D, and to glyphosate damage (Roundup). Roundup is not your friend in the garden. It will drift up to 1500 ft (460m) across the yard when there is a breeze. A common symptom of Roundup damage to tomatoes is bleached white to yellow areas at the base of leaflets. Strap-like leaves, witch's brooms, and leaf curling are some of the symptoms on other species. Roundup is systemic; so, perennial plants not killed outright will have damage symptoms again the following season. Large doses of the herbicide will, of course, kill the plant. Phenoxy-based herbicides such as 2,4-D and Grazon cause extreme twisting, distortion, and leaf curl.

Tomato Phenoxy Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas
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Green Bean Phenoxy Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Tomato Roundup Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Collards Phenoxy Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Blackberry Roundup Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Pine Roundup Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Rose Roundup Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Dogwood Roundup Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Rose Roundup Injury-Abiotic



Photo by Sherrie Smith, University of Arkansas
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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.

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Peony Roundup Injury-Abiotic



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