



Arkansas Plant Health Clinic Newsletter

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Soybean

Field conditions have been favorable for the development of Downy Mildew, caused by *Peronospora manshurica*. We see this soybean disease every season. The beginning symptoms are small, light green spots on the upper leaf surfaces. The spots become pale to bright yellow and may coalesce into large brown irregular lesions. Under wet, humid conditions, tan to gray tufts of fungal growth appears on lower leaf areas corresponding to the upper leaf spots. Rarely the disease is severe enough to cause defoliation. Pods and seeds may also be infected. Downy Mildew overwinters on plant debris and seeds. Use resistant cultivars and rotate out of beans for a year.

Soybean Downy Mildew- *Peronospora manshurica*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Soybean Downy Mildew- *Peronospora manshurica*



Photo by Sherrie Smith, University of Arkansas
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Oak

Fusiform Rust caused by the fungus *Cronartium quercuum* f.sp. *fusiforme* may be found on 32 species of pine and 33 species of oak. It requires both oak and pine to complete its life cycle. Symptoms on oak leaves are small necrotic or chlorotic areas on upper leaf surfaces. On the underside of the leaves, hair-like telial structures may be visible. Uredinial pustules exude masses of bright yellow spores. All spores, which infect both pine and oak, are primarily windborne. High humidity during spore dissemination increases the incidence of infection. Hard pines are more susceptible than soft pines. Jack, Scotch, Austrian, Pitch, Loblolly and Shortleaf are susceptible. Mugho pines, often planted in the home landscape, can also become infected. Infection results in



Sherrie Smith
Keiddy Urrea

the formation of spherical galls, which eventually surround the stem. The galls disrupt the sap flow, often girdling and killing the part of the tree above it. Trees are greatly weakened and subject to wind damage, with young saplings often killed outright. Treatment consists of pruning out the galls on nearby pines and destroying them. Chemicals are not usually effective.

Oak Fusiform Rust (telia lower leaf surfaces)-*Cronartium quercuum* f.sp. *fusiforme*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Oak Fusiform Rust (urediniospores lower leaf surfaces)-*Cronartium quercuum* f.sp. *fusiforme*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Oak Fusiform Rust (upper leaf surface)-*Cronartium quercuum* f.sp. *fusiforme*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Pine Fusiform Rust gall-*Cronartium quercuum* f.sp. *fusiforme*



Photo by Mike McClintock, University of Arkansas Cooperative Extension

Pecan

The larvae of the hickory shuck worm, *Cydia caryana*, can cause significant damage and yield loss to pecan crops. The adult is a nocturnal inconspicuous small gray to smoky black moth approximately 3/8 inch long with a 1/2-inch wingspan. Adult moths emerge from the previous year's shucks in the spring, mate, and lay eggs on newly developing pecan or hickory nutlets, or phylloxera galls. Their feeding activity causes the little pecans to drop. The second-generation feeds on larger nuts, also causing premature nut drop. The third generation does the most damage, mining the nuts, reducing nut fill, and causing the shucks to cling to the shell. Raking up fallen nuts in the fall helps to control overwintering shuck worms. Trees should be sprayed at half-shell hardening and repeated at 2-week intervals until shuck split. Asana XL, Belt, Dimilin 2F, Intrepid 2 F, Lorsban 4 E, Mustang Max, Spin Tor, warrior, and Entrust are labeled for control.

Pecan Shuck Worm damage-*Cydia caryana*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Pecan Shuck Worm damage- *Cydia caryana*



**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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