

Entomology & Plant Pathology Weekly Review, May 15

Indiana Department of Natural Resources sent this bulletin at 05/15/2024 08:01 AM EDT



Weekly Review for May 15, 2024

This informal report by the Division of Entomology & Plant Pathology is a commentary on insects, diseases, and curiosities division staff encounter on a week-to-week basis. Comments and questions about this report are welcome and can be sent to your respective Inspector.

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Angela Rust (Nursery Inspector & Compliance Officer) - ARust@dnr.IN.gov

I wanted to make a clarification on the post under my name for the last weekly review posted May 9. There is a multiple level review process that is conducted with this weekly review report before it reaches our subscribers. On occasion an edit review may occur from outside of our division that may accidentally change the accuracy or intent of what was written by the inspector. I wanted to get posted my original statement with regards to weevil feeding damage on ornamentals and control. My original statement was that *beneficial nematodes are commercially available to control root feeding larvae or insecticides can be applied to target adults when notching damage appears on leaves*. Beneficial nematodes can not be used for control of adults.

I have not seen much last week during inspections but generally the fungal problems are starting to show up due to the moisture and humidity in this area. Early in the season plants are more closely spaced and a bit crowded and may not be getting proper air circulation. This also contributes to the development of fungal problems. I have included a photo of mealybug on Schefflera.



Photo 1 – Mealybug on Schefflera

Last week our division completed two aerial treatments for spongy moth in Adams and Wabash counties in northern Indiana. These treatments were with Btk and targeted early instar spongy moth caterpillars. Spongy moth treatments using mating disruption are scheduled tentatively for the third week of June in additional counties in northern Indiana.

Diane Turner (Nursery Inspector & Compliance Officer) – DTurner2@dnr.IN.gov

As Indiana dealer inspections ramp up this spring in combination with humid weather conditions, I am beginning to see a greater variety of plant diseases during inspections. Attached is a photo of the beginning stages of cedar-apple rust on *Malus* 'Honeygold'. The causal agent *Gymnosporangium juniperi-virginianae*, requires two hosts: apple and red cedar or juniper to complete its lifecycle. This disease is usually non-injurious on redcedar and juniper, however the symptoms can be significant and damaging on apples. Early season leaf spots caused by cedar-apple rust are orange in color and may vary in size. Small, orange, or dark-colored, sporulating pustules develop on the spots on the upper side of the leaf later in the season.



Photo 2 – Cedar-apple rust on 'Honeygold' apple

While scanning a garden center this week the glistening honeydew on the leaves of a group of swamp white oak trees caught my eye. After a closer inspection, I noticed a colony of what are likely *Myzocallis* aphids feeding on the underside of the leaves. *Myzocallis* aphids are commonly found on oaks; therefore, they are sometimes called “oak aphids.” These aphids are known to feed heavily on the sap of their preferred plants, shedding their liquid excrement onto the leaf surfaces below making a sticky mess.



Photo 3 – Aphids on swamp white oak



Photo 4 – Aphid honeydew on swamp white oak

Last week during a nursery dealer inspection I found fireblight on pear and apple trees. Most of the trees they had in stock from the same supplier had symptoms, some severe enough that the tree was near death, some just starting to show. Fireblight is a bacterial disease causing blossoms and shoots to wilt and die back, often with a characteristic shepherd's crook shape. Stem cankers are also present and as the bacterial infection progresses, the whole plant can acquire a burned, blighted appearance.



Photo 5 – Fireblight symptoms



Photo 6 – Fireblight canker. The arrow marks the boundary between healthy tissue (below) and diseased tissue (above)

It seems like every year around this time I find peonies with tobacco rattle virus (TRV) at the same box stores from the same handful of out-of-state suppliers and this year was no different. Usually I see a few leaves with ringspots or patterns of wavy lines but sometimes all the leaves are showing symptoms. I haven't noticed any stunting or reduced vigor in peonies with TRV, but even so there are a few reasons to dispose of plants with this virus. Once a plant is infected, there is no treatment available. The virus has hundreds of known host plants including many popular perennials, annuals, and vegetable crops, and can potentially be spread through mechanical means or by some species of nematode.



Photo 7 – Peony with tobacco rattle virus symptoms



Photo 8 – Peony with tobacco rattle virus symptoms

Will Drews (Nursery Inspector & Compliance Officer) - WDrews@dnr.IN.gov

I've been spotting a lot of Cedar Apple Rust and relatives (aka Gymnosporangium rusts) in the landscape and nursery trade in the past couple of weeks. There are three common Gymnosporangium rust diseases here in Indiana, including Cedar Apple Rust (*Gymnosporangium juniperi-virginianae*),

Cedar Hawthorn Rust (*G. globosum*), and Cedar Quince Rust (*G. clavipes*). Each of these rust species starts out developing on cedars (*Juniperus* spp.) and then moves to an alternate host in the Rose Family to complete its life cycle.

Cedar Apple Rust is probably the most commonly known of the three. It develops into round to kidney shaped structures on the twigs of cedars with numerous thin orange telial horns. It then will affect the leaves of mainly apples and crabapples but occasionally can be found on other Rose Family woody species.

Cedar Hawthorn Rust is like Cedar Apple but with a couple of differences. It develops as slightly smaller, round to semi-circular masses on the twigs of cedars with thicker orange telial horns than Cedar Apple Rust. It then will affect mainly hawthorns, apples, and crabapples but occasionally can be found on other Rose Family tree species like pear, quince, and serviceberries. Mostly leaves are impacted on the deciduous tree hosts, but occasionally fruits, stems and thorns can be affected as well.

Cedar Quince Rust is the most unique of the three. It develops as orange blobs on the twigs and branches of cedars. It then will affect mainly hawthorn, quince, and serviceberries (normally a little later in the growing season than the previous two rusts). Mostly fruits, thorns, and twigs are impacted on the deciduous tree hosts, but occasionally leaves are affected as well.

If possible, the best way to deal with Gymnosporangium rusts is prevention. Planting resistant varieties is the most effective way to deal with the disease if cedars (*Juniperus* spp.) are in the area. In addition, removing one of the alternate hosts from the landscape can work (however, be aware that spores can blow in from a radius of a couple miles away). Manual management options involve pruning out areas in trees with rust symptoms, but make sure to disinfect after each cut. There are some fungicides approved for treating Gymnosporangium rusts as well, but that should be used more as a last resort.

For more information, check out this Purdue Extension publication: [Cedar Apple and Related Rusts on Apples in the Home Landscape](#).



Photo 9 – Gymnosporangium rust on Eastern Red Cedar (*Juniperus virginiana*), most likely Cedar Apple Rust (*G. juniperi-virginianae*). Note the orange telial horns coming out; those horns contain the spores that will affect the alternate hosts.



Photo 10 – Apple leaf with Gymnosporangium rust spots, probably Cedar Apple Rust.



Photo 11 – Underside of Apple leaf with some Gymnosporangium rust spot. Spores will eventually develop here in structures called aecia, which will then spread the infection back to *Juniperus* spp.



Photo 12 – Serviceberry leaf with Gymnosporangium rust spots (possibly Cedar Hawthorn rust). This was in the landscape with the Serviceberry planted underneath large mature Eastern Red Cedars.

Kristy Stultz (Nursery Inspector & Compliance Officer) - KStultz@dnr.IN.gov

This week, while looking for causes of early season leaf curl and leaf deformation in oaks, I found some first generation white-marked tussock moth caterpillars of various instars. These particular caterpillars have been recorded feeding on 116 different genera. These were found on swamp white

oaks (*Quercus bicolor*).

At this time, the population is relatively low and concentrated, but higher populations can cause defoliation and since there are two generations a year, continued monitoring of populations is important. While scouting is critical to find problems early, it's important to have a good integrated pest management plan in place to determine thresholds for treatment. Too much spraying can be just as detrimental as too little. As far as the general deformation of oak leaves, most trees affected are growing out of the issue, and it appears to be mostly due to early season cold damage of young tissue.



Photo 13 – White marked tussock moth peers out of feeding damage.



Photo 14 – Several instars of white marked tussock moth on the same leaf.

After a winter of scraping and destroying spotted lanternfly (*Lycorma delicatula*) egg masses, it was a little disheartening to see hatch, but newly emerged nymphs take some time to darken and become more recognizable. Right now, first instar nymphs are pretty small, about the size of a tick, and difficult to spot. As the season progresses, life stages will become more recognizable.



Photo 15 – A first instar SLF nymph sits next to a newly emerged nymph that has not gained color yet.

No reports this week

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