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## Ornamental Pest and Disease Update

Department of Entomology and Plant Pathology

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# Flood Damaged Landscapes

By Alan Windham

Somewhere beneath the fetid, brown water in my backyard is a bigleaf magnolia that I purchased at the Summer Celebration at the WTREC in Jackson and nurtured through the summer. I don't have high hopes that it will pull through, as it has been underwater for several days, but this is a small thing compared to Tennesseans that are dealing with catastrophic damage from the recent floods. However, recent events could have an influence on plant health.

One disease that is likely to increase in incidence is phytophthora root rot. In North Carolina Christmas tree plantations, Phytophthora is often more prevalent after heavy rains from tropical storms. So it's likely that we may see an increase in root rots in the coming weeks and months. If you have not applied a fungicide to container plants susceptible



to Phytophthora, now would be the time as soon as things dry out a bit. Otherwise, do the normal things that we do for stressed plants: prune away dead branches, turn off landscape irrigation systems to prevent further damage and a light fertilization might help. For more information on flood damage to landscapes refer to [eXtension](#).

# Watch for Virus Infected Canna

By Alan Windham

This has been a great spring for bedding plants and woody trees and shrubs. The variety of plant material in nurseries and garden centers is impressive. Equally impressive is the health of this year's crop. I have seen very little of the usual suspects (impatiens necrotic spot virus, hosta virus x, and root rots). However, I have spotted canna infected with [canna yellow mottle virus](#), especially in the Tropicanna series (page 2). Look for abnormal, brown streaks in infected leaves. Infected plants often grow slower than healthy plants. I would not expect infected plants to perform very well in the landscape. In some big box stores, infection rates were 50%. Remember, if it doesn't look quite right, there's usually a reason; don't buy diseased plants!

## Canna Yellow Mottle Virus



Brown streaks parallel with leaf venation is a common symptom of CaYMV.



CaYMV infected plants left, healthy Tropicanna Gold canna, right.

## Aphids

By Frank Hale

Aphids are early arrivers each spring. Their sucking mouthparts often cause twisted and distorted growth on new tender shoots and foliage. They also produce copious amounts of honeydew on which sooty mold fungi will grow. On most ornamental plants, aphids are more of a temporal problem than a long lasting one. When I was a college student studying entomology, one of our class assignments was to observe the **spiraea aphids** on the spiraea shrubs. Spiraea aphids overwinter as eggs on spiraea and apple. They will also feed on pear, quince, haw and are a major pest of citrus. The eggs hatch into bright green, pear-shaped stem mothers which require 12-20 days to mature. They then produce numerous live young aphids which we are seeing now. Back at school, we flagged some branches and proceeded to count the aphids each day for two weeks. The adult lady beetles were already feeding on aphids and laying their clusters of yellow eggs. *(Continued page 3)*



Spiraea aphid on Spiraea 'Gold Mound'

# Agent's Corner

By Alan Windham

## The Bear Did It . . . .

This was an interesting case, the agent said his client was sure the trees were in this condition due to a bear climbing the tree and wearing away the bark. Certainly, the bark on these trees is smooth, but why? Do you know the answer? Look at the photos below and check the next page for the answer.



## Aphids continued from page 2

Syrphid fly (hover fly, flower fly) adults were depositing single white eggs amongst the aphids. Soon, the predaceous larvae of the lady beetles and the syrphid flies were devouring aphids. Other important predators are green lacewings and cecidomyid fly larvae. Within two weeks, most of the aphids were gone, many eaten while others developed into winged adults that dispersed. I cannot remember if there were parasitoid wasps or not but if present, they can insert a single egg in an aphid. The developing larva then devours the inside of the aphid and eventually pupates inside the now off color and plump-looking aphid. The skin of the dead aphid takes on the appearance of parchment paper and turns tan to gray in color and is called an aphid mummy. Now stuck to the plant, a circular exit hole is cut out the back of the aphid mummy and the adult parasitoid wasp emerges. In some cases, ants will tend the aphids (protect them from predators) since the honeydew is a liquid food that they can take back to their nest. Some ants can “milk” the aphids by gently stroking the aphid backside with their antennae. If ants are numerous, far fewer predators and parasitoids will be found. The spirea shrubs at our office had many ants tending the aphids and I could not find any predators. Still, there was only minor twisting of the now hardening shoots. In this case, I probably would not do anything since the shrub becomes less desirable to aphids as it becomes more woody. One option that would give the upper hand to the predators would be to treat around the base of the plant with an insecticide to kill the ants that travel up and down the plant from the nest to the aphids and back. Imidacloprid insecticides can be used as a soil drench earlier in the spring to prevent any infestation.



## Agent's Corner

### Answer

Even in the absence of bears, this is still an interesting condition. The smooth bark is caused by an infestation of a fungus named *Aleurodiscus oakesii*. Disk shaped fruiting bodies (basidiocarps) are visible on most infested trees. The condition is called, you guessed it, **smooth patch or white patch**. As the fungus is consuming bark and not penetrating the cambial layer, I'm calling it an infestation rather than an infection. I don't know of any long term damage caused by this fungus found mainly on oaks, but may be seen on many hardwoods in the Eastern U.S. Further reading on [white patch](#).



Dried fruiting bodies of *Aleurodiscus oakesii* are found on bark of hardwood trees with white (smooth) patch.

## Eastern Gall Rust

By Alan Windham

Eastern gall rust caused by the fungus *Cronartium quercuum* f. sp. *virginianae* is most often seen on Virginia pine. Oaks are the alternate host, but damage to leaves is slight and is often overlooked. While this rust does little damage to mature pines, it can be extremely damaging to pine seedlings in nurseries. Short leaf pine is also a host of gall rust.

An excellent reference is: Petersen, R. H. 1974. The Rust Fungus Life Cycle. The Botanical Review Vol.40, No. 4, October-December. Pp. 453-513.



Early and later stages of aecia production of eastern gall rust on Virginia pine.

# Fungal Canker Diseases

By Alan Windham

If Letterman did a top ten list for “The Top Ten Calls an Ornamental Pathologist Receives”, fungal cankers would be near the top of the list. There are a variety of plants that we see each year affected by this group of diseases. In general, established plants in landscapes are the most commonly affected plants. Fungi associated with canker diseases are often called “stress pathogens”. Infection follows stress caused by drought, overcrowding, winter injury, poor pruning technique, etc. Some of the more common canker diseases are: Seiridium canker on cypress, Botryosphaeria canker on rhododendron, Phomopsis canker on azalea, thyronectria canker on locust, etc.

Symptoms of a fungal canker infection vary depending on host and pathogen. Sunken wounds on branches or the stem, resinous areas on branches or stems of conifers, branch dieback, death of plant are all common symptoms. Symptoms may develop several weeks to months after the initial stress.



Dieback from suspected canker disease on Arizona cypress (Via Distance Diagnostics).



Symptoms of Phomopsis canker on azalea.

Too often my calls are, “how do I save this plant?”. This is in regard to plants that are severely affected such as the cypress pictured to the left. There is no silver bullet, no magic cure for dieback caused by this group of pathogens. After the fact, all I can say is sharpen your pruning tools. As in reality, pruning away dead branches can stop the spread of the fungus in infected plants. If a large portion is dead, replace the plant. Prevention starts with keeping plants in a vigorous state of growth. Mulch and irrigate during dry periods to prevent stress. Use proper pruning techniques. Don’t make flush cuts that are slow to heal. Prune away dead branches. That’s a start; now, I need to return a call about a dying Leyland cypress.

# How Green is Your Business?

By Alan Windham

I attended an annual meeting last year for a local environmental group who's featured speaker was a professor of human and organizational development. I attended the meeting because of the intriguing topic: *Lawns and Pesticides*. Two of his bullet points stuck in my mind: 1). Lawns are not an appropriate use for urban space; 2) he labeled a local golf course as an "institutional polluter".

One thing that stuck in my mind afterwards, was that we (the Green Industry) do not do a good job telling our story. We grow beautiful plants, maintain lawns and open space for recreation and sports. In this age, where obesity is a huge problem, more opportunities for recreation are important for our health. So my question to you is "How Green is Your Business?" and "Are you telling your story to your clients?"

At least once a year, I would produce some form of communication that lets your clients know things you do every day to be "Green". Some examples, could be:

- We follow university recommendations for fertilizer and pesticide applications.
- We soil test new clients lawns as to apply only those nutrients that are needed.
- We select turf, shrub and tree species and cultivars that are adapted to our locale; many are resistant to common pests and require no pesticide applications.

- We consult with Extension agents and specialists on insect, disease and weed problems to get the most up to date recommendations on management. In many cases, they help us choose the least toxic pesticide or tell us no treatment is needed at all.
- We use IPM (integrated pest management) strategies such as scouting for pests and only applying pesticides when certain thresholds are exceeded.
- We conserve water by using low volume irrigation, using conservative irrigation regimes and/or drought tolerant plant species.
- We have raised our mowing height to minimize plant stress and maximize competition to reduce weed growth.
- We use slow release fertilizers, and are vigilant about overspray on drives or gutters to prevent product from entering storm drains.
- We use cover crops in our fields to reduce soil erosion and weed competition.
- We are a member of the Audubon Cooperative Sanctuary Program for golf courses.
- We attend conferences and workshops as part of our continuing education program.
- We train our staff annually on pesticide safety, and update them on new pests and diseases.
- We use roses designated as "no-spray" to eliminate fungicide sprays.
- We recycle old pots, flats, plastic, etc to minimize waste going to landfills.

I'm sure that you could think of several more things that your business is doing to be more "Green". The important thing is to communicate this to your clients. The Green Industry does great things; don't be bashful.

## Pest Alerts

By Frank Hale

Pheromone traps are a good tool for monitoring pest activity. **Root collar borers** are a very damaging pest of tulip-tree. The moths are active now and should be laying eggs on the lower trunk. Apply a protective trunk spray now of permethrin (Astro for landscape, Perm-Up for commercial nursery) or bifenthrin (Onyx for landscape, Onyx Pro for nursery). A second generation occurs later in the summer with a general spray timing of early September.

A **dogwood borer moth** was caught in a pheromone trap over the last week. Our general calendar recommendations which match up quite well with this year's pheromone trap catch are to apply protective insecticide sprays (permethrin or bifenthrin) in late April and again in mid-July.



**Root collar borer damage on tulip poplar**

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## Caterpillars defoliating White Oaks

By Frank A. Hale

Over the last few days we have had numerous calls about caterpillars devouring the foliage in white oaks. Many of these trees are quite large, major defoliation has already occurred, and it would be difficult to treat with an insecticide spray. We have not received any samples yet but they appear to be the common oak moth and a type of inchworm, possibly a geometrid in the genus *Phigalia* or maybe fall cankerworms. Defoliation of infested trees is occurring and people are understandably concerned. Fortunately, when healthy trees become defoliated, the trees will quickly put out a new flush of foliage. A repeat defoliation from this pest should not occur since most of these caterpillars only have one generation per year.

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### *Comments or Questions?*

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