

# Pest Update (May 30, 2018)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insects from other states. If you live outside of South Dakota and have a question, instead please send a digital picture of the pest or problem.

## Available on the net at:

<http://sdda.sd.gov/conservation-forestry/forest-health/tree-pest-alerts/>

Any treatment recommendations, including those identifying specific pesticides, are for the convenience of the reader. Pesticides mentioned in this publication are generally those that are most commonly available to the public in South Dakota and the inclusion of a product shall not be taken as an endorsement or the exclusion a criticism regarding effectiveness. Please read and follow all label instructions and the label is the final authority for a product's use on a pest or plant. Products requiring a commercial pesticide license are occasionally mentioned if there are limited options available. These products will be identified as such, but it is the reader's responsibility to determine if they can legally apply any products identified in this publication.

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### Plant Development

The black locusts are in full bloom and that coincides with the emergence of the emerald ash borer. You can find more information on adult emerald ash borer under Emerald Ash Borer Update in this issue.

### Treatments to do now

Now that the growing season is in full swing there are numerous treatments to be applied. These treatments are necessary to protect the plant from becoming infested or infected by a pest or pathogen. Waiting until you see symptoms of an infestation or infection is usually too late for effective treatments.



Now that buckeyes are blooming, bronze birch borers are emerging from infested trees. **Bronze birch borer** (*Agrilus anxius*) is a native insect that attacks birch. It is a close relative to the emerald ash borer so they both make a D-shaped hole as the adult emerges from the tree. The time to treat birch trees is now as the female beetles are finding places on the bark (usually near a branch union) to lay their eggs. The bark can be sprayed with an insecticide containing permethrin as the active ingredient with a second application in about three



weeks. Insecticides containing imidacloprid can also be used as a soil drench in the fall to kill newly hatched larvae the following year so it's too late now for these treatments to be effective. If the canopy has dieback back more than about 40% the tree too far gone for treatments.

Bronze birch borers colonize almost every birch species with their favorites being Asian and European species such as the cutleaf European white birch. The river birch is very, very rarely attacked by bronze birch borer and can be considered a borer-free alternative to other species.



**Cedar-apple rust** galls on the junipers have expanded during the past week and this is an indicator to begin treatments to protect susceptible apples and crabapples from cedar-apple rust. The galls form on the junipers (cedars) and release

spores that infect the apples and crabapples. The infection on apples and crabapples results in discolored foliage and fruit and premature drop of the leaves. Fungicides containing Myclobutanil as the active ingredients can be applied beginning now and repeat three more times at 7 to 10-day intervals. Captan, a common fungicide for apple scab is NOT effective against cedar-apple rust.

**Cottonwood borer treatments can begin soon.** The adults will begin to emerge in June to lay eggs at the base of the trunk of young cottonwood trees. This is an unusual insect in that you probably will not see the emergent holes



from the adults as they may emerge underground, from the root flare, and burrow up to the soil surface. The adults feed on the leaves – mostly the petiole – resulting in premature leaf drop but the biggest problem is the feeding activity of the larvae. The larvae upon hatching quickly burrow in the lower trunk and roots. The tunneling results in disruption of the movement of food from the leaves to the roots and reduces the structural strength of the

trunk so often the young trees snap off close to the ground. Management use to be digging out the larvae with a pocket knife in late August but I doubt many people have that much time on their hands. The easiest and most effective is to treat the lower trunk with a permethrin product anytime between now and the third week of June (note: read the label carefully, not all permethrin products are labeled for borers).

In addition to the cottonwood borer (*Plectrodera scalator*), we also have a **poplar borer** (*Saperda calcarata*). The primary difference between the two on cottonwoods is that the cottonwood borer attacks young trees and these often break off at the ground, while the poplar borer attacks mature trees and its activity results in stem dieback. The poplar borer creates ribbons of finely shredded wood that line the wood surrounding the exit hole.



**Dothistroma treatments should be started now.** This is a very common disease of Austrian pines this year (also ponderosa pines in East River shelterbelts and interestingly Black Hills communities) and is responsible for most of the discolored pines we are seeing. The symptoms are dead needle tips beyond the yellow to tan spots. The spots have now enlarged to form brown to reddish brown bands and sometimes fruiting structures can be seen in the bands. The infection this year is so bad that the entire needle may be discolored. The treatment is a copper fungicide applied now as the candles are expanding and repeated in late June and again in mid-July. There are copper containing

fungicides available such as Camelot for those individuals who must spray several or more trees. Chlorothalonil-based fungicides have shown effectiveness for treating the disease but are not registered for this use.



**Phomopsis twig blight** (*Phomopsis juniperovora*) is showing up on juniper (cedar) plantings throughout the state. The typical symptoms of this disease are the young growing tips turning pale green then light yellow-green, then reddish brown and finally ash gray by late summer. Near the base of these infected twigs you can find small, black fruiting bodies of the fungus. The symptoms, and even the fruiting bodies, can be easily

confused with another common twig blight fungus *Kabatina juniperi* so it is always a good idea to send in a sample for diagnosis.

Phomopsis twig blight can be managed with applications of a fungicide containing copper or propiconazole as the active ingredient applied now and continuing at two-week intervals until the spring growth matures usually by mid-June but it might be late June this year.



**We should begin shearing pines now.** Pines set only terminal buds, not along the new shoots as do spruce and fir, so the only time to shear them, removing a portion of the current season's shoot growth, is during the candle phase where the expanding new shoot is still tender. Removal of a portion of the shoot during this time will allow the new shoot to set buds. If the pine is sheared after the new growth has completed expansion and hardened, no new buds will be set, and the shoot will



dieback after the older needles are shed, usually in a couple of years. Shearing begins now and can be performed until the new needles along the candle are about ½ the size of the older needles. After that time, probably in a few more weeks, it will be too late. Shearing is only necessary if shaping an ornamental pine such as a mugo pine to keep it more compact. Other than Christmas trees (and mugo pines) we do not usually shear pines in a formal shape.

## Timely Topics

**What disease is killing all the spruce in the state?** This is a common question across the state (and frequently addressed in the *Update*). While there are a multitude of pests that attack spruce, most do not kill the tree, merely weaken it. However, drought, that can become a tree killer. Most of the state was in a drought from the summer of 2017 to just recently, and in addition to the hot, dry summer we experienced a long winter. This stress resulted in many spruces presenting discolored needles that are dropping prematurely. The other common symptom is the very short shoot growth for the 2012 growing season (as well as shorter needles). There are no sprays or fertilizers that can correct this problem. The spring rains may reverse the decline of many trees, but others are too far gone – bare branches and dead twigs – to recover.

### Emerald ash borer update



Emerald ash borers are emerging now. The emergence will probably peak in late June and then slowly taper off until about Labor Day. The adults emerge through a D-shaped hole they cut through the bark. Once emerged the adults feed on ash leaves (but will also feed on other tree leaves) but really its more nibbling on the leaves than chewing them. The extent of defoliation is so limited that most people will never even notice the feeding.

You probably will not see the adults either. The adult beetle is about 5/16 to 7/16-inch long, torpedo shaped with a metallic green covering. If you are lucky (or unlucky if its your tree) you might see one walking on the bark. They prefer to be out during warm, sunny days, usually between 10 am and 3 pm.

The most common host is the tree the beetles just emerged from. Emerald ash borer is a lazy insect and will not fly far if it does not have to. Most are content to stay close to home, wandering no farther than about 100 yards from the tree they emerged from. They can travel up to 10 miles if they must fly that far for food. This is one reason that communities do not try to remove every ash surrounding an infestation during the summer. You always miss a few infested trees and the beetles emerging from them are forced to migrate. Keeping the trees during the summer is a good means to slow the spread as these nearby trees (and the tree they emerged from) will be the likely candidate to lay the eggs on.

The female borer lays about 50 to 90 eggs, but one at a time rather than as a mass. The eggs are laid in bark crevices, often near when a branch is attached to the stem. The adults prefer to be in the sun, so you often find the infestation starts on the south side of the canopy.

One way to monitor for emerald ash borer is placing purple panel traps in ash trees. These are not used to control the population – you never can catch enough to stop an infestation – but to determine the extent of the population, essentially where they are at in a community. You can expect to see these in ash trees across the state this summer – and quite a few in Sioux Falls to map out the spread.

## E-samples



**Hackberry dropping leaves.** This is an occasional problem with hackberries but is alarming to the tree owner. I have received many calls and emails from folks noticing their hackberry is dropping leaves. I have seen a few trees appear to have dropped more than a third of their leaves! The problem? Blame it on the weather. When we go from a cold winter to a hot summer with only a day or two of “spring”, hackberries will shed leaves. We see this every couple of years or so. The best recommendation is patience, and water, the trees will recover in a about a month.

Herbicide drift symptoms are beginning to appear on trees. This ash is showing the classic symptoms of exposure to a growth-regulator herbicide, cupping and twisting leaves that are slightly elongated. The most likely herbicide to produce these symptoms is 2,4-D. However, MCPP and dicamba exposure can result in similar symptoms. Now that everyone is out spraying the weeds in their lawn (not always the best time for lawn weed control) and the trees are just leafing out we have the ‘perfect storm’ and sensitive trees like ash and catalpa are presenting symptoms. Most of these trees will recover yet this year but the exposure is a chronic stress and repeated contact can result in tree decline.



**Linden (basswood) dieback** – I have received numerous called from producers and homeowners who lost their 1 to 4-year-old basswoods this spring. For more information see Hamlin County sample under Samples received.



**Tent caterpillars are getting bigger!** Tent caterpillars, eastern, forest and western, are common defoliators of mountainash, cherry, crabapples and plums (the picture shows western tent caterpillars in a chokecherry near Rapid City). The insects are reaching a size where most forms of natural controls such as breaking open the nest to allow predators and parasites to enter, are no longer effective. Once the larvae become larger, more than 1-inch long, insecticides containing Carbaryl, or Malathion are the treatments of choice. There is also spinosad, a product made from soil bacterium, this a very effective poison for caterpillars. It is sold as Captain Jack's Deadbug Brew (no kidding).

## Sample received/site visits

Hamlin County

**What is wrong with these American lindens (basswood) trees. We planted them in the spring of 2017 and they looked fine last fall. They were in tree tubes for protection from deer. This spring they are all dead.**

Lindens are sensitive to winter desiccation injury. This was a long winter for more than just people. The problem for trees, particularly trees sensitive to winter injury like basswood, was we had a relatively warm fall. It was in the 50°F during the day in Brookings last November. But we had a cold snap in late October where temperatures dropped to 12°F for several nights.

The common theme for the reports of winter injury on seedling basswoods was they were growing in tree tubes (shelters). These were originally designed to reduce deer browsing on seedlings (which they do) and it was found that the "mini-greenhouse effect" kept the trees warmer and more humid. This greatly accelerated growth. The downside is some trees are kept too warm and do not completely go dormant in the fall in time for winter.

You might say but why basswood? This tree experiences sustained growth, meaning it continues to grow during the season until conditions become unfavorable. Ash, oak and our conifers have preformed growth. This means they grow for about 30 days or so and then stop shoot expansion for the year regardless of the environment. Basswood is also a desiccation sensitive tree meaning it is prone to drying out. It's a great tree and should be used more often but be aware of these limitations.

There were still dried, young, expanding leaves (from last year) on the tips of the trees sent in. Apparently the trees did not harden off completely last fall. I generally raise the base of the tree tubes off the ground in early October (using a

rock to hold them) to funnel air through the tubes and allow the trees to be exposed to the cooler weather and frosts.

Pennington County

### **What is wrong with this pine?**



This is dothistroma needle blight, a common foliage fungal disease on ponderosa pines throughout the state. It is also one of our most misidentified diseases as the symptoms are like those presented by de-icing salt exposure and brown spot, another foliage disease. Sending a sample in to be examined is the best way to be sure the symptoms are related to the disease.

The symptoms that are common are resin-soaked, dark green bands that turn yellow or red. The other common symptom is called the cigarette-tip. The needle beyond the band breaks off and leaves a whitish tip, almost (if you use your imagination) like a burned cigarette.

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