

# Pest Update (September 16, 2020)

Vol. 18, no. 32

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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, 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 as 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.

Plant Development.....	2
Timely topic	
Emerald ash borer updates.....	2
Not an emerald ash borer.....	2
Fall foliage color change is beginning.....	3
Yellow needles on pines and spruce.....	3
E-samples	
Locust borers are appearing.....	4
Oak blister what?.....	4
Tar spot on silver maple.....	5
Woolly apple aphids are out on apples and cotoneasters.....	5
Samples received/site visit	
Douglas County (codling moth).....	6
Kingsbury County (spruce bud scale and needleminer).....	6
Minnehaha County (follow up on ash -verticillium wilt).....	7
Pennington County (rubbing damage on aspen).....	8
Stanley County (possible verticillium wilt in catalpa).....	8
Stanley County (pine wilt on Austrian pine).....	9

## Plant development for the growing season



The weather is warm and dry for most of the state and this is pushing fruit ripening on many fall fruiting plants. One we do not expect to produce fruit is the Prairie Gem pear (*Pyrus ussuriensis* 'MorDak'). This is an attractive small tree with a rounded habit so dense you cannot see through the tree in winter! The tree is often described as fruitless, which it is if you plant it alone or with

another Prairie Gem pear. But if another pear is nearby the tree can be loaded with these small, yellow, round pears that are inedible. They are so inedible that even the squirrels will not touch them. The ground beneath and around the tree can be littered with them.



## Timely Topics

### ***Emerald ash borer update***



Emerald ash borer sampling continues in Sioux Falls and Canton. Most of the larvae are 3<sup>rd</sup> instar, but there are a few more 4<sup>th</sup> instars this week. The mature larvae are also more than 1 inch long now. Most of these larvae are either mature or are maturing and will form a pupa in the spring, becoming adults in early June. This is the one-year life cycle (adults-eggs-larvae-pupae-adults in one year) that is common with large, established populations of the insect.

### ***Not an emerald ash borer***



While most “false” emerald ash borer insects are the usual suspects: ash-lilac borer and either the redheaded or banded ash borer, I sometimes receive pictures of other possibilities.

These are some pictures sent in by a conservation district of an insect found in an ash tree. While they were found in the ash tree, the ash tree was more a Keebler Cookie tree,

hollow with a cavity at the base. The interior of this tree at the base was the consistency of coffee grounds, more soil than wood. The insects found at the base of rotted ash are often white grubs, insects more closely associated with dying lawns than trees.



But this white grub is the hermit flower beetle (*Osmoderma eremicola*) and it does not live in lawns (or flowers) but decayed trees and stumps. It is often discovered when the decayed tree falls, and people assume it is the cause of the failure. However, it is merely taking advantage of the rotted wood to make a home and snack for three years or so on the wet, punky wood.

### ***Fall foliage color change is beginning***

The Fall equinox marks the beginning of the fall color period so here is some information on this seasonal phenomenon. First, the color changes begin in response to the shortening days and cooler temperatures. Leaves stop producing chlorophyll (the green color) and some trees species begin producing anthocyanin (the red-purple colors). Yellows (carotene and xanthophylls pigments) also begin to appear, but not because the tree is beginning to produce them – in fact, they are always present – but as chlorophyll disintegrates these pigments are unmasked.



Trees noted for their brilliant red fall color include red and sugar/black maples (pictured) as well as the freeman maples, serviceberry, sumac, and red oaks. Trees that have bright yellow fall color include ginkgo, quaking aspen, and pear as well as 'Harvest gold' linden. Many other tree species such as catalpa, sycamore and black locust have little color change and their leaves drop as a dirty brown.

Fall color is best when we have combination of dry, sunny days and cool nights during autumn and we are in a long period of this weather. Rainy, cloudy weather will reduce the intensity of fall color as well as an early hard frost.

### ***And a related color change....***

***There have been lots of calls, emails, and samples of pines and spruce with yellow needles in the last week.***

This is the yellowing and shedding of the older needles that occurs every year at about this time. Most pines shed their three-year old needles in September and





early October. This is usually not noticed as the needles fall over an extended period and often goes unnoticed by the tree owner. This Autumn the pines are shedding their needles very quickly due to the warm, sunny weather and it is common to see mature pines with a thick layer of fallen needles beneath them. Regardless, this is usually not a cause for concern or alarm. If the needles are yellowing and falling from the interior, it is just the normal process of preparing for winter.

This same “problem” is occurring on spruce. The older needles are turning brown rather than a golden yellow. This is still the normal shedding of the older needles and not a concern.

## E-samples

### ***Locust borers are beginning to appear***



The locust borer (*Megacyllene robiniae*) is a common insect associated with declining black locust trees. Adults, as seen in this picture, are very colorful and distinctive with a large yellow ‘W’ on the wing covers and yellow bands on the thorax of any otherwise black insect. The adults fly in late summer and can be found searching for egg-laying sites on the locust or feeding on flowers in the garden. The legless larva, found from late autumn to the following mid-summer, is about 1 inch long

at maturity and is typically cream colored with a brown head. The best means of treatment, other than maintain the health of the tree by watering, is to apply a bark spray of a permethrin product labels for borer now before the real flight begins.

The black locust is the only host for this insect. It does not infest any other species of *Robina*. The most common cultivar of black locust is the ‘Purple Robe’ locust, noted for its attractive purplish flowers (and few seeds). Unfortunately, this same cultivar is very susceptible to the borer and most trees I have seen are killed by this insect before they are 10 years old.

### ***Oak blister what?***

There are two entirely different agents that can causes blister on oak leaves. One is the oak leaf blister disease caused by a *Taphrina* fungus. The blisters appear as light green bulges on the top of the leaf and on the underside of the leaf beneath the bulge is a corresponding depression. The oak blister gall is caused by a cynipid

wasp. These insect galls resemble the disease blisters except the insect galls are a solid mass of tissue rather than a distortion of the leaf.



Josh, a SDDA forester in the Black Hills, sent in this picture of what appears to be the oak blister gall. The fungus is more common on red oaks than white oaks, but we do occasionally see it on bur oak (a member of the white oak group). The insect galls are very common on bur oaks in the Black Hills.

Neither the disease or the wasp does serious harm to the tree and treatments are not warranted or effective.

### ***Tar spot on silver maple***



Tar spot (*Rhytisma*) is showing up on Freeman (*Acer x freemanii*), red (*A. rubrum*), and silver maple (*A. saccharinum*) this summer. The disease begins as greenish-yellow spot in late June and then develops into these black tar-like structures we are seeing now. The remaining leaf tissue is sometimes chlorotic (yellow leaf blade with the veins remaining green). The treatment for the disease is two-fold. First, a common recommendation is to remove and destroy the fallen leaves this fall to reduce the overwintering fungus, usually not a practical treatment unless you are able to go through your entire neighborhood! Next year treat the tree with a copper fungicide as the leaves expand and repeat the application about two weeks later (Read and follow the label carefully. Copper can be damaging to the plant, do not apply at the high rate on young foliage). However, if we have a dry spring next year the disease is not likely to be severe.

### ***Woolly apple aphids are out on apple and cotoneaster***

The woolly apple aphid (*Eriosoma lanigerum*) receives its name from the white waxy covering on the adult aphid. The aphid is very common but is often overlooked until the white clusters of insects appear, usually mid to late summer. The insect is often found around the base of apple and crabapple trees usually clustered around the succulent growth that lines wounds, such as those created by hitting the tree with the lawn mower or grass whip. However, it also can be found on the shoots of other woody plants such as cotoneaster, pictured next page.



While the “fuzz” may cause concern, the aphid does little injury to the above ground plant. The aphid also lives part of its life cycle on the roots. Here their feeding causes galls to form which results in a distorted root system. Affected trees and shrubs often have a thin appearance.

Winged females fly to nearby elms (though this is not the only host) in the fall and lay eggs. These eggs will hatch in the spring and the young nymphs feed on elm leaves resulting in distortions to the leaves before becoming winged adults and migrating to the apples. The insects can be controlled with a spring application of an insecticide containing imidacloprid applied as a soil drench.

This will kill the insects as they feed on the twigs or trunks.

## **Samples received/Site visit**

Davison County

### **What is wrong with these apples?**

This is codling moth (*Cydia pomonella*) damage caused by the larvae. They do not feed on the apple flesh but the seeds. If you cut into the infested apple earlier



this year you might have found a small worm with a pinkish body and a brownish head (many have already emerged and dropped to the ground by now). The larvae start out very small, less than 1/8 inch but grow to be about 1/2 inch before exiting the fruit. The tunneling is concentrated near the core as that is where the seeds are located. At this time of year there is not much that can be done other than

remove all infested fruit from the tree and the ground. This can reduce the number of larvae that drop to the ground to pupae and become adults next year.

The insect can be treated next spring with an insecticide. The best time to spray is when the petals have just fallen from the blossoms on the tree with a second application about 10 days later. Malathion is probably one of the more common insecticides tree owners use to manage the insect.

Kingsbury County

### **What is wrong with my spruce?**

There is probably more than what the sample contains but two major problems are spruce bud scale and spruce needleminer. The spruce bud scale (*Physokermes piceae*) resembles a small round, reddish bud which can be found near the tips of the branches where the side branches attach to the shoot. They, and their mobile young called crawlers, suck the sap from the shoots resulting in dieback and





decline of the lower branches. Since these are soft scales, they produce honeydew that results in a black, sooty appearance to the needles and twigs. The scales have one generation per year and the crawlers hatch about the time littleleaf lindens bloom (back in June). The best treatments at that time of year are insecticides containing carbaryl as the active ingredient applied on the foliage and shoots near the tips. Insecticides containing imidacloprid can be effective as a soil

drench and these can be applied in the fall (now) for control the following year.



The needleminer (*Endothenia albolineana*) gets its name because the young larvae are so tiny, they can live inside the needle, mining it as they feed. They eventually outgrow their home and then create a nest of webbed, detached needles to live in. The larvae usually feed on the lower, exterior needles, almost stripping the tips of needles but they can also be found in the interior of the tree and even the tops of young trees. The adults are small moths that fly during the end of

June depositing eggs on the needles. The treatment is usually with a pesticide containing carbaryl as the active ingredient and labeled for this use.

During late summer, the larvae emerge from the needles and start to web broken needles around their bodies. The only effective treatment at this time of year is a high-pressure spray of water to dislodge the insects from the tree. After the “power wash”, the debris beneath the tree should be raked out and destroyed to remove the insects.

## Minnehaha County

## Follow up on declining ash visit

The September 2, 2020 issue included a site visit to a declining green ash tree in Sioux Falls. The problem was not emerald ash borer, it was being treated for this problem, but stem-girdling roots. However, I also mentioned that the symptoms



were like those presented by ash infected with verticillium wilt, wilting and dying leaves.

We are seeing more verticillium wilt this year and along with elm, maples, and catalpa, ash is one of the species susceptible to this soil-borne disease. The symptoms associated with verticillium wilt and stem-girdling roots are similar. In fact, back in the 80s many trees with stem-girdling roots were misdiagnosed with

verticillium based upon the presentation. I collected some twig samplings and we plated it for detecting the pathogen. It now appears that the tree has verticillium wilt.

The presence of verticillium wilt does not change the outcome, remove the tree. However, since verticillium wilt is present, elms (even the hybrid elms), maples, and catalpas should not be planted in this location along the boulevard. The fungus can remain in the soil for up to 15 years so merely waiting a few years will not mean they can plant susceptible species. Oaks and lindens, among many others, are not susceptible to the disease and can be safely planted.

#### Pennington County

#### **Stem canker on aspen**



Quaking aspen is susceptible to many canker diseases as the tree ages. Most canker diseases require a wound to enter the tree, and no better wound than an antler rub. This aspen in Rapid City had been rubbed for years – the owner finally put a wire fence around it to stop the damage, but too late. The rubbing provided the wound for the canker disease and now the tree has numerous stem cankers and the bark is pulling away. There is nothing that can be done at this point except remove the tree.

#### Stanley County

#### **Possible verticillium wilt on catalpa**



This has been the year for verticillium wilt. It seems that the disease appears every five or so years and kills or damages a lot of trees and then disappears again. However, the disease does not just disappear. It remains present in the soil and tree only to have the symptoms – rapid wilting and dying of leaves on individual limbs and branches – present on the tree.

The disease can be acute – killing the tree in a season – or chronic – occasionally killing a branch here and there in the canopy. We see both types in South Dakota and I have trees on campus that have the disease with only a little dieback from time to time.

That is what I suspect is the problem with this catalpa. This species, along with maples (Norway and Silver maple are most susceptible) and elms (especially



American elm) are the trees most often affected by the disease. The only way to tell if the tree has the disease is to culture for the pathogen.

Trees suffering from a chronic infection can be treated by watering during drought periods. Annual fertilizing may be a benefit as well to help keep the tree healthy but avoid high nitrogen fertilizers. These applications may result in the formation of long, succulent shoots which are susceptible to wilting. The dead and dying branches in these trees should also be removed.

## Stanley County

## Possible pine wilt



We are seeing more pine wilt disease during this hot, dry summer. The disease which is caused by a nematode is the most serious problem of Austrian and Scotch pine in the state. The symptoms are a rapid discoloration and wilting of the pine needles during the summer. The tree appears healthy in the spring but by Fall, now, an infected tree is left with brown, hanging foliage.

The most common control is to remove these dead (or dying) infected trees and burn the wood by April 1. The sawyer beetles that carry the nematodes from a dead tree to a healthy host usually emerge during April.

Reviewed by Master Gardeners Dawnee Lebeau, Carrie Moore, and Bess Pallares

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This publication made possible through a grant from the USDA Forest Service.