



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

Tree Pest Alert



August 2, 2023

Volume 21, Number 24

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Samples

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of 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.

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.

Reviewed by Master Gardeners: Carrie Moore and Dawnee Lebeau

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

Plant development for the growing season

The growing degree days (GDD-base 50) are still accumulating across the state. The weather is hot but now the normal heat of mid-summer rather than the scorching heat of a week ago. There are even some cool mornings, a reminder that fall is soon to come.

Here are the current GDDs for communities across the state.

Aberdeen	1,785
Beresford	2,100
Chamberlain	2,065
Rapid City	1,610
Sioux Falls	2,085

About three-fourths of the state is no longer under drought. Most of West River has not been under drought since last fall. This is not true for the southeastern quarter of the state. This region along with the counties bordering Minnesota are classified as either abnormally dry, moderate drought or severe drought for the second year.



The hot and dry weather in the southeast is pushing plant development in a direction we do not want to see. Fall foliage color is beginning to appear across the southeastern part of the state, about a month or two earlier than normal. Along the Missouri there are cottonwoods that are a dull yellow and some are already dropping their leaves.

Treatments to Begin Now

Water!

As we enter August, a reminder to begin watering your trees, especially small conifers, during the next two

months. If we do not have an inch of rain during a week, watering is needed. Watering now helps the trees prepare for winter and reduces winter burn.

Timely Topics

Emerald ash borer update

The larvae are continuing their development. We are finding more 3rd instars and fewer 2nd instar larvae. This means the larvae are large enough that they are tunnelling through the inner bark and etching the sapwood. These larvae are severing the tissue transporting water and food through the tree. It is the one-two punch.



As a reminder for all the communities not yet impacted by emerald ash borer, now is the time to begin reducing your ash population. Some communities have started the process by surveying their town to census the number of ashes they have in public spaces such as along streets and in parks. Once they have that number, they can formula a plan to gradually remove these ash trees over a five- or ten-year period. This is also a good time to identify healthy, structural sound ash that may be good candidates for treatments once the insect is confirmed in town.

The other option is just wait until the beetle appears in the community. The challenge with the 'wait and see' approach is the trees will be dying rapidly from the infestation. It will be difficult for a community to keep up with the removals.

I spoke with an arborist in New York on their experience with removals of infested trees. The insect was confirmed in their town about eleven years ago. During the peak of the emerald ash borer epidemic, they were removing about 500 trees per week. There are still ash in their community, five years after the peak – but they are standing dead trees now. There is that much removal backlog.

Pine looper update

Pine looper caterpillar defoliation is limited to a small area north and east of Pringle. Only a couple thousand acres, but if you drive through the area the defoliation is

very noticeable. It is a ribbon of gray trunks running along the ridges.

The loopers are now the large 3rd and 4th instar caterpillars. These caterpillars can devour the needles from a tree in a matter of days. I expect to be receiving calls over the next couple of weeks about these large "worms" falling from defoliated trees.



Spraying individual trees near homes was a good option up to a week or two ago. Now the caterpillars will have completed their feeding before a spray can be completed.

E-samples

Cicadas

I received pictures of large (1 ¾ inch long), wedge shaped, dark green to black insects found on the ground beneath trees. The concern is that these are emerald ash borer. Fortunately, no. These are just annual cicadas (dog-day cicadas) that we can hear buzzing in the tree canopies every summer.



Hawthorn leafminer

The deep brown leaf tips and blotches on this cockspur hawthorn (*Crataegus crus-galli*) appear to be the work of the hawthorn leaf miner (*Profenusa canadensis*). The larvae of the insect spent their time last June tunnelling between the upper and lower leaf surfaces, hence the

name miner. If you are careful, you can rip through a blotch to reveal the empty space carved out by the larvae as they fed during early summer. The blotches will contain small pepper-like material – the poop of the departed insects.



The larvae are gone now. They dropped to the ground by mid-July and will spend the winter as pupae in the soil. The adults will emerge next May. They are small (5/32-inch) brown sawflies so called as the female uses her ovipositor to saw small slits in the leaf margins to lay eggs.

Island chlorosis on hackberry

Pictures are coming in showing hackberry leaves with these bright yellow blotches that follow the veins. This is a disease called island chlorosis (since the yellow appears as dots in a sea of green). The disease is thought to be caused by a virus, carried from tree to tree by a sapsucking insect.



Not much is known about the disease as it does not harm the tree. It just causes these bright color patterns. It is more a later summer curiosity than a concern. It is so common that almost every hackberry has leaves with this mosaic of yellow and green. If you did not know it was a disease, some might find the contrasting colors attractive.

Samples received/Site visits

Codington County, Turpentine beetles in Scotch pine

This was a call about pitch tubes and large, granular pellets near the base of their pine trees. The culprit for the pitch and pellets were red turpentine beetles (*Dendroctonus valens*). I am used to seeing this insect infesting ponderosa pines in the Black Hills but rarely see it on the east side of the Missouri river.



Turpentine beetles attack stressed or declining pines. They will even attack a fresh stump. The reason for the decline in this Scotch pine and several others in the row around the home was pine wilt disease. There were a few dead pines, those infected by the wilt last year, and several that the needles were just beginning to turn color now.

Codington County, Zimmerman pine moth

These are Austrian pines (*Pinus nigra*) that are infested by the Zimmerman pine moth (*Dioryctria zimmermani*). The signs of an attack are these large globs of pitch that form where branch whorls are attached to the trunk. The larvae burrow into the pine tree near this attachment. This mechanical injury often causes distorted canopies and broken branches.



The insect is not burrowing in the trunks now. They are adult moths. These small, gray moths are rarely noticed as they zigzag through the trees during late summer. The females lay eggs on the trunks, often near the pitch masses.

The eggs will hatch this fall. The tiny larvae do not feed this fall but instead crawl beneath a bark flake and spin a tiny web in which to spend the winter. Next spring, they will emerge and burrow into the trunk.

Treatments are either applied now to kill the adults and the newly hatched larvae or in the spring (April) to kill the larvae after they emerge from their web. Treatments were discussed in the July 19, 2023, issue of the *Tree Pest Alert*.

Grant County, Silver maple damaged by car

This stop was to inspect a mature silver maple that was struck by a car. The bark had been shredded from the tree by the impact. Bark serves some of the same functions as our skin. It protects the interior of the tree from infection.



The loss of this protective layer of bark occurred more than one-third the way around the trunk. This means that a large area of the lower trunk – which the tree depends on for stability – is likely to develop decay from an infection. While the tree does not need to be immediately removed. Decay will take years before it causes the tree to fail.

The best option is still to remove the tree this year. Since the silver maple will eventually fail, it might be better to remove it down and start its replacement.

Hughes County, Following up on maple with scorched leaves

This is a follow up to a sugar maple sample that came into our lab. While the initial diagnosis was drought may be responsible for the leaf symptoms, it was just a possibility, and a site visit was necessary to confirm.

The site visit revealed the real problem. The tree had been girdled by the landscape fabric which was now buried beneath the sod around the trunk. The fabric,

which was installed when the tree was planted more than a decade ago, had deformed the trunk. It could not even be pulled out of the bark!



This injury can result in interruption in water and food movement between the roots and the leaves. The symptoms can be like those presented by drought. Unfortunately, unlike drought where the tree can recover with watering, there is nothing that can be done here but remove the tree and start over.

Marshall County, Thirsty spruce trees

The visit was to look at some young spruce that were stunted and had discolored needles. The reason for these symptoms was apparent with a little digging. These young trees needed a drink. The soil was dry.



The treatment for these trees is to remove the grasses and weeds around the base of each tree and replace it with a 4- to 6-inch-deep layer of shredded bark mulch. The mulch should extend out at least one foot from the trunk. Also watering every week (if we do not receive an inch of rain during that time) with a gallon of water slowly applied to the soil.

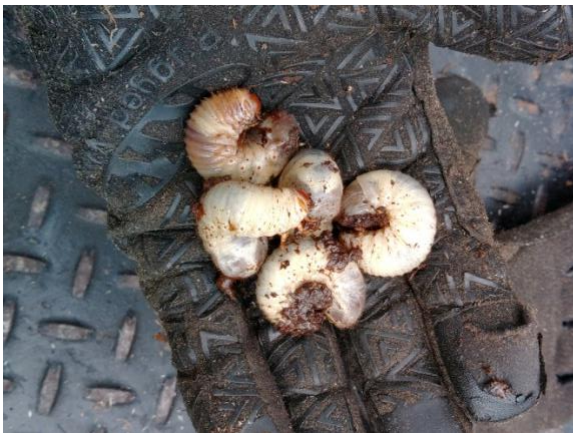
Yankton County, Flower hermit grubs in cottonwoods

This was a stop to look at some declining cottonwoods that were being removed. The years of drought are taking their toll on the mature cottonwoods in counties

lining the Missouri River. Many of these trees have canopies filled with large dead branches and the ground beneath them is littered with fallen twigs and dried leaves.



The decayed trunks of the trees had large, C-shaped, grubs burrowing in the powdery wood. These are the larvae of the flower hermit beetle (*Osmoderma eremicola*). The larvae are not the cause for the tree decline, they are just living in rotted wood.



The adults are one of the “June bugs” we find buzzing around porch lights during the summer. There is an extended period of adult emergence, so it is common to find larvae, pupae and adults during late summer.