



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

Tree Pest Alert



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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 listing 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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Plant development for the growing season

This past week's weather began in the 70s and ended in the 90s. We were not under a heat dome like the East Coast, but it was hot. These hot temperatures pushed the growing degree days (GDD-base 50) accumulations. We gained about another 130 to 170 GDDs. Here are the total GDDs for communities across the state.

Aberdeen	1098
Beresford	1188
Chamberlain	1439
Rapid City	1242
Sioux Falls	1420

The hot weather helped generate a line of storms across the center of the state. Wind gusts were clocked at 130 mph. Highmore and Huron are two communities with many fallen and snapped trees.

The summer flowering shrubs are now in full bloom. The hydrangeas are in bloom across the state. Panicle hydrangea (*Hydrangea paniculata*) and its many cultivars are some of our best, and toughest, flowering shrubs.



The blooming of these shrubs is also an indicator that emerald ash borer emergence is beginning to wane. We should see fewer adults flying during the coming weeks.

Drought monitor

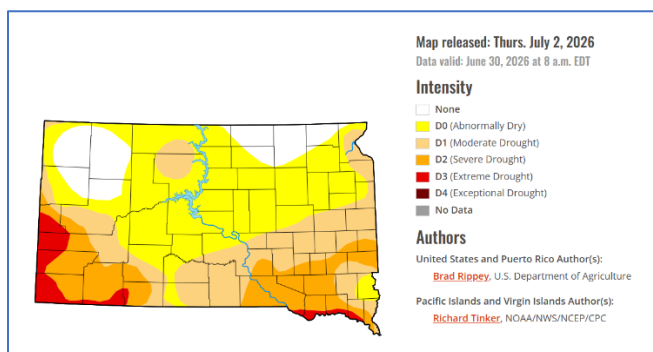
We had some rain across the state. This helped reduce the drought intensity in a few areas, not eliminate it. We

still have only 12% of the state drought-free. Perkins county in the northwest and McPherson, Brown, and Marshall counties in the northeast are the only drought-free areas of the state. They have not experienced drought this year.

The farther south you go in the state, the greater the drought intensity. Most of the northern half of the state is classified as “Abnormally Dry” with a ribbon south of this classified as “Moderate Drought.”

About a quarter of the state from Moody to Pennington counties is under “Severe Drought.” What has shrunk is the area of “Extreme Drought” now at about 4%. These are still the counties in the southwestern corner of the state and those along the Missouri River in the east corner under “Extreme Drought,” but the areas are smaller.

Here is the current map from the National Drought Mitigation Center at the University of Nebraska-Lincoln. We still need more rain.



Treatments to Continue or Start Soon Water

Water, water, water your trees and shrubs. Even if your area is not under drought, summer is still stressful for trees. An inch of rain delivers about 40 gallons to the root system of a 10-foot-tall tree and 800 gallons to its 40-foot cousin's root system.

Most of our shade trees perform best on about one inch of precipitation a week during the growing season. They can skip a week but more than two weeks without rain can lead to stress. Regular watering is the best approach.

If a homeowner has a lawn irrigation system and the application amount and frequency is keeping the lawn green, then the trees in the yard are receiving enough water. If the lawn is a lush green, the trees might even receive too much!

There is always a risk of overwatering trees in irrigated lawn. This is wasteful and can also be harmful to the trees. Too much water is as bad as too little.

A straightforward way to check if your trees and shrubs need to be watered is the dipstick trick. The principle is the same as checking the oil in your car but with a screwdriver in the soil. Push a screwdriver about nine inches into the soil. If the shank is moist along its length when you pull it out – no need to water. If it is dry, water.

Timely Topics

Emerald ash borer update

We continue to monitor development of EAB but during late June, it is hard to find anyone. There are lots of adults flying now but fewer are emerging from the tree. Emergence is usually completed by about 1,500 GDD. There are lots of eggs but unless you are looking beneath bark flakes, they are hard to find (and the size of a pin head).

There are some small first instar larvae in Sioux Falls threading their way through the inner bark of their host. I received this picture from Joe Zeleznik, Extension Forester in North Dakota of an EAB larva from north of Fargo. This looks like a second instar which is unexpected. It is a little large for one that hatched this year but a little small for one that hatched last year.



Emerald ash borer typically has a one-year life cycle but can sometimes take two years to complete its life from egg to adult. Two-year life cycles are most common in a newly infested area. We saw two-year life cycles back in 2018 when the insect was first discovered in South Dakota. Now we do not see them.

Two-year life cycles are common in areas with colder summer temperatures. These do occur in Manitoba. They might also occur in North Dakota. Fargo typically accumulates 2,500 GDD during a year. Sioux Falls accumulation for a year can top 3,500. Even Aberdeen can reach 3,000.

The plus (to us) of a two-year life cycle is it can take longer for the infestation to expand in an area. Maybe North Dakota might experience a lower expansion if two-year life cycles dominate. Joe will be sending me a larva

or two so head capsule measurements can be taken. This is a good means of determining instar.

Juniper (cedar) newly planted seedlings turning brown

These are seedlings planted this spring that looked green then and now are almost brown. The caller wants to know what “bug” is killing their seedlings (and what to spray) or if the district gave them bad stock (or planted it wrong). The brown symptoms are rarely due to a disease or planting but instead are a physiological problem associated with recently planted juniper seedlings.



The symptom is called “flagging” and is the browning of the juvenile foliage of the cedars due to the root system not able to absorb the amount of water required by the high transpiration rate. Cedars have a very rapid transpiration rate – the reason they make a poor Christmas tree; they dry out quickly in the home. They survive by absorbing an equally large amount of water.

Cedars are referred to as water spenders and, along with oaks, survive on dry sites not by giving up less water through transpiration but absorbing more water through the roots. The brown foliage turns green again by late summer as the hot weather subsides. This reduces transpiration, and the root system recovers from transplanting and absorbs more water.

The key to knowing whether this is a disease such as phomopsis twig blight or merely flagging is examining the foliage to see if it is now turning gray as well as brown and the scale leaves are dry and becoming brittle – symptoms of twig blight – or the foliage scales are just turning brown but are still soft and pliable – the flagging. The flagging is a little more common this year, ironically due to the wet soils that have further limited root growth and water uptake.

E-samples

Cottonwood petiole gall

Cottonwoods are beginning to drop leaves. This is not an early sign of fall but the result of insects. Each of the fallen leaves have a small bump on the petiole (leaf stalk). This is the cottonwood petiole gall formed by a small green aphid known as (you guessed it!) the cottonwood petiolegall aphid (*Pemphigus* spp).



The insects begin feeding on the leaves in the spring and the galls form around them. The aphids usually mature by July, and the winged adults emerge from the galls and fly to another host. The alternate host is a plant that is a member of the mustard family. The aphid feeds on the roots.

The cottonwood damage from this insect is annoying to us – who wants to rake in July – but it does not harm the tree. The fallen leaves do not need to be burned; the insects have already left, so leaving these leaves will not increase the problem next year.

An application of dormant oil can be applied on the tree to kill the aphids before they move out from the bark fissures next April. Most people do not bother with spraying, just raking.

Hackberry tatters



I continue to receive pictures of hackberries (*Celtis occidentalis*) with tattered and wilting leaves. Many of

these affected leaves are falling. The reasons behind this phenomenon were discussed in the June 3, 2026, issue of the *Pest Alert*.

The tree in this picture may be one of the many hackberries suffering from this cold temperature disorder. But the presence of this many wilting leaves may be the result of other stress agents. I will be stopping by to look at these trees.

Japanese beetles are appearing

This Japanese beetles (*Popillia japonica*) are appearing in South Dakota and Minnesota. They are about 1/3 to 1/2 inch long, with copper-brown wing covers that shine in sunlight. There are also five white patches of hair on the side of the abdomen, just below the wing covers.

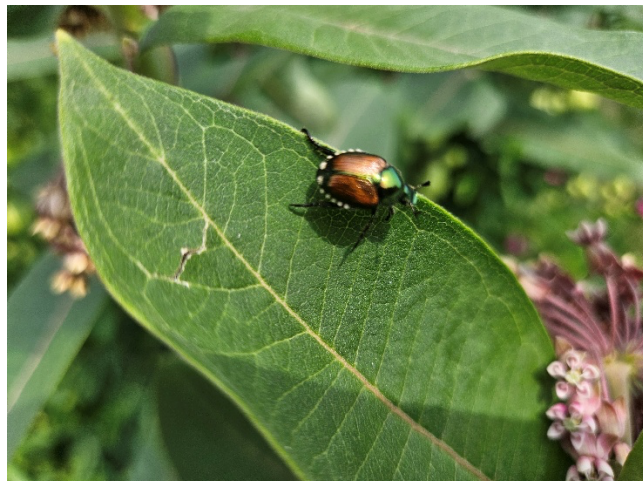


The adults feed on the leaves and flowers of many plants. Roses are their favorite – especially the flower petals – but hydrangea, lindens, and even cherries are common woody plant hosts (picture above). The feeding rarely kills the host; the adult beetles are like kids that will not eat the crust on bread – they avoid the tough veins. The lace-like pattern on the leaves is unsightly.

They will even feed on milkweed flowers and nectar (picture top right column). The issue here it that they are competing with monarch as the butterflies stock up on the nectar before beginning the long migration in the fall.

Killing the adults on roses is difficult to do without affecting pollinators since the plants are still in bloom.

One insecticide that has the least impact on bees is Neem oil. Frequent applications are needed as it is only effective for several days.



Juneberry affected by cedar-quince rust

In addition to cedar-apple rust and cedar-hawthorn rust, there is also cedar-quince rust (*Gymnosporangium clavipes*) in which one of the hosts is Juneberry (aka serviceberry, *Amelanchier*) and the alternate host remains the same, redcedar or juniper. Nathan, the SDDANR agro-forester sent me a picture of this infected tree.



The infection on Juneberries results in disfigured fruit and stem cankers but the foliage often shows no damage

unlike many other rust diseases. The juniper hosts develop cankers – not the galls we typically see with cedar-apple rust. The cankers on either host can girdle young branches which results in canopy dieback.

Willow sawfly

This is a great picture of willow sawfly (*Nematus oligispilus*). This is a common sawfly of willows, both our native species and the many ornamental ones. This sawfly has two generations per year. The first-generation larvae appear in mid to late June with the second-generation ones in August.



These large (about ½ inch) black with yellow spot larvae feed in clusters along the edges of the leaves and will all curl in unison if disturbed. As the larvae become mature, they feed individual and can quickly devour an entire leaf.

They can defoliate a tree in a few weeks though willows can usually recover from this injury quickly. If control is desired, the larvae are easily killed with a foliar application of a pesticide containing either carbaryl or malathion as the active ingredient and labelled for this use.

Samples received/Site visits

Davison County, Dog vomit fungus

Mitchell must be the humidity capital of South Dakota. This disease applies in Mitchell and Dakota Dunes more

than most other communities in the state. I can count on making at least a stop or two in these communities to look at “moldy mulch.”



This is ‘Dog Vomit’ fungus (*Fuligo septica*). It is beginning to appear in mulch beds now that we have hot and humid weather. Despite the word fungus in its name, it is not a fungus but a slime mold. However, the ‘vomit’ part of the name is very descriptive. It does look like Fido coughed up his dinner all over the mulch bed.

The mold shows up every year, usually in early July, when the temperatures and humidity are high. The mold forms in fresh mulch so most of the calls come in on mulches that have been placed this last spring or fall. The only control is to break up the mass with a rake to dry it out – it rarely reappears unless you add fresh mulch.

Do not spray water to break it up, this just allows the swimming spores to disperse easier. The best management is to just leave it alone. It will dry out and degrade on its own.

Lincoln County, Lecanium scale on elm

While the most common reason for yellowing leaves in the canopies of elms at this time of year is due to DED-infections (see Minnehaha sample), there are other possibilities. Scales, small sucking insects that are sessile while adults, are common on large elms in our state. I have already seen a few trees that look very sparse from the falling, yellowing leaves but the cause is not DED but extremely high scale populations.

Almost every branch of this tree was covered with lecanium scales. The lecanium scale (*Parthenolecanium*) is a complex rather than a single insect. The adults have brown, hemispherical or turtle-shaped shells that are tightly held to the twig or branch. The eggs hatch from beneath these shells about the time littleleaf lindens are in bloom (a week ago).



The crawlers that are hatching are the life stage to treat. Insecticides containing imidacloprid as the active ingredient can be applied in the spring as soil drenches, as the leaves open, or even in the fall. The chemical is taken up throughout the tree and kills the insects as they feed. But it must be applied at least 30 days before the nymphs begin feeding. It is too late for an application now, but one can be applied this fall to kill the insects next summer.

Minnehaha County, Dutch elm disease

The most visible symptoms of Dutch elm disease (DED) are wilting and yellowing leaves that begin to drop during midsummer. Oftentimes these symptoms are restricted to an individual branch or limb but other times they appear throughout the entire canopy. The trees expressing symptoms throughout the canopy now were infected last year.



These early expressions of symptoms are not usually due to new infections carried in by beetles. The symptoms of new infections started by beetle-carried spores occur in July and are often limited, at least initially to the leaves at the tips of branches turning yellow and wilting.

Bark beetles and root grafts are how the fungus spreads from host to host. The most effective community-wide effort for DED management is to quickly identify and remove infested trees. The sooner infested trees are removed, the less likely the surrounding healthy elms will become infected.

While the symptoms are consistent with DED, there is the possibility that this could be verticillium wilt. We are testing now to confirm whether this is DED.



Individual healthy trees can be protected from DED by root-flare injections of either Arbortect or Alamo fungicides though these must be repeated every two to three years. Commercial tree companies must do the injections. These are best used as a preventative measure.

There are no treatments for verticillium wilt on elms.