



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

The weather whiplash continues! Sioux Falls had a high of 84°F and a low of 0°F during the past week. Rapid City was not as extreme with a high of 81°F and a low of 24°F. Aberdeen had a high temperature of 80°F.

The crabapples are in bloom from Sioux Falls to Rapid City. This is a Spring Snow crabapple (*Malus* 'Spring Snow') which lives up to its name. The trees are covered with white petals which will fall like snowflakes in a week.



Here is the accumulation of growing degree days (GDD) for communities around the state. We gained anywhere from 30 to 70 GDDS during the past week.

Aberdeen	111
Beresford	313
Chamberlain	352
Rapid City	349
Sioux Falls	270

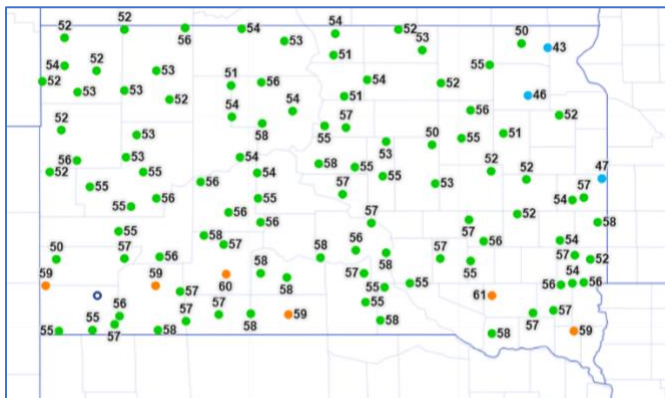
Soil temperatures

The soil temperatures at a 4-inch depth are now warm enough to begin planting trees and shrubs, either bare-root or container. The planting season will now go into full swing.

Unfortunately, in the southern half of the state we are missing another key planting ingredient – water. Woody plants will need to be watered at planting. Do not plant into dry soil and wait a day for water. Every bare-root

tree seedling going in the ground this spring needs a quart of water immediately at planting.

This should be repeated daily for at least the first two weeks following planting. This is a challenging task to do by hand. It is another good reason for a drip irrigation in a new windbreak this spring.

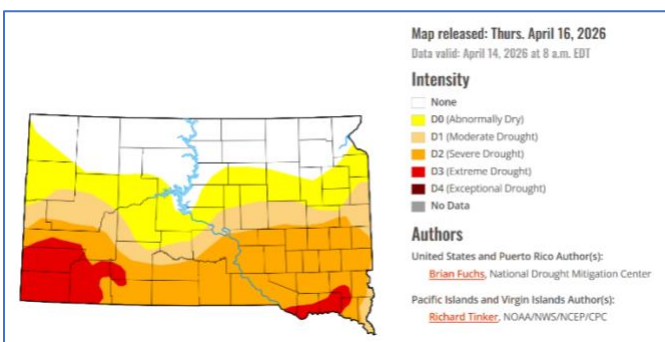


Drought monitoring

The drought-free region of the state has not changed in the past week. A little more than a quarter of the state, the northern quarter, is drought-free. Another quarter of the state – a ribbon running through the middle - is classified as “Abnormally Dry.”

The southern half is under drought conditions. The southwest and southeast corners of the state are still under “Extreme Drought.” These two regions of the state have been under some level of drought intensity for the past couple of years.

Here is the current map from the National Drought Mitigation Center at the University of Nebraska-Lincoln.



Treatments to Start Now

Spruce spider mites

Spruce spider mites (*Oligonychus ununguis*) become active as silver maple leaves expand. Spruce spider mites are cool season mites meaning they are active in the spring (beginning at 190 to 360 GDD) and fall, not during the summer heat. The mites will go dormant once

the temperatures consistently reach into the mid 80's. While the mites are beginning to feed, the damage to the needles - bronzing and browning - does not typically show up until summer just as the mite populations begin to decline.

Treatment options are extremely limited for tree owners, with horticultural oils and insecticidal soaps being the two most common. These are really suppression treatments, not eradication, and the webbing often prevents these pesticides, particularly the soap, from penetrating. They should be applied as silver maple leaf out and then about 7 to 10 days after the first treatment to kill new mites as they hatch from eggs.

Be aware of the cautions for using these products, particularly for spruce, as applications of oils or soaps can result in the loss of blue or silvery color to the foliage. You can make a blue spruce a green spruce very quickly, so read and follow label directions very carefully. You can also turn it brown if you apply oil sprays when the temperatures are too hot so read and follow label directions exactly.

A spray homeowner can use on their smaller yard spruce has Tau-fluvalinate as an active ingredient. This is usually found in pesticides that also contain chemicals to kill insects so it will be one of the active ingredients listed rather than the only one. Pesticides containing Tau-fluvalinate and labeled for mite control should be applied in two treatments spaced 10 days apart.

There are products available to commercial applicators that provide excellent control and have minimal impact on non-target organisms. It is worth the money to have a commercial applicator provide treatments considering the effectiveness of these products versus those available to tree owners. This is one pest it is far better to pay for a professional job than to attempt to do it yourself.

And finally, another value in hiring a professional is to be sure the problem is spruce spider mites. We have another mite, the two-spotted mite, which is found on many plants in our state (including soybean) and sometimes it is the problem on the spruce, not the spruce spider mites. The two-spotted mite is a warm season mite and does not overwinter on spruce bark, so the timing of controls is different.

Diplodia tip blight

Diplodia tip blight (*Diplodia*) is one of the most common disfiguring diseases of 2- and 3-needled pines in South Dakota. It is a common disease of Austrian (*Pinus nigra*) and ponderosa (*P. ponderosa*) pines.

The most common means of managing the disease is with fungicides. The treatment is foliage applications with fungicide containing thiophanate-methyl, propiconazole, or chlorothalonil (and labeled for treatment of this disease). The first application is applied just before the

bud sheaths have opened. This is beginning across the southern half of the state.

Timing is critical. Once the bud sheaths have opened and the candle begins to form, it is a little late to begin the first application. This is the one that provides most of the protection. A second application is made about two weeks later.

But do not start injecting ash for emerald ash borer!

Everyone wants to get treatments started as soon as possible. But it is a little early for EAB. Trunk injections should begin just after the tree is leafed out. We are still a few weeks away for treatment.

Timely Topics

Emerald ash borer update

We continue to monitor larval development in ash trees. We see larvae uncurl and shrink into prepupae. I expect to see pupae form in another week. Adult emergence is expected to begin in mid to late May in Dakota Dunes and early to mid-June in Milbank.



More information on EAB lifecycles is available at:

<https://extension.sdstate.edu/sites/default/files/2023-05/P-00266.pdf>

Pine bark beetle update

Pine engraver beetle (*Ips pini*) overwinters as adults in the leaf litter. They emerge from their leafy bed in the spring to search for recently fallen trees and branches. Orange-brown boring dust in this fallen material is the first sign of the spring flight. But we have not seen this yet.

The adults begin flying when the maximum air temperatures are consistently in the 60s and 70s. While engraver beetles flight activity is associated with warm air temperatures, there must be other factors involved.

The beetles are waiting a little longer to begin their flights this year despite the warm days..



Once the beetles do begin to fly the large quality of green, down material from the winter windstorm will provide the perfect home for raising a beetle family. Once their larvae finish feeding in this material, the second-generation adults may move to standing trees.

If we receive normal or above normal rain from April through June, the standing pines will be healthy enough to discourage attacks from the beetles. If the drought continues, we may see significant tree mortality this summer from engraver beetles.

Maple syrup – boiling down the sap

We had the evaporator out boiling down sap into syrup. This one was built by Perry, one of our Master Gardeners. It is a basic unit but works extremely well for small production.



The key requirement for an evaporator is having two flat pans. Shallow pans with a larger surface area bring all the sap to boil at once and faster. The water is boiled off to concentrate the sugar to about 66 percent. Remember

it started from the tree as sap with the concentration of about two percent sugar.

The purpose of two pans is one pre-heats the sap while the other is the finishing pan. You pour the cold sap into the first pan, then add it to the second once it is warm. This speeds up the process.

The process of boiling off the water can take several hours. Once the sap is at 219°F (no higher!), remove it from the heat. It is ready to pour through a filter. This removes the ash and sugar sand. Some people use coffee filters, but it is best to use filters specifically made for maple syrup.



The sugar maples (*Acer saccharum var nigrum*) in Sica Hollow still have a good sap flow. Trees are producing about a half gallon of sap per spile (tap) per day. The season may continue for another week or so along the cool, north-facing slopes in this northern forest.

Boxelder (*Acer negundo*) is also found along streams in Sica Hollows. We saw about a gallon of sap per spile per day earlier in the season. The sap flow has now stopped in boxelder. It stops a week or two before sugar maples.

April Forest Health Zoom program – Timely treatment for Tree Pests

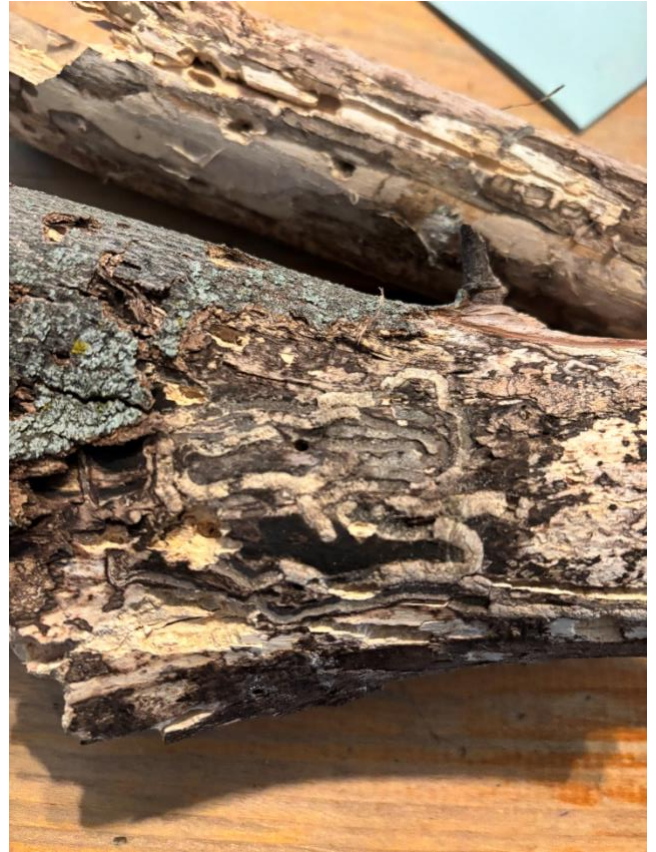
The April SDDANR forest health zoom workshop will be Wednesday April 29 from noon to 1 pm (MDT) or 1 to 2 pm (CDT). The live zoom session will cover timely treatments for tree pests. Attendance is free but register at this link:

https://state-sd.zoom.us/meeting/register/no38jSN_SGexiUzFNKhfkW

E-samples

Banded or Redheaded ash borer

These oval-shaped holes are exit holes of either the banded ash borer (*Neoclytus caprea*) or the redheaded ash borer (*Neoclytus acuminatus*). They are about the same size as those of EAB but are not crisp D shaped holes. They also attack more than just ash trees.



These native borers create galleries that are like those made by the emerald ash borers, but their galleries are more meandering than the tight serpentine galleries constructed by EAB. These native borers attack stressed and dying trees. They are not a threat to healthy trees.

Pale pine needles

I usually receive a picture or two of pale needles on the tips of pine (see next page). This is also the reason for visits to look at pine trees in the subdivisions surrounding Rapid City. The reason is not a bug but a slight (and temporary) nutrient deficiency.

Late winter/early spring chlorosis in pine terminals is usually due to either wet or dry soil limiting nutrient uptake. The tree demand for nutrients, specifically nitrogen, is increasing at this time as the new growth prepares to expand.

Once the soil warms and either the excess water drains (for wet soil) or the spring rain begins (for dry soil), the normal green color returns. The treatment this spring is not adding nitrogen but water. Most of the state is dry and uptake of nutrients is limited by the moisture stress.

The reason for specifically mentioning Rapid City is the pines are in very shallow soils on the hillside. These are prone to drying out in the spring, I am already seeing pines with pale or yellowing needles along Skyline Drive. These trees need a drink!



The adults lay their eggs on the bark and tiny larvae are beginning to hatch. The larvae tunnel deep in the trunk than emerald ash borer. They also maintain an opening to the trunk so usually the ground beneath an infested tree is covered with tiny pellet-like frass, a mix of sawdust and poop. Larvae feed from June until spring of the following year.



The clearwing ash borer attacks stressed trees, not healthy ones. I noticed the tree was also sprouting small, distorted watersprouts along the trunk. The grass beneath the tree was dead. The sprouts and the dead grass were the result of chemical injury – that was the stress that invited the clearwing ash borers to attack the tree.

Pennington County, Dothistroma blight in ponderosa pine

While pine beetles are on the minds of many pine tree owners in the Black Hills, there are also several diseases that can cause discolored needles and tree decline. This was one of those stops.



This home site had native ponderosa pines. Some of the trees had discolored needles. The discolored needles had brown or dead tips, a green base, and a reddish-

Samples received/Site visits

Brule County, Not emerald ash borer, the native clearwing ash borer

This was a stop to look at a suspected emerald ash borer infestation. The trees showed some of the common symptoms and signs of EAB. The wood showed blanding and woodpecker drill. But the woodpeckers were not after EAB but our native clearwing ash borer (*Podosesia syringae*).

This insect creates round, pencil diameter holes, it emerges from the ash tree. The adults being flying at about 350 GDD. They resemble small wasps, so they are either missed or avoided if someone does see one.

brown band separating the two. The bands often had a yellow halo.

These are common symptoms of dothistroma needle blight caused by the fungus *Dothistroma septosporum*. This disease slowly thins out the canopy of its host so it may be overlooked until the canopies are severely affected.

The older needles, those form in 2025 or earlier, are susceptible to infection in mid-spring as the spores are being released. The new needles, those that will open this year, are susceptible once they fully mature. This means two applications are needed to manage the disease – one just as the shoot buds are expanding (early to mid-May) and a second once the new needles mature (late May to early June).



The most common fungicides used to manage the disease are ones containing copper or chlorothalonil. These applications will manage, but not eliminate, the disease. This means two years of treatment may be followed by several years of no treatments until the disease symptoms appear again.