South Dakota State University Extension

Tree Pest Alert

January 21-28, 2026 (biweekly October-March)

Volume 24, Number 2

In This Issue

Samples

John Ball, Professor, SDSU Extension Forestry Specialist & South Dakota Department of Agriculture and Natural Resources Forest Health Specialist

Email: john.ball@sdstate.edu

Phone: 605-688-4737 (office), 605-695-2503 (cell)

Samples sent to: John Ball
Agronomy, Horticulture and Plant Science Department
Rm 314, Berg Agricultural Hall, Box 2207A
South Dakota State University
Brookings, SD 57007-0996

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.

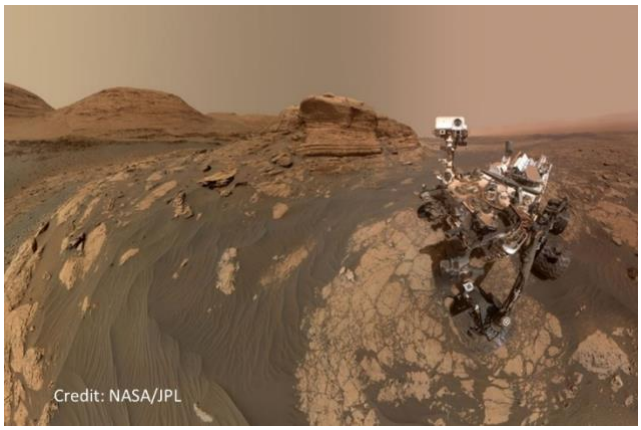
Any treatment recommendations, including those identifying specific pesticides, are for the convenience of the reader. Pesticides mentioned in this publication are generally those that are most commonly available to the public in South Dakota and the listing of a product shall not be taken as an endorsement 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

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

Plant development for the growing season

We ended January in a deep freeze. Night temperatures were in the subzero range with some days barely reaching 0°F if that. Sioux Falls had a high of -5°F for January 23rd, Brr!



It was warmer at the Gale Crater on Mars last week. The high temperatures there reached into the balmy 40s! The Gale Crater is in the Martian southern Hemisphere just slightly below the equator. Before everyone decides to go there rather than Florida for a midwinter vacation, the night temperatures at the Gale Crater were still dropping to -190°F.

Our deep freeze stalled any accumulation of growing degree days (GDD base-50) during the past two weeks. This is the GDD accumulation for the last two weeks of January for communities across the state.

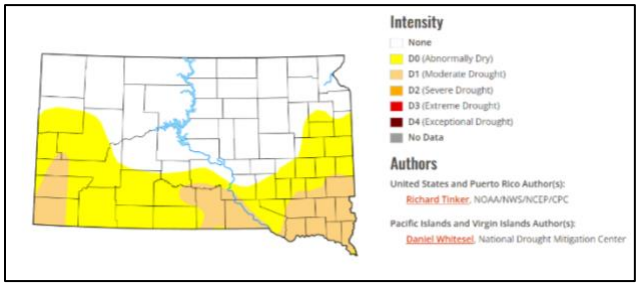
Aberdeen	0
Beresford	9
Chamberlain	22
Rapid City	32
Sioux Falls	5

Trees are like bears. They hibernate during the winter. During the latter part of January, trees – I do not know about bears - reach their deepest sleep. The trees and shrubs common to our region can tolerate these sub-zero temperatures. We rarely see true winter cold injury on trees and shrubs. What we often call winter injury is mostly spring injury due to abnormally cold weather happening in March when these woody plants are beginning to wake up from their winter slumber.

Drought monitoring

About half the state is now classified as drought free. We have been slowly decreasing the drought-free area of the state for the last few months. About 30 percent of the state – the lower third - is classified as “Abnormally Dry.” The southeast and southwest corners of the state, along with Gregory and Tripp counties - about 15 percent of the state- are classified as “Moderate Drought.”

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



Treatments to Begin Now

Place your plant order with your Conservation District!

Now is the time to order your bare-root trees and shrubs for planting this spring. Conservation districts across the state have been advertising a wide array of plant material for windbreaks, landscapes, and orchards.

These are mostly bare-root plants, though there are some potted evergreens listed. Bare-root trees and shrubs have a narrow window for optimal planting. The season begins when soil temperatures are warm enough to promote root growth (45° to 50°F) which was the middle of April last year. The planting season ends when the average air temperature stays in the mid-70s, which was early June in 2025.

Ordering your plant material now gives you the best choice of plants. It also means your order will be picked up at the nursery and available to you at the right time to get the trees and shrubs in the ground this spring.

Timely Topics

Emerald ash borer update

We continue to monitor larval development in ash trees from Grant to Union counties. As with trees, emerald ash borer (EAB), reaches its maximum cold tolerance during late January. The subzero temperatures we experienced during the last two weeks are well within the tolerance for EAB. We need to see -40°F or colder to kill EAB. Martian weather is what we need to kill the beetles.

Emerald ash borer confirmed in Fargo, North Dakota – new county quarantine

Tuesday, January 27, the North Dakota Department of Agriculture confirmed EAB in Fargo. A larva was found in ash by the city forestry staff. The confirmation was not too surprising as the insect was found in Moorhead – the city on the Minnesota side of the Red River – in 2023.

Cass County is now under state EAB quarantine regulations in North Dakota along with Lamoure County where EAB was confirmed in 2025. A recent paper in *Conservation Science and Practice* (Hudgins et al. 2024. Spread management priorities to limit emerald ash borer (*Agrilus planipennis*) impacts on United States street trees. Volume 6 (3)) showed that quarantines were the most cost-effective means of slowing the spread of EAB.

Pine bark beetle update

Pine engraver beetle and mountain pine beetle have been in the Black Hills news lately so it a good time to review these insects. First, pine engraver beetles (*Ips pini*) attack stressed pines and fresh fallen branches and slash. They cannot successfully attack healthy pines. Pine engraver beetles are spending the winter as adults in the litter layer on the soil. As the picture below shows, no engraver beetles are in the wood at this time of year.

Mountain pine beetles (*Dentroctonus ponderosae*) attack healthy trees though they can also be found in live trees

with tops snapped during windstorms. They spend the winter as larvae beneath the bark of their host.

The forecast for pine engraver beetle induced-tree injury depends on our spring rains. We have a lot of down branches which may provide a food source for the first-generation adults to find a home for their offspring in April. When their offspring emerge as second-generation adults in late May or early June, the downed wood may be too dry to be suitable food so they will attack standing stressed trees. If we have adequate rain between April and June, the trees are healthy and can forestall any attack.

If spring is dry, then we may see pine engraver beetles attacking standing trees this coming summer. The beetles are found throughout the Black Hills so outbreaks can appear anywhere – if we are in a drought this year.

Mountain pine beetles are also found throughout the Black Hills. Some people mistakenly reported mountain pine beetle “disappeared” after the last epidemic (1997-2015). This is incorrect, the population just dropped to endemic levels. The population is now increasing in the area between Lead and Spearfish, mostly in dense stands of larger diameter trees. While most of the mortality is in groupings of twenty trees or fewer, we are also seeing some groups of 50 or more trees.

This does not mean a return to a landscape level epidemic in the Black Hills. But we may see a few years of the northern Black Hills dotted with pockets of pines killed by the beetle. Forest landowners in this area should consider having their mature trees – those more than 8-inches in diameter – thinned to reduce stand susceptibility to attack.

If trees were attacked last fall, evident by the browning needles and pitch tubes on the trunk between three and 50 feet, there are sleeping larvae inside. These will become adults next July and emerge to attack other nearby pines. If practical, remove infested trees. These trees can be either milled or debarked to reduce the local population of adults flying next summer. This is not always necessary, especially in pockets of twenty trees or less, as the emerging beetles are as likely to disperse in these small pockets as they are to attack nearby trees.

But a good management practice for both pine engraver beetles and mountain pine beetles is to hire a commercial tree service to spray the trunks with insecticide. If the application is made in March, it will kill any early season engraver beetles and will still be effective when mountain pine beetles attack in July and August.

The spray should be limited to a few high-value pines near the residence – do not spray entire stands. The treatment is also for trees that may be attacked, those residential properties nestled in the forests.

E-samples

Cracking, not exploding, trees

I am still receiving pictures from people concerned about the sounds coming from their trees. This is a large tree that the homeowner heard cracking sounds during windy evenings. They were worried that the tree might fall.

This is different from the frost cracking discussed in the last issue of the *Pest Alert*. Cracking sounds emanating from a tree’s canopy means there are branches with fractures or splits. These may originate from multiple injuries from mechanical stresses in the wood to squirrel feeding.

These factures or splits will open more during cold weather and then seemly close during the summer. Sometimes they are shallow and not a concern, other times they are signs of a higher likelihood of branch failure, especially if they originate at a branch junction as pictured below.

How serious the concern is for this tree cannot be determined from a picture. A visit will be required to assess the risk.

Samples received/Site visits

Lawrence County, Zimmerman pine moth in pine

There are more insects feeding in Black Hills pines than the trio of bark beetles – pine engraver beetle, mountain pine beetle, and turpentine beetle. Gummy pitch masses on a pine is also a sign of Zimmerman pine moth, a complex of *Dioryctria* borers.

Zimmerman pine moth is a major pest of Austrian (*Pinus nigra*) and ponderosa pines throughout the region. The appearance of bubble gum globs of pitch at branch whorls, broken branches, and deformed tops are common symptoms of infested trees.

The larvae burrow into the trunks and branches causing this damage. The cream-white resin globs are produced by the tree to pitch out the larvae as they burrow into the tree. The globs from last year are still soft and gummy and if pulled apart will reveal feeding holes created by the larvae.

The tiny larvae on pines are now in webbed nests beneath bark scales They will emerge from this webbing in April and move into the branch whorls at the trunks of pine to burrow into the wood. They will spend the summer tunneling through the inner bark and wood weakening the branch attachment to the trunk causing the branch to break.

The most common treatment is an application of an insecticide containing permethrin as the active ingredient (and labelled for control of Zimmerman pine moth on the host) applied to the trunk and branch union. The larvae will start moving at about 100 GDD, early April last year, and a timely application will kill the larvae as they crawl along the bark.

Lincoln County, Witches' broom in hackberry

Witches' brooms are a proliferation of short shoots that are tightly bunched together at the end of branches. They may be caused by diseases, mites, or natural mutations. They rarely kill their host but can cause decline and dieback on branches on which they appear.

Hackberry witches' broom is caused by the combined activity of two different organisms, a powdery mildew fungus (*Podosphaera phytoptophila*) and a mite (*Eriophyes celtis*). These two are always found with the brooms but neither has been proven to be the cause of the symptoms. It is thought that mites might cause the brooms and the fungus colonizes the tight clusters.

The brooms only appear on specific trees. Even two trees with intertwining branches may have one covered in brooms and the other remain broom-free. If a tree has a broom, it will always have brooms so pruning them out is a task worthy of Sisyphus.

Minnehaha County, Rabbit damage on hawthorn

Young trees with smooth bark are most susceptible to rabbit browsing injury. Once the bark thickens and becomes rough, it is not as attractive to rabbit, except this year. I am finding young apples, crabapples and other fruit trees with rough bark browsed by the bunnies.

This year I am also seeing bunny damage on trees that are often overlooked by rabbits. This is a cockspur hawthorn (*Crataegus crus-galli*) that was girdled by the bunnies. Hawthorn is closely related to other fruit trees (and you can eat the fruit but might not like the taste).

The injury appears as gnawing, usually pairs of deep grooves, made through the bark. The gnawing will usually extend completely around the trunk. Once the rabbits have gnawed completely around a stem, it usually kills the tree above this injury.

In this instance the gnawing is not completely through the inner bark nor encircling the trunk, so the tree may survive. The removal decision can be delayed until early summer. If the tree's leafs open and do not quickly wilt, the tree might recover. But the tree should be protected from further injury this winter.

The best way to reduce rabbit damage is fence off small trees. This was a fall activity – since it is a little too late for this tree. But it is still worth doing now if the small apple, crabapple, or other fruit tree has so far been missed by the rabbits. Most of our rabbit browsing occurs from now into spring when other material comes available.

Rabbit repellents are usually applied throughout the winter – on the days warm enough to spray. Some of the best repellents are made of dried blood or rotten eggs and work as a fear deterrent. The sulfurous odor from these materials makes rabbits avoid treated plants as they fear being ambushed by a predator. There are several commonly available products made of dried blood available at garden centers.

While products based on fear work, no product is 100 percent effective, nor does it work on every year. Once the rabbits are used to feeding in a spot – such as this hawthorn – they may not be easily discouraged. However, we have a lot of cold weather still ahead of us, so it is still worth applying on young stems.

Minnehaha County, Browning arborvitae

This spot was an arborvitae (*Thuja occidentalis*) that was suffering winter-burn – scorched and dry foliage. But we are just starting winter. This is desiccation injury, but the problem started when the arborvitae was planted last fall.

Fall is a good time for planting evergreens. The soil is warm, but the air is cooling and usually we have adequate moisture. But drought was returning to eastern South Dakota last fall. It was essential that new evergreen be watered on a regular basis so that the roots begin recovery and the plant absorbs sufficient water to prepare for winter.

That was not the case with this planting. The potted evergreen shrubs were more baptized than watered. A little water just at planting was not enough to protect this tree from desiccation injury.