South Dakota State University Extension

Tree Pest Alert

January 31-Feb 7, 2024 Volume 22, Number 3

In This Issue

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.

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

Plant development for the growing season

The warm spell may result in some premature loss of hardiness in our introduced trees. The native trees are smart enough not to be fooled by a little warm weather. They know some freezing weather is yet to come. We will have to wait until spring to see if any winter injury resulted from this pleasant (for us) warm spell.

The temperatures have been warm enough that the Growing Degree Days (GDD- base 50) are beginning. This is the accumulated 2024 GDD for locations across the state.

Aberdeen	0
Beresford	1
Chamberlain	7
Rapid City	25
Sioux Falls	1

The drought continues into 2024. The western (Harding to Custer counties) and eastern (Grant to Union counties) edges of the state are classified as "Abnormally Dry" or" Moderate Drought" by the U.S. Drought Monitor.

Treatments to Begin Now

Decide now what to plant this spring!

Spring will be here soon so now is the time to decide what trees and shrubs to order from your county conservation district. They have had their lists of bare-roots and container plants out since last November. If you have been procrastinating, you might find you are too late, or your first choices are sold out. Still, it is best to check now rather than put it off any longer.

I have looked over the listings from many of the districts and am pleased with the wide selection of materials available. We are learning our lesson not to rely on too few species – ash and blue spruce – for too much of our planting – the only good thing about emerald ash borer.

Now these lists have a wide array of species including basswood, black cherry, northern catalpa, shagbark hickory, and more! Not all these trees are adaptable to every site, but the conservation districts can provide great advice on what trees are best suited to a particular location and soil.

One of my favorites – and a tree rarely seen on lists two decades ago – is the Meyer spring (*Picea meyeri*). This

is a good substitute for the problem-prone Colorado blue spruce. Meyer spruce is not a perfect tree – unlike your children, no tree is perfect – it has a slower growth rate than blue spruce and is more often browsed by deer.

Still, it has a lot to offer in diversity and reduced pest problems. I stopped by to look at this belt of Meyer spruce in Marshall County – pretty as any blue spruce!

Timely Topics

Road de-icing salts

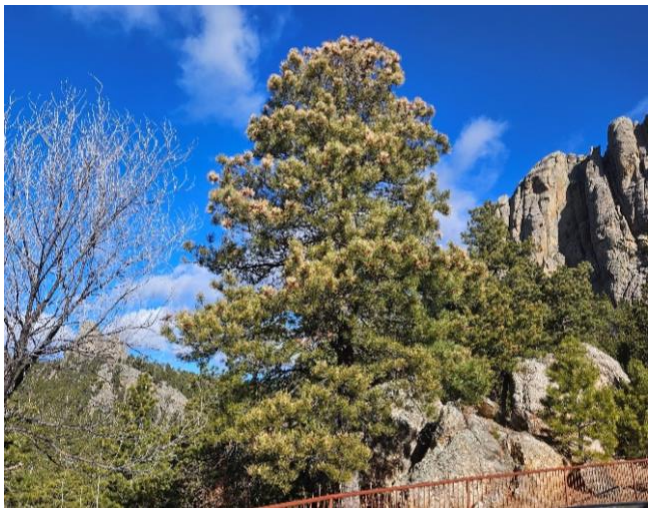
Diplodia tip blight is fungal disease caused by the pathogen *Diplodia sapinea* (syn *Sapheropsis*). The disease is found in Austrian, Scots, and ponderosa pines across the state. It is common in the pine forests of the Black Hills.

The infection results in the death or stunting of shoot tips. The needles attached to these shoots will turn brown and eventually become hanging, dead needles. The tops of infected trees are usually the normal dark green, but the lower canopies can become filled with browning and gray needles.

But tip blight is not the only problem affecting pines in the Black Hills. The pines along some of the highways are presenting bleached brown needles starting at the top of the tree and concentrated on the needles facing the road. This is foliage injury from de-icing salt.

The damage is most noticeable on curves where more salt is needed to reduce roads icing. Along one of these long curves I could pick up nuggets of rock salt that were as numerous as sand pebbles on a beach. The trees adjacent to the road were all presenting symptoms of their high-salt diet.

The chloride in sodium chloride is the causal agent for foliage injury. The damage is due to the salt being sprayed on the foliage, not absorbed by the roots through the meltwater. The salt-laden spray is not just the liquid splashed up. It also comes from dust particles lifted from the dry salt crust on the road.



A rainy spring (March to April) will aid in washing the crust from the roads and foliage. This may not be happening this spring. The region is in a drought and the long-term forecast is not promising.

Winter yellowing of pines is sometimes normal

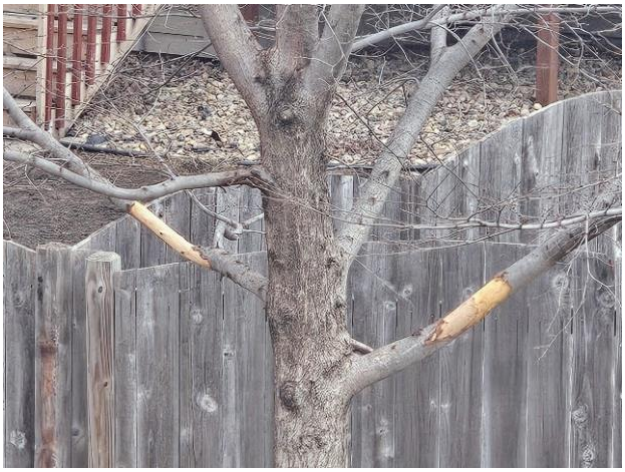
We associate pine needle discoloration with winter-burn or another disorder, but sometimes it is just a normal winter color change for the species. I am receiving calls from tree owners wondering what is causing their pine tree to turn yellow. Most of the calls are about Scots pines – many of these trees have their needles turn a yellow green every winter – but I have also received calls about Swiss mountain pines.

Swiss mountain pine is the common name given to mugo pines (*Pinus mugo*) that have a pyramidal form. One of the best known in our region is the Tannenbaum Swiss Mountain pine. This very hardy (Zone 2!) small (15 feet) tree has the perfect Christmas tree shape. The summer needle color is a dark green but some, though not all, will turn a yellow green during the winter. These needles fade to green once the weather begins to warm in the spring.

E-samples

Squirrels chewing on elms

The squirrels are starting to strip the bark from elm tree branches. This is a problem every spring with elms, hackberries, lindens, maples and even an occasional buckeye. I received this picture of a young elm tree with its two lowest limbs girdled by squirrels.



Why squirrels do this in late winter is unknown, but there are plenty of theories. Most of these have been discussed in previous *Tree Pest Alerts*. They include gathering material to line nests, dulling the pain of pregnancy and birth, to chewing into the sweet inner bark. I think they do it to annoy us.

There is not much that can be done to prevent bark stripping. Some recommend using a commercial rabbit repellent with cayenne pepper, but this would be difficult to do on every branch. Since squirrels do not feed on every tree – one elm will be stripped, and the adjacent one ignored – a lot of repellent will be wasted.

Any branch that had the bark stripped completely around it may die this spring or early summer. Since some branches can recover from this injury, removal of these branches should be delayed until June.

Samples received/Site visit.

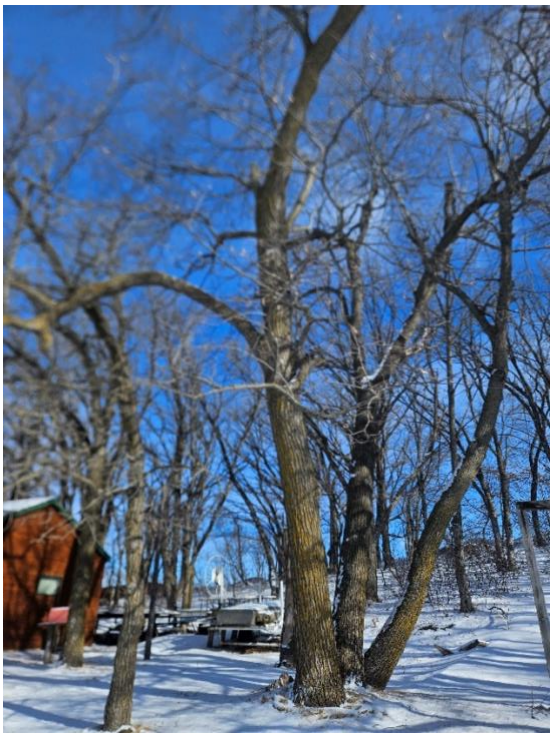
Marshall County, Linden borer

An insect I rarely see in our state is the linden borer (*Saperda vestita*). This longhorned beetle is native to the state but basswood (American linden) forests are not common. We have, not yet, over-planted lindens in South Dakota, so I only see the insect occasionally.

This was a sample from Marshall County. A landowner was out felling declining basswood for firewood (note: basswood has lower firewood heat value than even cottonwood!). While splitting the wood, he came across tunnels and two worms. After looking at the pictures sent to me by the conservation district, I decided to make a trip up to collect the samples and see the basswood stand.

The worms were linden borer larvae. The creamy white larvae are between 3/4 - and 1 1/4 - inch long. They appear like *S. candida* (the roundheaded apple tree borer) except the body hairs are finer and the asperities are coarser.

The borer is attracted to declining lindens, but it does hasten the decline and death of infested trees. Management is reducing susceptible hosts – removing dying lindens. These trees, which are likely infested, within the stands should be felled and chipped during the winter. Chipping has proven to be effective at killing the larvae. These declining infested trees must be felled and chipped before mid-May as the adults will start to emerge in late May.



A 2007 study found that spring or fall soil injections of imidacloprid killed more than 90% of the larvae in infested trees. This should not be used as linden has been removed from imidacloprid labels as the pesticide can move into the flowers and these flowers are insect pollinated.

Marshall County, Death by rope

This was a sad end to a staked pine tree in a windbreak. I could see the dead tree in the line of taller, healthy pines and wondered what the problem was. Once I walked up to the tree, the problem was apparent. The tree had been staked and no one ever came back to remove the nylon rope.

The tight rope cut off the movement of sugars down the trunk so above the string, the trunk became enlarged while below the string, the trunk was stunted. Eventually the string interrupted the movement of water up the trunk as well as the food down. This constriction, along with the roots starving, resulted in little water reaching the top so the tree died.

Pennington County, Zimmerman pine moth

This stop was to look at some ponderosa pines in a housing development outside of Rapid City. The tops of some of the trees were disfigured with upright, curved branches forming the leaders rather than a straight stem. Several of the branches had large popcorn-like masses of pitch where the branches were attached to the trunk.

These are common signs and symptoms of a Zimmerman pine moth (*Dioryctria*) infestation. This is an insect that borers into the tissue around branches at the trunk during the larval stage. This tunneling weakens the branches which results in breakage. Trees do not typically die from an infestation but will become disfigured.

The adult moth lays the eggs in late summer. The eggs hatch within a week or two and the young larvae crawl to spend the fall and winter in a web (hibernaculum) beneath bark flakes. Come spring – usually early April – the larvae will crawl to the branch attachment and burrow in to feed for the summer. The burrowing results in large pitch masses.

The treatment for an infestation is an application of a bark insecticide containing bifenthrin or permethrin as the active ingredients and labelled for treating pines. The treatment should be applied in late March. The bark is treated, not the needles, so a sprayer must have sufficient pressure to coat the bark all the way up the tree.