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

The temperatures oscillated between warm and cold during February. Sioux Falls saw a high of 64°F on February 17th, then a low of -2°F on the 23rd and back up to a high of 58°F four days later. Many other South Dakota communities saw a similar trend.

It is confusing to us and hard on our trees. While episodes of warm weather are common during South Dakota winters, this year we keep seeing days of warm weather interrupted by brief cold snaps. Some woody plants are losing their tolerance to cold because of the warm weather. The brief return to cold temperatures is enough to cause winter injury.

The mild to warm weather pushed the growing degree days (GDD base-50) during the past two weeks. Silver maple flower buds are beginning to open!

This is the GDD accumulation for January and February for communities across the state. Last year we had only accumulated about 10 GDD by this time!

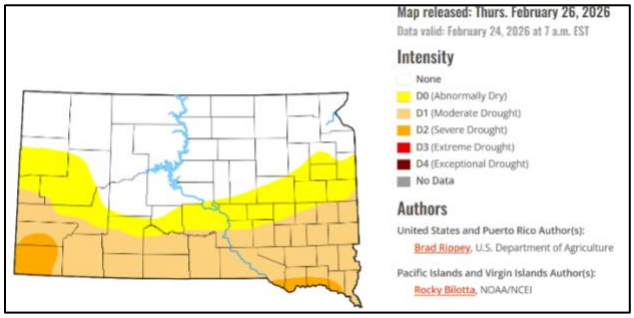
Aberdeen	7
Beresford	59
Chamberlain	82
Rapid City	89
Sioux Falls	46

The unseasonably warm and dry weather is going to cause some desiccation injury come spring. I expect to see some of our marginally hardy trees and shrubs presenting with tip dieback this May.

Drought monitoring

A little less than half the state is classified as drought free, slightly lower than two weeks ago. About 20 percent of the state – the middle third - is classified as "Abnormally Dry." The southern third of the state is classified as "Moderate Drought." The southern edge of Bon Homme, Clay, and Yankton counties, along with Fall River County, are now classified as "Severe Drought."

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



Treatments to Stop

It is time to put away the salt

Too much salt is not good for you or your plants. This is the time of year where we might wake up to a thin film of ice on walkways. But days are warm enough for this to melt during the morning.

Some people have been sprinkling rock salt on sidewalks to break up this thin film of ice. It is not necessary. At this time of year, the ice film will mostly melt from the morning sun. If salt continues to be spread on the walks, it will dry to form a crust. This dust will be carried with the wind or slush to nearby shrubs.

It is not the chlorides that leach into the soil from the dissolving road salt that causes plant injury. Chlorides quickly move through the soil and usually do not accumulate in the shrub roots. Instead, dried salt on the sidewalks is carried as dust to the nearby trees and shrubs. If it is not washed off by March rain, it can damage plant buds and needles.

If deicing salts have been used, once the snow is completely melted (which has already happened in much of the state) and the temperatures are in the 50-60ºF range, rinse off the salt residue from the buds of deciduous shrubs and the foliage of evergreen shrubs near the walkways with a light stream of water. Also, once the soil thaws to six inches, soak the soil to remove some of the soil near the surface of the ground.

Timely Topics

Emerald ash borer update

We continue to monitor larval development in ash. The larvae are not fooled by the warm weather and have remained snug in their winter chamber. This may end earlier than normal if these warm temperatures persist.

Emerald ash borer larvae start the transition to prepupae beginning at 100 GDD. Pupae begin forming at 300 GDD. We may start seeing prepupae in mid-March if the warm weather continues.

How many EAB can fit in a small log?

Unlike the question on the number of angels that can dance on the head of a pin, this one has some relevance. Just how many beetles can be carried to a new site on one small log?

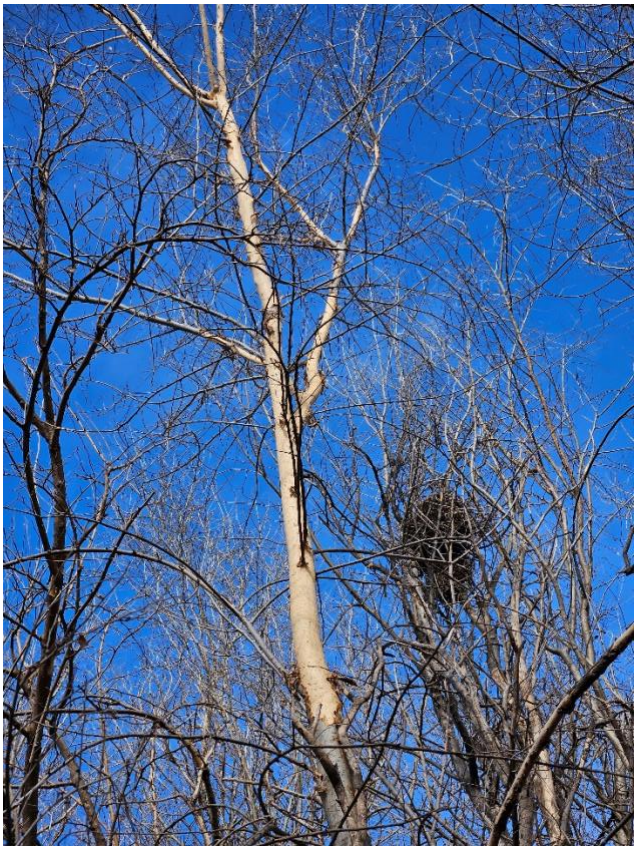
We have been collecting infested ash logs as part of our EAB parasitoid recovery project. One aspect of the project is examining overwintering larvae for signs of parasites. We get to look at a lot of larvae.

Yesterday we were going through small logs. The one in the picture on the next page was 17 inches long and 2.5 inches in diameter. We collected 15 larvae from this log! This is a good reminder that even one small, infested log

transported to outside the EAB state quarantine is all it takes to start a new infestation.

Squirrels gone wild

The squirrels are stripping the bark from elm and maple trunks and branches. This is a problem every spring with these trees as well as hackberries, lindens, and even an occasional buckeye. I took this elm picture in Canton and saw a maple in Rapid City that looked the same. It is a statewide problem.



Why squirrels do this every late winter is unknown, but there are plenty of theories. Most of these have been discussed in previous *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 striping. Some recommend using a commercial rabbit repellent with cayenne pepper, but this would be difficult to do on every branch or tall trunks. 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.

E-samples

White spruce tips turning yellow

A tree owner near Yankton noticed that their white spruce (*Picea glauca*) shoot tips were turning pale yellow. This is due to the combination of warm winter temperatures and the drought occurring in this region.

This is nothing that can be done now. Soil temperatures in Yankton County are 31°F so any water added to the soil might pool rather than being absorbed into the soil. The roots, while not dormant, do not absorb much water until the soil temperatures reach the 40s.

Once spring begins watering will be helpful. If the discoloration is minor, the tissue may turn green again.

Samples received/Site visits

Brule County, Common lilac breaking bud

I stopped to look at a common lilac (*Syringa vulgaris*) hedge that was beginning to leaf out. It was not occurring on every shrub nor on every branch on the ones that were breaking bud.

Blame the warm weather followed by a cold snap then warm again. Some of the branches are fooled into believing its spring (if it possible to fool beings that are not sentient). This is not fatal to the shrub but will cause dieback in any shoots that decided it was spring and started to leaf out. Just prune back the dead shoots this spring.

Custer County, Pine engraver beetles are not yet flying

The December windstorm left thousands of broken, snapped, or uprooted ponderosa pine trees. This material will be extremely attractive to the adult pine engraver beetles (*Ips pini*) when they emerge from the duff layer this spring. It will be green enough to provide the nutrition for their larvae to develop, yet the wood lacks sap, which is the primary defense healthy pine use to prevent attack.

Inspection of this down green material has not revealed any overwintering adults begin to burrow into the tender shoots. The boring dust left as the adults' burrow into the shoots is easy to spot. There was no boring dust on any trees examined.

The adults begin to fly when we have several consecutive days with maximum temperatures above 63°F. But a brief period of warmth is not enough to cause many to leave the ground litter and begin flying. The soil must be warm as well. We usually do not see significant flights until about 150 to 200 GDD. Attacks may occur earlier than normal this year if the warm weather continues.

Jackson County, Not EAB but a close relative

This mostly dead tree was reported to be infested with EAB. A motorist stopped at the eastbound I-90 rest area by Belvidere and noticed a dying tree near the parking area. The tree had D-shaped holes along the trunk.

The D-shaped hole are hallmark signs of EAB. The adult beetles cut and emerge from a hole shaped like this in the spring. But D-shaped emergence holes are not unique to EAB. They are created by all Agrilus beetles.

The D-shaped holes were made by an Agrilus beetle but not EAB (*Agrilus planipennis*) but the honeylocust beetle (*Agrilus difficilis*) in a honeylocust. This beetle is native to North America, as is the honeylocust host. The beetle attacks declining tree and this is clearly an unhappy tree in the rest area.

Minnehaha County, Spruce decay

A homeowner had one of their spruce trees fall over last week during the high winds. The tree snapped at about one foot above the ground. The interior had extensive decay with only a small ring of healthy sapwood beneath the bark.

The question was whether this would be the fate of the other spruce. While we do not perform tree risk assessments for private property – there are arborists across the state that can perform this function – I did stop by to look at the tree.

The homeowner did use a small drill bit to drill into the trunk at about one foot. He made three drills into the trunk and never felt any change in resistance. The wood coming out was either white or a light brown – normal for a mature spruce.

While drills can miss columns of decay and cause further decay if they do hit a pocket, it dd give him some assurance that the tree did not have extensive decay as did the other spruce.

However, the canopy of the spruce was extremely thin. It was also divided into two codominant leaders, a weak spot which often is the point for failure. It is probably best to consider a plan to remove this tree and plant a new one.

Pennigton County, Reducing the sail effect on a mature spruce

A tree company had approached the spruce tree owner to have the spruce pruned to reduce the sail effect. She wondered if thinning out the branches would reduce the chance of the tree failing in a strong wind.

I can understand the tree owners desire to prevent windthrows, especially after last December's devastating windstorm. But the practice of reducing the sail of a canopy to reduce the likelihood of failure is rooted more in myth than science.

It sems logical. Cutting holes in the canopy to allow wind to pass through should reduce the risk. But this can also increase the likelihood of the remaining limbs (branches attached to the trunk) breaking as they are subject to more wind loading. Ice loading on the now isolated limbs can also become a problem.

A very selective removal of some limbs, as well as thinning out smaller branches from remaining ones may reduce wind loading. Reducing the canopy by reduction cuts at the limb tips can also reduce the sail area.

While the approach of thinning and reduction cuts has merit, this pruning must be carefully applied. The tree company should explain their entire approach to this operation; what limbs will be removed and where reducing limb length will be performed. It is more than just the indiscriminate hacking of "holes" in the canopy.