



Tree Pest Alert



October 25-November 1, 2023

Volume 21, Number 36

In This Issue

- Plant Development.....1
- Treatment to do now2
 - Harvesting the Capitol Christmas tree.....2
- Timely topic.....2
 - Emerald ash borer update.....2
- E-samples2
 - Birch dieback.....2
 - ID of tree coming up in mulch pile3
 - Pine needle scale on spruce3
 - Pine tortoise scale3
- Samples received/site visits4
 - Minnehaha County (Dying lawn)4
 - Pennington County (Dieback in sheared junipers)4
 - Pennington County (Death by edging)5

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 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.

The South Dakota Department of Agriculture and South Dakota State University are recipients of Federal funds. In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability (Not all prohibited bases apply to all programs.) To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW Washington, DC 20250-9410, or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

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

Plant development for the growing season

We are in a long stretch of mild weather. Days in the 40s to 60s and nights in the 40s. Sioux Falls did experience a 79°F day in late October, but we are not likely to see this again until next April or May. We are seeing some short periods of cold. Josh, one of the SDDANR community foresters, took this picture of an ice-coated tree in western South Dakota.



These are the Growing Degree Days – base 50 (GDD) for communities across the state. The slight warming during the past two weeks means we gained about 40 to 60 GDD since last week.

Aberdeen	3,000
Beresford	3,550
Chamberlain	3,580
Rapid City	2,870
Sioux Falls	3,540

Abnormally dry to moderate drought conditions persist in the counties along our eastern border from Grant to Union counties. These dry conditions also extend west to Bon Homme and Miner counties. This is the second

year of dry conditions in the southeast. I expect more tree mortality in this region next year due to the drought stress.

Treatments to Begin Now

The treatment to start thinking about is picking out the holiday Christmas tree! The next issue of the *Pest Alert* will have the traditional update on caring for a real Christmas tree along with tips for picking out the best one for the home.

There is a Christmas tree that has already been harvested – the Capitol Christmas tree. The 38-foot-tall Colorado spruce was harvested from Onida, so it was only a short trip over to the Capitol.



The tree was nominated by the homeowner and the committee decided it was the perfect one to harvest. The tree is in Pierre being prepared for the decoration. I hope everyone can come over to the Capitol to see it!

Timely Topics

Emerald ash borer update



Emerald ash borer sampling continues in Canton and Sioux Falls. The larvae are moving into their overwinter chambers in the outer sapwood. They curl up in this chamber – like my dog on the couch – to spend the cold winter.

We cannot expect cold enough weather to kill these larvae, or at least not a significant number of them. The chambers in the sapwood provide some insulation from the cold. It is at least 5°F warmer in the chambers than the air temperatures.

The emerald ash borer larvae, as with other insects and even our wood plants, gradually acclimate to colder temperatures. This means that unseasonably cold temperatures in autumn or spring can be deadly but the same temperatures in January or February would be survivable.

We need temperatures at -5 to -13°F to kill larvae during November. Temperatures need to be -25°F or lower to kill larvae during January or February. Some can now even survive -55°F during midwinter so we are not likely to see winter temperatures that will eliminate the insect.

The weather reports from Curiosity on Mars near the Gale Crater shows days around 10°F – not too cold – but nights at about -100°F. This is cold enough to kill emerald ash borers!

E-samples

Birch dieback

I received this picture from a homeowner in Sioux Falls. The picture was taken earlier in the fall. It shows a mature paper birch that has some upper branch dieback.



This presentation is most likely the result of tunneling by the bronze birch borer. This is a close relative to the emerald ash borer. The difference is the bronze birch borer is native to North America, while emerald ash borer is native to Asia.

This means that our native paper birch has a higher tolerance to this insect than the Asian birches that are sold in this country. The Asian birches are often attacked and killed by the borer within ten years of planting. The paper

birch only is successfully attacked when stressed or overmature.

The most likely reason for the decline of this paper birch is it has reached the age when its defenses are diminished, and the tree is susceptible to attack. The best means of maintaining this tree is by injection with an insecticide. The same techniques and insecticides are used for emerald ash borer. The injections are done in early May.

Identification of tree coming up in a mulch pile

This is a picture of a tree about four-feet tall that came up in a mulch pile. There are several trees that find a mulch pile a good spot for seed germination. The two most common are crabapples and mulberries. Birds will eat the fruit and deposit the seeds in almost any garden or mulch.



This is a crabapple. Many crabapples will produce slightly lobed leaves as seen in the picture. They also produce stipules, the small leafy appendages at the base of the petiole.

Pine needle scale on spruce

Pine needle scale is a minor pest of pines and spruce. While the small, gray, tear-shaped shell of the adult female scale is easily seen, the insect is rarely a serious threat to the host.



The threshold for treatment is when the number of scales on the newest needles exceeds four per needle. This spruce exceeds this number so treatment is an option. The scales are now eggs beneath the shell of their dead mom – perfectly protected from insecticides.

The time to treat is when the eggs begin to hatch. This is about 300 GDD, the time that common lilacs begin to bloom. Treatments are applied at about 450 GDD when the crawlers – the nymphs – are out on the needles but have not yet developed their protective shell.

Horticultural oils are effective against the crawler stage. The oils will smother and suffocate the crawlers, but the many natural enemies will be able to fly and escape the spray. Natural enemies of the scale, parasitoid wasps and lady beetles, provide most of the control of the scale population.

Pine tortoise scale

The pine tortoise scale is common on Scotch pine, but it can also be found on Austrian and mugo pines. They, and their close relative the striped scale, can be found on ponderosa pine.

Pine tortoise scale is a soft scale. They suck the sap directly from the phloem and excrete the excess as honeydew. The sticky honeydew is often colonized by sooty mold which gives the needles a powdery black appearance.

The adult female scales can be found within the sooty mold. They have a dome shaped (like a turtle shell) shell that is reddish brown with black stripes. The adult scale is stationary. They and their mobile nymphs, called crawlers, feed on the new shoots of their host.



The insect overwinters as adults with the eggs laid beneath the shells in early spring. The eggs hatch over a long period, beginning at 450 GDD (about when black locust starts to bloom) till 1,000 to 1,200 GDD (when littleleaf linden is at full bloom). This long hatch period means insecticide spraying is not always effective. The best option for a foliage spray is horticultural oil in very early spring to kills the adults before they complete their shell.

The best option is soil injection of an insecticide such as Imidacloprid applied in late autumn or early spring. Dinotefuran, an insect growth regulator, as a soil drench or injection in spring is also effective. These applications have little impact on the natural enemies.

Samples received/Site visit **Minnehaha County, Dying lawn**

While the focus of the *Tree Pest Alert* is woody plants, we do occasionally get a request to visit a lawn. The concern here was the rapid turning of the lawn from uniform bright green grass to straw color dry blades with a few small patches of dull green turf.

This is *Ascochyta* leaf blight, a common fungal disease of Kentucky bluegrass lawns. The disease develops almost overnight during hot, dry summers that were preceded by cool, wet spring weather. The disease is most severe on Kentucky bluegrass. It is less an issue on fescues and ryegrasses so these will often remain green. If a lawn is mostly fescues and rye, the disease will not be as noticeable.



The disease does not affect the roots, but homeowners frequently stop watering once the turf appears dead. The root may then decline from the lack of water. Lawns often recover the following years – the disease can disappear as quickly as it appears.

The best treatment for lawn diseases is managing the environment, not fungicide applications. The lawn should have the thatch removed and core aerated to improve water infiltration into the soil. The mowing height should be about 2.5 inches during the summer and cut with a sharp blade. A dull blade contributes to tattered wounds which increases infection.

Pennington County, Dieback in sheared junipers

This is a tightly sheared juniper foundation planting. Junipers do respond well to shearing. If they are sheared too tightly, however, the shaded interior will lose their foliage leaving a shell of evergreen leaves.



If the junipers are sheared so the plants become O-shaped or V-shaped, the lower branches access to light is blocked by higher shoots. These lower branches will also lose their leaves and remain as dead bare sticks.

Junipers should be lightly sheared once a year in the spring. The shape of the plant should be A-shaped, so the lower branches extend out farther than the upper branches. This allows for equal access to light so the entire side of the plant will remain green.

These are mature junipers. It will be difficult to restore the interior and lower foliage regardless of how future shearing is performed. The best option may be removal and starting over with new junipers.

Pennington County, Death by edging

This is a declining tree I stopped to inspect. When the canopy is dying back on a young (15-foot tall) tree, the problem is either in the trunk or roots. There were no signs of symptoms associated with the common native borers of ash nor the emerald ash borer. This means the problem is at the root level, either a buried trunk or injured roots.



A little digging around the base found the problem. The trunk was partially buried and was being girdled by edging – not fabric! The mulch circle must have been made very small when the tree was planted as the edging was cutting into the root collar. It could not even be pulled out in some places.