

Pest Update (September 23, 2020)

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**John Ball, Forest Health Specialist SD Department of Agriculture,
Extension Forester SD Cooperative Extension**

Email: john.ball@sdstate.edu

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

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 dying 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.

Available on the net at:

<http://sdda.sd.gov/conservation-forestry/forest-health/tree-pest-alerts/>

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.

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Plant development for the growing season

The weather is turning cooler again but is still sunny and dry. The leaves are falling from our broadleaf trees, but they are also falling from our evergreens. Evergreen does not mean forever green and conifers do lose their older needles in the fall. The ground is littered with the fallen pine needles and pines typically shed their three-year-old needles. Spruce hold their needles a little longer, sometimes retaining needles for five years but losing their third- to fourth-year needles is common at this time of year.



If we have wet, cloudy fall weather, the needles fall without notice. The dry, sunny weather this fall has resulted in the pine needles turning yellow-brown to a straw yellow before falling and the spruce almost a rusty reddish-brown. This is causing a lot of concern

among evergreen owners – especially spruce owners. I have about five to seven calls a day from people thinking their spruce are suddenly dying when it is just the seasonal needle drop.

Timely Topics

Emerald ash borer update



Emerald ash borer (EAB) sampling continues in Sioux Falls and Canton. Most of the larvae are 3rd instar, but there are a few more 4th instars every week. The mature larvae are also more than 1 inch long now. Most of these larvae are either mature or are maturing and will form pupae in the spring, becoming adults in early June. However, we still find some 2nd instars. These may spend all next summer as larvae and emerge the following year.

The infestations continue to expand in Sioux Falls and Canton

The infestation is moving quickly throughout Canton. This is not too surprising as in smaller communities with a lower density of ash, the beetles migrate farther to find new hosts. While the adults typically stay within 300 feet of the tree from which they emerged, they can fly miles in search for suitable hosts if necessary.



EAB infested tree in Canton

Infested trees can be found throughout Canton. Since the infestation has been there for a few years, there are even standing trees that have substantial dieback or are dead from the infestation. These trees present the telltale symptoms of having emerald ash borers – watersprouts along the branches, suckers at the base, and D-shaped emergent holes along the lower trunk.

The infestation is slowly moving into Sioux Falls. The northern part of the community had a high density of ash; the beetle is content to munch through these before heading south. Many of the ash that were infested in 2018 were treated for emerald ash borer by commercial tree companies

and are recovering but there are numerous properties where nothing has been done and now are home to dead or dying trees.

Infested trees can be found as far south as 12th Street so the insect is now established in the northern half of the community. This does not mean the southern half is a no-fly zone for the beetle. There are undoubtedly satellite infestations throughout the community. They are small enough that they escape detection but as they expand and coalesce, the pockets of infested trees will be more noticeable.

We are about two more years away from a significant increase in tree mortality in Sioux Falls, about when we predicted the problem to become noticeable to many community members. Fortunately, the City of Sioux Falls is being very proactive and has been removing ash trees from parks and boulevards in anticipation of the spread. This will be a great help in avoiding a steep death curve when the sheer number of dead and dying ash overwhelms community resources in dealing with them.



EAB infested tree in Sioux Falls.

Do not move firewood!

The confusion between the City of Sioux Falls ban on cutting and moving ash between Memorial and Labor Day (to slow the spread throughout the community) and the State/Federal quarantine continues. While ash trees can be removed or pruned from now to next spring in Sioux Falls, the wood *cannot* be moved out of Minnehaha, Lincoln, and Turner County at any time.

Driving back from Sioux Falls last week I was behind a truck with a trailer loaded with ash logs cut into fireplace lengths leaving Minnehaha County heading north on I-29. There is the possibility that these logs contain emerald ash borer larvae and now they will emerge in their new home somewhere north of Sioux Falls. This is how we will spread the infestation across the state.

E-samples

Borers in ash



South Dakota State Parks have been pro-active in meeting the threat of emerald ash borer. They have been removing ash trees in the public areas – campgrounds and picnic areas – for several years now. A crew cutting a declining ash found these insects inside the tree.

These are the banded ash borer (*Neoclytus caprea*). This one of our many native insects that infests ash and one that frequently shows up in firewood that is brought into the house. The insect is the first to emerge in the spring and every year I receive pictures of this insect crawling around a house on a warm winter day.

The adult beetles are about half and inch to 1- inch long with four distinct yellow bands on their back with the first two forming loops. It does not resemble the emerald ash borer which is a metallic emerald green, and, unlike the emerald ash borer, it does not attack healthy trees but instead makes its home in dying and recently dead hosts.

English walnut in Sioux Falls



Sam, from Aspen Arboriculture Solutions in Sioux Falls, emailed some pictures of a tree he found in Sioux Falls. He thought it might be an English walnut (*Juglans regia*), but since they are not suppose to grow here, wondered if this was possible.

The pictures of the leaves fit the description of the tree, pinnately compound leaf with 5 to 9 leaflets that have a smooth (entire) margin and only the English walnut has entire margins. I stopped by to look at the tree and it is an English walnut. The shoots

have a light-colored, uniform chambered pith and the slender terminal bud is much larger than the laterals.

The tree is hardy to USDA Plant Hardiness Zone 5, so adapted to a few locations in southern South Dakota and the Black Hills. The tree has been tried in Minnesota over the decades and the plantings have generally failed. Sioux Falls is an urban heat island, but still this is an interesting find.

We have black walnuts (*J. nigra*) planted throughout the state and there are some butternuts (*J. cinerea*) scattered in the southern half of the state. There are even a few Manchurian walnut (*J. mandshurica*) in Brookings.

Mulberry: the most common leaf submitted for identification



White mulberry (*Morus alba*) is a common “weed” tree in South Dakota. The birds feed on the raspberry-like (in appearance, NOT flavor) fruit and deposit the seeds everywhere. It is also a tough tree and can grow in a wide range of soil conditions so the fallen seeds frequently germinate and a new tree is found growing near to the house or in a garden.

The tree produces three different leaves, often on the same shoot, unlobed, one lobed (like a mitten), two lobed or even three. These different leaf shapes confuse folks as they are trying to identify their trees from the internet.

The question that comes after the identification is; “Should I keep it?” The tree species is dioecious so there must be a staminate (male) and pistillate (female) tree near one another to have fruit. The fruit is not that good anyway – damp cottonballs comes to mind. They are not the sweet mulberries from out East.

Squirrels in pine

Tony, a forester with the South Dakota Department of Agriculture, visited a landowner in the Black Hills that was having a problem with their ponderosa pines. The problem was not beetles but squirrels. These pesky critters will nip off pine shoots and chew off branches. I have seen some pine trees with the ground beneath them littered with pine shoot tips. They rarely do enough damage to harm the tree, but often you can see their damage by the flagging – the yellowing of partially girdled shoot tips.



Why squirrels do this is a guess but they will feed on the sweet (to a squirrel) sap. They will also nip the shoot tips off so the cones filled with tasty (again to a squirrel) seeds fall to the ground.

Samples received/Site visit

Minnehaha County

Declining young Colorado spruce



Dying spruce are not hard to find, but this is mostly confined to mature trees. Colorado spruce often looks almost perfect for the first couple of decades in the landscape. However, I was called to look at two declining young spruce in a backyard.

There were two concerns noted as soon as I walked up to the trees. First, the annual shoot growth was about 2 inches a year, not the 10 to 12 inches they typically produce in South Dakota. Second, there were a lot of cones on the ground and

Colorado spruce does not usually produce cones until they are about 20 to 30 years old. They will produce cones when they are younger if they become stressed. So, what is stressing these trees?



The problem began at planting – they were planted too deep. The picture shows branches coming out of the soil; these trees were planted with the first root several inches beneath the soil rather than just beneath the soil. They were planted just a little too deep, not enough to kill them, but enough to stunt and stress them.

The solution is to remove the soil so that the upper most root is just covered. This, and the berming, should allow these trees to recover and grow (and then die in 15 years as they are planted too close).

Minnehaha County

Hazardous silver maple

Occasionally I receive calls about the safety of a tree. Conducting a tree risk assessment on a large tree can take several hours and is best performed by an

arborist that has TRAQ (Tree Risk Assessment Qualification). Arborist who have completed TRAQ have the knowledge and tools to conduct a proper assessment of a tree and provide options for the owner.



While I have TRAQ, we do not generally conduct detailed assessments for tree owners and again prefer they hire a consulting arborist for the task. However, I do provide tree owners with some options on what to do.

This one was easy. It is a large silver maple that towers over power lines and two yards so if it does fall, it's going to hit something – house, power line, etc. – and since the limbs are large its going to do a lot of damage when it hits. It also has a weak connection among all the upright stems and there is extensive decay near the common base and along each of the stems. All these factors make the decision to remove the tree an easy one.

Minnehaha County

Mountainash problems



European mountainash (*Sorbus aucuparia*) is a common small ornamental tree (and it is not related to ash (*Fraxinus*), so no worries about emerald ash borer). It can be short-lived, perhaps 15 to 20 years, on poorly drained soils. It also is susceptible to fireblight and this disease is responsible for the loss of many mountainashes. However, the symptoms presented did not fit either of these problems.

There are several leaf spot diseases that affect mountainash, but these do not explain the tip dieback. There are other possible

agents for the decline of mountainash trees. Horticulturalists at Brandon University in Manitoba have linked the tip dieback of mountainash to changes in air quality. Exposure to air pollution can cause the leaves to discolor – pale green, yellow, and brown – and the shoot tips to dieback. The fruit can also shrivel and dry.



The tree may be affected by several of these agents and the best option may be to 1) prune out the dead tips, and 2) treat the tree with a copper-based fungicide just before bud break.

Minnehaha County

Pine wilt disease



Pine wilt disease is a serious disease of introduced pines, especially Scotch pines (*Pinus sylvestris*). The disease usually appears on these trees first, killing them, and then moves to any nearby Austrian pines (*Pinus nigra*). The disease is spread from tree to tree by longhorned beetles that carry the small nematode, the causal agent, as it leaves a dead host and flies to a healthy one.

Pine wilt disease usually kills a tree in one year. The tree looks fine in the spring but by mid-summer the foliage is turning yellow, then brown. About this time of year, the infected trees look just like the picture; mostly defoliated with many of the remaining needles discolored and hanging.

Union County

Interesting vine

This was not a planned stop at the request of a tree owner. I just happened to notice this vine as I was in Dakota Dune setting up their tree inventory. The vine is poison ivy (*Toxicodendron radicans*). This is usually a sprawling ground cover in South Dakota rather than the thick woody vine I am familiar with in Michigan. This was a huge vine growing up a large cottonwood.

Regardless whether it is a vine or a ground cover, this three-leaflet plant should be left alone – *leaves of three, let it be*. Many people are sensitive to the urushiol oils and any contact results in blisters and a rash that can last a week or two. Some people have a mild reaction (or none), while others can have a severe reaction that requires hospitalization.



Reviewed by Master Gardeners Dawnee Lebeau, Carrie Moore, and Bess Pallares

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