

Pest Update (October 31, 2018)

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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, instead 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 and 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



Plant development is over. Plants have now settled down for a long, winter nap. However, apparently some forsythia in Brookings did not get the memo. I found a few plants beginning to bloom this week. Forsythia are one of our earliest blooming shrubs, usually in bloom sometime during late April. The cold snap we had back

in October was cold enough to fool some plants into believe this warmer weather means spring!

Timely Topics

Claims of EAB infested trees in communities outside of Sioux Falls

I continue to receive reports from tree owners in Minnehaha (outside of Sioux Falls), Lincoln, and Turner County that their tree is infested by emerald ash borer. So far, I have **NOT** found an infestation in any of these trees through I certainly appreciate tree owners reporting 'possibles'.

Unfortunately, some of these reports came tree owners living outside of Sioux Falls who had a pesticide applicator stop to tell them that their tree was infested and needed to be treated "right away". Upon inspection, none of these trees have been found to be infested, some were not even ash tree. This has not yet become a widespread problem, but we have a few individuals that are putting profits ahead of principles.

Outside of the City of Sioux Falls, commercial applicators should be contacting me either directly (though the contact information listed above) or indirectly through the South Dakota Department of Agriculture so the suspect tree can be inspected, and samples of any insects collected for positive identification. Any new confirmation outside of the Sioux Falls city limits can have a major impact on how we manage the expansion of the infestation, so it is important that it be properly investigated and confirmed.

Anyone outside of Sioux Falls having a pesticide applicator telling them their tree is infested and needs to be treated should contact me, so we can investigate whether this is a new infestation. Tree owners should also ask the applicator if they reported this information.

What does an infested tree look like during the winter?

What should you be looking for during the winter to determine if a tree is infested by emerald ash borer? First a tree that infested just this year will present few, if any, symptoms of the infestation. It is very difficult to identify a tree that was just recently attacked. However, by the second year the larval population within the tree is high enough that it has attracted the attention of the woodpeckers.

Woodpeckers have an uncanny ability to detect emerald ash borer infested trees. Since the borers feed just beneath the bark and they are usual lots of them, about 1 to 3 per square foot of bark surface, its an easy and plentiful snack for the birds. Studies have shown that woodpeckers, and other birds, can kill anywhere from 30% to 90% of the emerald ash borer larvae in a tree.

However, they are not an effective regulator of the insect. While they are an agent in the slowing of ash mortality, there are not enough woodpeckers to make a significant dent in tree mortality – a community will still lose trees but perhaps at a slower rate.



Patches of outer bark flaked off by woodpeckers searching for EAB, note holes made by the birds as they extract a larva.

There has been some interesting research showing that when you have a high woodpecker population, you have a low population of the parasitoids that feed on the insect. And when you have a low population of the birds, you have a high population of parasitoids, so perhaps they tend to cancel one another out.

What woodpeckers do best is let us know which trees have been infested for a year or more. If you find large (1-foot square or more) patches of outer bark flaked off to reveal the lighter bark beneath – referred to as blanding – this may be from woodpeckers searching for the insect. These patches will initially be found along the upper branches and sometime even limited to a single leader in a tree.

However, blanding is not enough to mean that woodpeckers have been searching for the beetle. Squirrels, for reasons only known to squirrels, will also flake outer bark off ash tree. Over the years I have seen many ashes with the bark blanded just from the activity of these small rodents.

Here is a tree that was reported as a ‘possible’ emerald ash borer infested tree. I appreciated that the tree company took the time to question it and call me in to check. As you can see the bark is flaked off the upper branches but what you do not see is pecks in the blanded patches from the woodpeckers searching for insect. If the woodpeckers are after emerald ash borer, you will find *blanding with pecks* in them.



This tree just had the blanding without pecks (and no galleries, D-shaped hole or other signs of an infestation) and the tree owner had bird feeders on and surrounding the tree. He had counted 22 squirrels on the tree at one time.

E-samples



Dieback of late lilac from lilac/ash borers.

All the talk on emerald ash borer has made our native borers takes a back seat. However, they are still out there and causing their usual problems. One of the most common is the **lilac/ash borer**, *Podosesia syringae*, which burrows into ash, lilac, and occasionally even privet if the canes are large enough. While the insect is more often known as the lilac borer, it is more of a problem on ash. However, we do see lilacs being attacked as occurred with these late lilacs.

The insects overwinter beneath the bark as mature larvae and emerges as adults about the time spring-flowering spireas are in bloom. The adults, which resemble wasps, lay eggs along the rough bark near the base of lilac canes that are two-inches diameter or larger. Another favorite location is near any wounds near the base of the shrub, lawnmower and weed-whip mechanical wounds are perfect spots. After the eggs hatch, the young larvae tunnel into the bark, then burrow deeper into the phloem and outer sapwood.

The lilac/ash borer larva is a good housekeeper and pushes the frass (insect poop and wood fibers) out of the tunnel. There will usually be piles of sawdust around the base of the canes near the entrance holes. This may be the only sign of an infestation other than the common symptoms of dying or broken canes.

The best means of preventing attacks is to keep the canes healthy, thin them out so they do not become too crowded and weak (though do not prune during the flight period of the insect, May and early June). Do not wound the canes with weed-whips and lawnmower decks. The lower canes can also be sprayed with insecticides labelled for treating lilac/ash borer and containing the

Exit holes when the adult emerges. There is a cast pupal skin near one hole (in circle area).



active ingredient, bifenthrin, endosulfan, or permethrin. Products containing imidacloprid are not effective against this borer. The application is applied about the time spring-flowering spireas are in bloom.

Samples received/Site visits

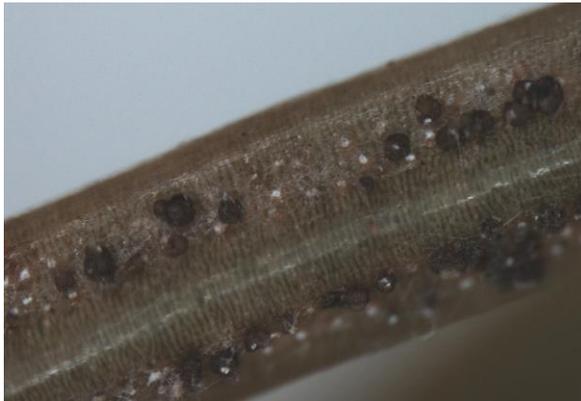
Lawrence County

What is wrong with this spruce?

The branches submitted as a sample had purplish-brown discolored 2-year needles and some of these needles were already shed. Spruce will usually retain their needles for at least five years or more and if they are only holding their one- and two-year old needles, there is a disease or disorder problem.

The problem in this instance was a disease and the pathogen our old familiar *Rhizosphaera* needle cast (*Rhizosphaera kalkhoffii*). This needle cast disease was the most commonly diagnosed needle disease until *Stigmina* needle cast (*Stigmina lautii*) was discovered. We don't see as much of *Rhizosphaera* these days.

Rhizosphaera needle cast fruiting bodies along the stomata of a Colorado spruce needle.



While many disorders can cause discolored foliage, the needle casts will also leave a clue – their fruiting bodies. These structures are distinct and can be used to help separate the two pathogens.

The fruiting bodies of *Rhizosphaera* are spherical with a crisp edge while the ones for *Stigmina* are not quite as spherical and have hairy projections along the margin. The fruiting bodies in the picture (and sample) are from *Rhizosphaera*.

The importance of knowing which is how much of the tree needs to be sprayed and the timing of fungicide applications. *Rhizosphaera* typically only infects the lower branches rather than the entire tree as does *Stigmina*. *Rhizosphaera* can be managed with two fungicide applications made in the spring, one when the new needles have half elongation (about half the length of the older needles) and a second two weeks later. The treatments need to be repeated for two years.

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