



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 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: Bess Pallares, Carrie Moore, and Dawnee Lebeau

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Plant development for the growing season

The weather has remained in the Goldilocks stage – not too cold and not too hot – for much of the state. The nights are still cool to cold and reports of frosts, along with damaged bedding plants, continuing to come in.

I am also still receiving pictures of trees and shrub leaves that are curling and have blackened margins. These are common symptoms of frost injury.

We are ahead in plant development compared to 2020 and this may be contributing to the damage. Last year, the forsythias were still blooming in Brookings. This year the crabapples are in full bloom as they are in much of the state (such as this Spring Snow crabapple in Rapid City). This means there is a lot of tender leaves and flowers out now that are frost sensitive.



The long-term forecast is showing a warmer and drier than normal summer. This means we may see more drought-stressed trees. I expect I will have more dying spruce calls as these trees are sensitive to moisture stress due to their shallow root system.

Treatments to Begin Soon Clearwing ash borer

The clearwing ash borer (*Podosesia syringae*) will be flying soon. Treatment with an insecticide containing Permethrin as an active ingredient can begin in another week or so. The bark must be sprayed to protect the tree as the insecticide will kill the adults as they are walking on the bark to lay their eggs.

The insecticide will also kill the newly hatched larvae before they burrow into the wood. Systemic treatments to kill the insect once it burrows into the tree are not effective so injecting an insecticide or pouring one

around the soil are not practical means of managing this borer.



The adults are usually out flying about a week or so after Vanhouttee spireas begin to bloom and the shrub is starting to flower in the southern part of the state. You will know the adults are flying when you see the pupa skins sticking out of the emergence holes on infested trees.

Bronze birch borer

Now that buckeyes are just beginning to bloom, bronze birch borers (*Agrilus anxius*) are emerging from infested trees. This is a native borer that attacks birch. It is a close relative to the emerald ash borer, so they both make D-shaped hole as the adult emerges from the tree.



The time to treat birch trees is within the next two weeks, as the female beetles are finding places on the bark (usually near a branch union) to lay their eggs. The trunk and large branches can be sprayed with an insecticide containing Permethrin as the active ingredient.

Insecticides containing Emamectin Benzoate can be injected now into the trees to kill the adults as they feed on the leaves as well as any larvae that hatch out this summer. If the canopy has dieback back more than about 40%, the tree too far gone for treatments.

Bronze birch borers colonize almost every birch species, with their favorites being Asian and European species such as the cutleaf European white birch. The river birch is rarely attacked by bronze birch borer and can be considered a borer-free alternative to other species.

Cedar-apple rust

Cedar-apple rust galls on the junipers have expanded during the past week, and this is an indicator that treatments to protect susceptible apples and crabapples from the disease will begin soon (see picture under e-samples). The galls form on the junipers (cedars) and release spores that infect the apples and crabapples.

The infection on apples and crabapples results in discolored foliage and fruit and premature drop of the leaves. Fungicides containing Myclobutanil as the active ingredients can be applied beginning now and repeat three more times at 7 to 10-day intervals. Captan, a common fungicide for apple scab, is NOT effective against cedar-apple rust.

Timely Topics

Emerald ash borer update

We are continuing to monitor insect development this spring. While there are a few larvae still in the J-shaped stage (which they entered last fall), most are now in the prepupa stage. The J-shaped larval and pupa stages are in cells within the sapwood. If the bark is removed from a branch, you can see galleries that become larger and then just stop. If you carve into the wood when the gallery stops, you will find a tunnel going into the wood and there you will find a cell with the insect.



I came across an interesting find this past week. The sampling came across several emerald ash borer larvae that were in the J-shaped stage – the normal overwintering stage – but they were all dead and turning color. These appear to be killed by the cold winter temperatures. The cold temperatures that occurred in mid-February, -26°F, were cold enough to result in significant mortality (but not enough to stop the spread).

Time for morels!

A reader sent in pictures from their recent mushroom hunt (from an undisclosed location, of course!). If you are not familiar with these mushrooms, they are known as morels, the sponge mushroom, and are excellent when cooked (or dried to be used for later). Morels are among the “fool proof four” and along with puffballs, sulphur fungus, and shaggymanes are easy to identify.



This is important as a misidentification of a fungus, even if cooked, can lead to a bad tummy ache or death. Morels are hard to confuse with other mushrooms with their conical caps indented with irregular pits that makes the cap almost appear as a sponge. Morels only appear for a week or two in the spring, about the time lilacs are beginning to bloom. They tend to come up in the same spot every year so almost every morel hunter has a secret spot or two.

IMPORTANT: while morels are easy to identify, always go mushroom hunting with an experienced person for the first couple of times just to be sure you are collecting the right mushrooms, even morels – there are false morels out there. Pictures are not enough!

E-samples

Cedar-apple rust

I am starting to get pictures of “strange growths” on cedar (juniper) trees from Brookings to Meade County. These are the cedar galls for cedar-apple rust. The disease appears as woody galls on the cedars and as leaf and fruit blotches on apples and crabapples.



The woody galls appear the spring following infection. The woody growths can be found on the branches of eastern redcedars and Rocky Mountain junipers. A year after the galls appear they swell and develop these horns. These telial horns elongate, turn orange, and produce a gelatinous mass of spores that spread the disease to the apples and crabapples.

The horns should start turning color soon and will be very noticeable when hanging from the tree. The

damage to the juniper is minimal but occasionally branches can become girdled and die.

Frost crack on maple

Frost cracks are usually found on the south and southwest sides of thin-barked trees such as young maples. The initiation of the crack occurs on sunny, cold winter days where the sun warms the bark. When the sun sets, the wood shrinks and freezes which results in a split. Maples, such as this Norway maple, are sensitive to this injury along with the related sunscald.



These cracks remain a weak spot in the tree and will open every winter – at least until the tree matures – but sometimes a cold winter will cause the crack to reappear in older trees. The only way to repair a tree with a frost crack or split is to install screw rods through the trunk (see next item Split tree trunk)

Split tree trunk

This was a concern sent in last week. There is little that a homeowner can do to correct this problem once it occurs. Too often these splits are repaired by clamping or tying some material around the trunk to hold it together.



While this will hold the split together, it will eventually kill the tree as it girdles the stem and interferes with the movement of sugars within the inner bark. The split can be repaired by the insertion of screw rods through the trunk, but this is a procedure better left to a professional arborist who has the tools and training to provide this type of support.

Winterkill on shrubs

The winter was mild, except for that two week period in mid-February. We saw temperatures drop to -26°F during that time. This was preceded by a brief warm period, temperatures in the 40s were even common.

The warm February weather that turned cold affected some of our marginally hardy shrubs. Weigela has good mid-January hardiness with more cultivars able to tolerate temperatures to -30°F or lower. But this shrub also quickly begins the process of deacclimation and becomes injured by temperatures of -24°F in February and -6°F by early March.



The dead canes can be pruned down to a height of 2 to 3 inches at this time. The roots are fine as well as the base of the canes which were below the snow line, and the plant will quickly send up new canes.

Samples received/Site visits

Lawrence County, Declining ponderosa pines

This was a sample from some declining ponderosa pines in a development by Spearfish. The needles were discolored and presenting symptoms sometimes seen with *Dothistroma* needle blight.



However, the fungus was not detected in the tissue, but a small insect was found burrowing into the needle sheaths. We are working on the identification of this insect and will provide an update in a future *Pest Alert*.

Lincoln County, Ash bark beetles

I had a request to stop by to look at a tree that might have emerald ash borer. The tree was in a windbreak with many mature ashes that had extensive dieback.

While we do have emerald ash borer in Lincoln County, they were not infested by this insect. Instead, the branches were infested by the ash bark beetle. This is small, less than 1/8-inch long, dark gray beetle.

The adults carve a chamber perpendicular to the grain of the wood and the female lays eggs along the sides of this tunnel. Once the larvae hatch, they burrow in almost straight lines away from the chamber and create this very distinct pattern.



Ash bark beetles tend to attack recently dead and dying trees and are rarely a problem in healthy ash trees. They are an indication the tree is dying rather than being the cause of the death (though they can help it along).

I also frequently find them in trees that are infested with emerald ash borer and there is the possibility that these ashes are infested but the density is too low to yet detect.

Meade County, *Dothistroma* needle blight

These are Austrian pines that line the back yard. The trees do not appear to be infested by Zimmerman pine moth, a common problem in the area, but the needles are discolored. The discoloration is due to the foliage disease *Dothistroma* needle blight.



The early needle symptoms are resin-soaked bands and yellow spots developing by fall. These bands turn reddish brown and the needle distal to the bands turns

yellow and dies. The base of the infected needle may remain green, though the needle snaps off at about half its length. The tissue by the break become white and almost looks like a cigarette tip.

The disease can be managed with fungicide containing copper or Mancozeb applied at budbreak (coming soon) and a second application made about a month later when the new needles have fully expanded.

Minnehaha County, Emerald ash borer

Nervous ash tree owners are calling asking if their tree has emerald ash borer. It is reasonable to assume at this time that any ash trees within the city are infested. It is near impossible to determine whether a tree was first infested last year.

This call was not whether the tree was infested but whether it should be treated. It is a mature lawn tree and since it is on the south side of the home, the summer shading is very valuable.



The tree appears to be in good shape and if it is infested, it is not yet showing symptoms so a good candidate for treating. A large tree such as this one may cost as much as \$300 to \$400 to inject but it will probably cost \$3,000 to remove it and once gone so is the shade!

It may take more than 25 years for the cost of treatments to equal the cost of removal (treating every 2 years for the next 10 and then every 3 to 4 years for the next 10 or 15 years). I have found this true with many trees that are more than 20 inches in diameter (at 4.5 feet above the ground). The mature trees are ones to consider protecting from emerald ash borer.