



# 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: Carrie Moore and Dawnee Lebeau

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## Plant development for the growing season

Rainy and cool weather still seems to prevail across much of West River, while East River bakes. If you are from the southeastern part of the state, I suggest you head west to see grasslands as bright green rather than the dull brown you see at home.

These are the current growing degree days (GDD-base 50) for communities across the state.

Aberdeen	1,230
Beresford	1,460
Chamberlain	1,360
Rapid City	960
Sioux Falls	1,400

The hydrangeas are in bloom across the state. Panicle hydrangea (*Hydrangea paniculata*) and its many cultivars are some of our best, and toughest, flowering shrubs.



The flowering of these shrubs is also an indicator that emerald ash borer emergence is beginning to wane. We should see fewer adults flying during the coming weeks.

The drought classification has not changed much since last week. All West River except for Lyman, Gregory and Tripp Counties are classified as "None" on the US Drought Monitor. The drought intensity for the rest of the state is either "Abnormally Dry" or "Moderate Drought" except for a few East River counties – Campbell, Edmunds, McPherson, Potter, and Walworth. The southeastern quarter of the state is still very dry. This area is under "Severe" or "Extreme Drought."

## Treatments to Begin Now

Water, water, water for every tree that is east of the Missouri River!

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### Timely Topics

#### ***Emerald ash borer update***

The first instar larvae are still the most common stage found in trees. These are small and almost transparent so are hard to see. They do little harm to their host as their tunnels are narrow and shallow. That will change as they get larger during the season.

#### ***Emerald ash borer found in Marshall Minnesota***

Last week emerald ash borer was confirmed in Marshall, Minnesota by the Minnesota Department of Agriculture. A homeowner in the northern part of this community thought one of their trees may be infested – blanding, woodpecker drill, sprouts – and reported it to the MDA. The MDA followed up on the call. They were able to find larvae present under the bark. The tree has been infested for a few years.

#### ***Mulberry fruit has ripened***

White mulberry (*Morus alba*) is a common tree in vacant lots and in wooded areas. While this tree is native to Asia, the birds – which love the fruit – have spread it across North America. The fruit is about 1/2 -inch long, resembles a raspberry. It begins white and becomes a deep purple when ripe.



The ripe fruit can be eaten raw or made into jams, jellies, and pie filling. Do not eat the leaves, however, as these contain a toxic which can be fatal if eaten. The leaves can be used in teas (and silkworms like the leaves).

Not every mulberry will produce fruit as the tree is dioecious, meaning some trees only produce pollen and others only fruit. Occasionally a tree will produce separate flowers that either have stamens (which produce pollen) or pistils (which accept pollen and form the fruit).

#### ***Pine looper update***

We are starting to see eggs hatching in some of our small containers containing adults. We had eggs laid in these containers a couple of weeks ago. Now they are beginning to hatch. Our survey this week found many first instar pine looper larvae. They were feeding on the new growth of the same trees that were defoliated last year. One tiny caterpillar is “looping” on this twig.



Pines can tolerate one year of defoliation but may not survive two years. The larval numbers are high enough that I expect we will see defoliation again this year. This may result in mortality in some of the pines that are defoliated two years in a row.

If that were not enough of a problem for the pines, we were also able to find some pine sawflies (*Neodiprion*) feeding on needles in the same trees though they will feed on the older needles. Defoliation of the the new needles, and the few older needles, which were left after last year's pine looper outbreak is certain death for the host.



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### E-samples

#### ***Ash flower galls***

People seem to be looking at their ash a little closer now with emerald ash borer drawing attention. Fortunately, this was not related to the borer, but a mite. This is the ash flower galls caused by the (no surprise) ash flower gall mite (*Eriophyes fraxiniflora*).



The mite feed on the staminate flowers, and since we do not like seeds, all our ash cultivars are staminate (male) trees. This resulted in lots of food for the mite. The ash flower gall mite became a problem with the widespread use of seedless ash cultivars in the 1970s.

The feeding results in the flowers becoming rounded cauliflower-like, greenish-yellow galls. These galls will turn deep brown and woody by fall and may persist on the tree for several years. The galls do not harm the tree, but they do look unsightly. No treatments are necessary or effective.

**Ash rust**

The bright yellow to orange pustules that are appearing on ash leaflets are from the fungal disease ash rust (*Puccinia fraxinata*). Infected leaflet and their petioles become twisted and distorted. Occasionally the disease can infect the twigs and this can result in wilting leaves.



The yellow to orange pustules that are present on the leaves now will soon be producing tiny spores. These spores do not infect ash but the alternate host for the disease, marsh and cord grasses.

Spores produced on the grasses in the spring spread the disease back to the ash trees and the cycle begins again. The disease is usually a minor problem with infection limited to a few leaflets on each leaf. No treatments are necessary at this time.

**European elm flea weevil**

The question was what caused all these holes in the leaves. This is not leaf tatter, a disorder discussed in late

week's *Pest Alert*. This is due to an insect, the European elm flea weevil (*Orchestes steppensis*).



The adults feed on the underside of the leaf leaving a thin layer on top. This thin layer drops out leaving ragged holes. This damage looks like that caused by elm leaf beetles, but the leaf beetle creates oval holes with the margins remaining green.

The adult weevils are feeding now. They are about 1/10-inch long, have a long stout and reddish-brown body with black spots. This is the second-generation of adults. The larvae they produce will feed in-between the upper and lower leaf tissue, with the damage referred to as mining. The first-generation causes most of the damage so there is no need for treatments now. They should be applied earlier in the spring.

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**Samples received/Site visits**

**Codington County, Discolored Scotch pine needles**

This sample was of a Scotch pine (*Pinus sylvestris*) branch showing some brown needle clusters. This disorder was discussed in the May 17 issue of the *Pest Alert*.



The warm, dry fall resulted in pines, particularly pines not native to central or western United States, failing to transition to full dormancy before winter. Much of the injury occurred in late fall and early winter during the cold, windy weather.

The sudden appearance of warm weather resulted in the dead needles turning a straw color as the rest of the tree started greening up. The injury has only affected the previous year's needles. The affected needles are beginning to shed now with the warm weather.

### **Minnehaha County, Ash plant bug – not a “breathing” problem**

No, this ash was not having trouble “breathing.” But the tree owner was alarmed when a spray company stood as his door with a handful of leaves saying the tree was having the oxygen sucked out of the foliage by an insect. They must spray now!

Good advice in many situations is to get a second opinion so they gave me a call. The visible injury was stippling which is caused by an insect puncturing the leaf blade to suck out nutrients (but not air). The culprit was the ash plant bug (*Tropidosteptes amoenus*).



The adult plant bugs are oval and about 1/4-inch long. They range in color from yellow or red to almost black. The wings are folded across their backs. The nymphs are about half the size and lack wings.

Both feed by piercing leaf tissue to suck up the sap. The feeding causes tiny yellow spots on the leaves which can merge into blotches. Heavily infested leaves can turn brown and wilt.

There are two generations per year. The adults out now are the second-generation. The first-generation adults and nymphs cause most of the damage so there is no need to treat them now – and the tree has plenty of oxygen!

### **Minnehaha County, Stem girdling roots**

This visit was to a Norway maple that had a thinning canopy. The thinning was throughout the canopy, rather than the upper canopy as seen with winter desiccation injury. The cue for the causal agent was at the base – the roots were imbedded into one side of the trunk.

These are stem girdling roots, lateral roots that appear at or just below the soil surface. These are referred to as stem girdling roots as the roots are imbedded into the trunk. This means the tree was planted a little too deep which allows the roots to grow along surface. It is a problem found mostly with container-grown trees.

The problem takes years to develop. But as the tree trunk increases in diameter as well as the root, the two meet. Once they are touching the trunk overgrows the roots which cuts off the circulation in the affected trunk. This means less water and nutrients are taken up into the canopy, so it begins to appear thin and open.



The best solution is to avoid the problem to begin with, plant the tree so the stem is completely above ground and cut back any circling roots – those going more than halfway around the container – before planting.

If the circling roots are not detected until they are imbedded into the trunk, cutting out a portion of the root is the only solution. This must be done carefully as removing the imbedded roots will also reduce the amount of water absorbed by the root system. Severing stem girdling roots is a practice best left to a commercial tree company familiar with the process.

### **Minnehaha County, Branch girdling swing**

Stem girdling roots can affect the entire canopy, but a rope swing can girdle a single branch. That was the case for this visit. The oak tree owners wanted to know why a single branch in their mature bur oak had declined and finally died.



The problem was the nylon ropes supporting the swing had become imbedded into the branch. This had the same effect as the roots becoming imbedded into the trunk – it cuts off the circulation – but now completely around the branch. Oaks depend on the outer most growth ring for their water movement, so it is quite easy to kill the branch on which the swing is attached. This one only took five years to kill the branch.