

Pest Update (August 19, 2015)

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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. **Walnut samples may not be sent from any location – please provide a picture!**

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 particular 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



A common phenomenon with a wet summer is fall blooming of some of our spring-flowering trees and shrubs. I received this great picture of a lilac in bloom this week. The flowering of crabapples, lilacs and other trees at this time of year is not a cause for concern. They will still be ready for winter on time but since some of the flower buds are opening now there will be fewer blooms on the plant next spring.

Timely topics

Verticillium wilt is affecting maples and catalpas throughout eastern South Dakota. We seem to see the symptoms pop up every few years. I say symptoms as the disease is soil-borne so it is probably always present, we just see the symptoms expressed during wet years. There are several species of verticillium wilt with the one that most common infects woody plants being *Verticillium diahilae*.

The tree species most common affected by this disease are ash, catalpa and maples. The symptoms expressed by an infected trees usually occur in mid to late summer. The leaves will become yellow and scorched before wilting and drying. The entire tree canopy may be affected or sometimes only a few branches.



The disease has two forms, acute and chronic. The acute form of the disease often kills the entire trees within a year. The symptoms of the disease are as mentioned earlier but sometimes the leaves will develop a red or yellow tint between the veins. Rick, a forester with the South Dakota Department of Agriculture, took this picture of a Freeman maple (*Acer x freemanii*) with an acute form of the disease. The chronic form is not a tree-killer. We have trees on our campus that have the disease and the only symptoms is an occasional branch or two dying.

There are also difference among species. Ash, for example, often has drops the leaves while they are still green, while maples may show a nice red premature fall color before the leaves drop. The

sapwood of infected maples will show a green streaking. Catalpas will usually show brown streaking. This streaking is usually absent in ash.

Verticillium wilt is one of our most common misdiagnosed disease. You cannot identify the disease from just the symptom pattern as there are other diseases and disorders that can cause similar symptoms. A sample, a 6 to 8 inch long branch between 1/2 and 1 inch long that is showing symptoms but is NOT YET DEAD, is need to culture the fungus.

There is not much that can be done once the disease is diagnosed. Since the pathogen is soil-borne and can remain dormant for more than 15 years there is no means to rid the disease from the tree or property. The focus of verticillium wilt management to keep the tree healthy through proper watering and fertilizing. Proper fertilizing does not mean high nitrogen dumped on the site but taking a soil test and providing any element that may not be at the optimum concentration.

The other option is remove the tree and only plant tree species that are highly resistant to the disease. These trees include birch, ginkgo, hackberry, hickory, honeylocust, oak, and walnut. Conifers are not affected by verticillium.



Stem girdling roots are one of the disorders frequently confused with verticillium wilt. Stem-girdling roots may occur when trees are planted too deep and the lower portion of the trunk is buried in the soil. Roots may work their way up and as both the trunk and root increase in diameter, the root may partially girdle the trunk. Common symptoms of the disorder are gradual dieback and decline of the canopy and the foliage showing premature fall color.

The other clue is the trunk goes straight into the ground like a power pole rather than having a flare at the base. It takes a while for the trunk to become constricted by the root so it's common to not see any symptoms until the tree is 10 to 20 years old. The problem of stem girdling roots can occur with any tree species if planted too deep but is most common on maples, particularly Norway maple, and lindens.



E-samples



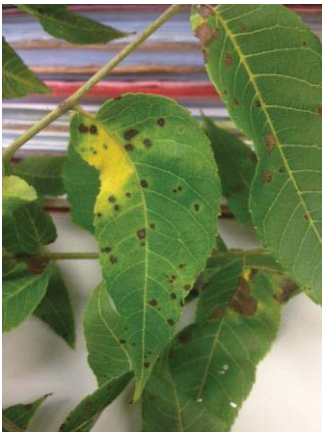
Ash bark beetle is a sometimes forgotten pest of ash. I received this picture of a tree with “emerald ash borer.” The tree was declining but it was not due to the emerald ash borer, an insect that has not yet been discovered in South Dakota, but the native ash bark beetle. The ash bark beetle galleries, the tunnels the larvae make as they burrow through the bark, are perpendicular to the main tunnel

the adults make to lay eggs. You can see the characteristic gallery pattern near the top left of the picture. The ash bark beetle typically infests declining trees so it is not the problem, merely taking advantage of a dying tree that has few defenses against an attack.



Another picture sent in was of a **ground beetle** (Carabidae). A person found these insects coming out of their dying boxelder and wondered if these insects were the cause for the decline. The answer is no. Ground beetles feed on other insects and small

invertebrates so are considered beneficial. Despite the name, ground, these beetles can be found living beneath the loose bark of declining trees and in decaying wood. Boxelders decline due to a number of pathogens and a few insects such as the native maple borer can also hasten the death of these trees. The ground beetle just happened to be wandering by and not the problem.



Another frequent picture at this time of year is of walnuts dropping their yellowing leaves. It has become almost an annual event. The problem is **walnut anthracnose** (*Gnomia leptostyla*), a very common fungus disease of this species. As with other anthracnose diseases, the tree becomes infected in the spring as the new leaves emerge in the cool, moist spring environment, but the symptoms – yellowing leaves with black spots that drop prematurely – do not occur until about now. The disease overwinters in the twigs and fallen leaves (one reason an infected tree only has leaves remaining at the tips is the spores “rain” down from the twigs and these are usually

above the “rain.” The disease is not harmful to the tree and now is *not* the time for control.



At this time of year I start getting sample of fungi and this is a picture that I took this past week. This is one of the **sulphur shelf fungi** that occur on dead and dying trees throughout the state. They seem to appear almost overnight in late August and September and are hard to miss due to their bright yellow and orange color. The fruiting body will fade to a more uniform pale yellow as it begins to weather but often the mushroom disappears as quickly as it forms.

Sulphur shelf mushrooms are eaten by many animals and, when cooked properly, are considered delicious. They are also known as the “chicken of the woods” since some people think they taste like chicken (but what doesn’t?). However, **an important caution**, never assume any fungi you find is edible until it has been examined by an experienced mushroom hunter. *Pictures are only a guide.*

Samples received/site visits

Minnehaha County FL1500019

Is this verticillium wilt?

Yes, see the above article on the disease.

Minnehaha County FL1500026 **Why are the leaflets yellowing and falling from this honeylocust**

This appears to be due to the honeylocust spider mite (*Platytetranychus multidigituli*). This mite is a warm-season mite so it most active in June and July and can become a real problem in years with warm, humid summers. The most common symptoms of an infestation are leaflets turning yellow or brown and then falling prematurely. I have seen trees that are almost completely defoliated by now. The easiest management is a dormant horticultural oil spray in early April to mite the overwintering adult females before they begin to lay eggs.

Minnehaha County FL1500025

What is causing all these holes in the elm leaves?

European elm flea weevil (*Orchestes alini*) is an insect that appeared in South Dakota about five years ago. Eggs are laid in the spring and the larvae burrowing into the leaf mining the tissue leaving blotches. The adults feed mainly

on the leaves and will leave “shotholes” creating a lacy appearance to the foliage. The elm flea weevil occurs on all species of elm.

Stanley County FL1500022
old linden to decline?

What is causing this 20 year

The symptom pattern shown in the pictures sent with the sample is characteristic for stem-girdling roots. I see this problem a lot in lindens and it often takes 10 to 20 years for the symptoms to appear. If the trunk is going straight into the ground, rather than a wide flare, the stem is probably being girdled by one or more roots at or below the soil surface.

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