Pest Update (December 2-9, 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.

Timely topics

Sunscald and frost cracks on ornamental trees; wrap or don't wrap? I usually received a question or two on the benefit of wrapping trees to prevent winter injury, specifically trunk splitting. This splitting is either due to a frost canker or a frost crack.

Sunscald, sometimes called a frost canker, is death and discoloration of bark extending into the cambial zone. The injured outer bark will slough off to reveal dead tissue beneath. This occurs as a result of extreme temperature fluctuations. While these cankers are more common on the southwest side of the tree, they can occur on any side of the trunk. The problem is occurs when bark tissue that is beginning to lose its cold hardiness in late winter is exposed to unseasonable cold temperatures. The tender bark and cambial tissue is killed. This is most common on thin-barked trees, crabapples, lindens and maples in our region, but is more related to stress than species. Moisture stress, during the previous summer and fall, is most often correlated to frost cankers, so drought and transplanting are two key stress factors for the occurrence of this disorder.

Frost cracks are deep, longitudinal cracks that appear on the lower trunks of trees. While referred to as frost cracks, the origin of the crack is not related to frost or cold but an injury to the trunk. The genesis of the crack is a wound to the trunk; grass-whip, lawn mower, improper pruning; and this result in a structural weakness in the trunk. When the trunk is exposed to the warm winter sun are followed by a rapid temperature drop in the evening, a crack ruptures to the surface. Frost cracks almost always appear on the southwest side of the tree as this is the area of the trunk that may experience temperature changes of 30 to 50^{o}F or more from a sunny winter day to a clear winter evening. Frost cracks are most common on the same species as frost cankers but may also be found on oaks and walnut.

Will wrapping trees during the winter help? It might, but keep in mind that moisture stress and wounding are the two key factors in the formation of cankers and cracks. Wrapping with paper or plastic wrap may not prevent temperature fluctuations; in fact it may actually cause a more rapid temperature change. In addition, if the wrap is left on into the next growing season it may trap moisture creating a favorable habitat for pests. Left on even longer it can girdle the tree. Wrap or don't wrap? If you have a young, thin barked maple exposed to winter sun, it might be worth the efforts. However, a more long-term solution is to make sure the trees are receiving adequate water during the growing season and do not wound the trunk – these are the means to reduce frost cankers and cracks.

E-samples

Ichneumon wasp. While the picture was taken a little earlier this year, it took them a while to send it in along with the question, is this a borer invading my birch tree? No, this is a "good bug". It's not a true bug but a wasp, more specifically an ichneumon wasp. The long needle-like appendage at the tip of the abdomen is not for stinging people but as an ovipositor, to lay eggs. The female using the ovipositor to probe through the bark of a tree and then lay her eggs in the body of a borer larvae or pupa. The eggs hatch and feeding within the host insect finally bursting out as adults to begin the cycle. If you remember the 1979 movie Aliens, this is similar to what Kane experienced with the alien bursting out of his chest during the dinner scene. The borers the ichneumon wasp was after were probably longhorned or horntail borers. These are borers that attack declining trees.

No, this is not snow on this white pine but an infestation of the **pine bark adelgid** (*Pineus strobi*). This insect is sometimes referred to as an aphid but adelgids, while closely related, are different. They still are sucking insects but adelgids lack the long antennae and do not have cornicles (upright backward pointing tubes near the back of the insect). The insects have this "snowy" appearance from the waxy covering that protects the nymphs. There are usually several generation per year but only the third instar nymphs survive our winters. The adults and younger nymphs die. The insect sucks the sap from the trunks of white pines, though occasionally they can be found on other pine species. The easiest management is a trunk application of a dormant oil spray in the early spring, March, to kill the overwintering nymphs. The spray must be applied before the growing season as oil sprays can damage young, tender needles and also by then the nymphs have become adults and laid eggs.

Samples received/site visits

Lincoln County **Is this pine wilt disease?**

The sample is being processed now and we should know in a day or two. Unfortunately, more pine wilt disease is appearing in the southern half of the state and considering the tree declined quickly, most likely the nematode is present.

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