Pest Update (April 11, 2018)

Vol. 16, no. 10

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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/

Plant Development

We are way behind last year in plant development. By mid-April last year the forsythias had just finished blooming and the serviceberries were beginning to flower! This year neither one even has their buds expanding yet in Brookings. It looks like a late start to spring this year, but with temperatures expected in the 50s and 60s by midweek, it might turn around very quickly (or we might have even more snow!

Timely Topics

I have had a number of calls on when to start spraying apple trees. Insecticide sprays will not need to begin for a while. Our most common insect pest of apples, the apple maggot, is not out until July and the second most common insect pest, codling moth, does not need to be treated until after the petals begin to fall. However, it may soon be the time to begin treatments for diseases. While the symptoms of an infection do not appear until summer, the time to manage apple diseases will be just as the buds begin to expand.

There are probably two major foliage and fruit diseases of apples in our area, apple scab and cedar-apple rust.

Apple scab infections result in irregular brown to olive-drab blotches in the leaves by mid-summer and these leaves begin to fall shortly thereafter. I have seen trees completed defoliated by apple scab by Labor Day. The fruit may also be affected with hard, scabby lesions being the most common symptom for apple scab infection. Late winter-early spring management of apple scab begins with raking up and burning or otherwise destroying all the fallen apple leaves within a few hundred feet of the trees. Apple scab overwinters on the fallen leaves and during the wet spring weather the spores are released from these fallen leaves to infect the newly developing leaves. This raking and burning has limited value, and is not a substitute for fungicide applications, but may be helpful in reducing the severity of the disease particularly for isolated trees.

Cedar-apple rust infection results in orange spots on the apple or crabapple leaf by mid-summer and with severe infections the tree may be defoliated before the end of August. The fruit may also develop similar spots. Cedar-apple rust received its name from the fact that the disease must alternate between two hosts, the “cedar” two juniper species, eastern redcedar and Rocky Mountain juniper and the apple, either apple or crabapple. The disease will not occur if either the cedar or apple host is missing. Cedar-apple rust management begins with the removal of infected junipers near the apple trees. Look for Rocky Mountain junipers and eastern redcedars with the small hard “apples”

encompassing the twigs. These are the indicator that the tree is infected and will be producing spores to infect the apple trees this spring. The galls open and produce these colorful horns that release spores. Ideally all the redcedars and Rocky Mountain junipers within several hundred yards of the apple trees should be removed. This action will reduce the severity of the disease but not eliminate infection, as spores may come from more distant trees. You need to remove all the junipers within *five* miles to completely control the disease, an impossible task. Fungicide applications will still be needed.

Fungicide treatments for apple scab start with a spray applied just as the buds are beginning to expand, less than a 1/4-inch of leaf showing. Cedar-apple rust fungicide applications on apples start when the new leaf is about a week or two old, though treating the leaf as it is expanding may also be beneficial. These first apple scab or cedar-apple rust sprays are critical to the successful reduction of these diseases and, if missed, will significantly reduce the effective of the treatments even if the remaining sprays are properly timed. After the first spray, fungicide sprays are continued about every 7 to 10 days until after petal fall. At that time the weather usually turns a little drier and a 10-14 day interval can be used until the end of June when applications generally stop.

The most common fungicides used for treating apple scab have Captan or mycolubutanil listed as the active ingredient. Captan is also the most common fungicide included in multi-purpose fruit tree sprays and is effective on apple scab, but not cedar-apple rust. Fungicides containing myclobutanil, such as Immunox can be used for either apple scab or cedar-apple rust.

Two great upcoming educational opportunities for professional grounds personnel

Tree Injection Workshop

9 am to noon, May 10, 2018
Tuthill Park, Sioux Falls, SD

Treatments for Emerald Ash Borer, Bur Oak Blight and Pine Wilt Disease

Emerald ash borer, bur oak blight, and pine wilt disease are all current or looming threats to trees in South Dakota. Fortunately, there are effective treatments for all these problems and ones that do not involve spraying. Instead, trunk and soil injections are the new approaches to combating pest problems in trees.

Thursday, May 10, from 9 am to noon, there will be a workshop for commercial pesticide applicators to demonstration all the latest injection technology by the companies that provide equipment and pesticides to applicators.

Chip Doolittle (Arbor System), Jeff Palmer (Arborjet), Zachary Stewart (Rainbow Treecare Scientific), and Victor Gust (Warne Chemical) will all be on hand to discuss and demonstrate new technology for treating these three key pests. You will be able to see the different injection methods for treating emerald ash borer, bur oak blight, and pine wilt disease as well learn about the appropriate timing and use of pesticides for these problems.

The workshop will be held at Tuthill Park, 3500 South Cliff Avenue, in Sioux Falls. The group will meet at the picnic shelter for a discussion on these pests – the symptoms and how they injury trees - then walk to trees where soil and tree injections will be demonstrated. The event is being held *rain or shine* so come and take advantage of this great opportunity to see how you can manage these pest problems!

This event is sponsored by the South Dakota Cooperative Extension Service, the South Dakota Department of Agriculture, and the South Dakota Arborist Association. There is no fee or registration for the workshop – just show up!

Any questions please contact John Ball, Extension Forestry Specialist/Forest Health Specialist by email: john.ball@sdstate.edu., phone/text to 605.695.2503, or by mail, room 230 Agricultural Hall, SDSU, Brookings, SD 57007.

Altec Knuckle Boom Mounted Grapple Saw Demonstration

Monday, April 30, 2018
McCrory Gardens, Brookings SD

Everyone has heard about the speed and versatility of this revolutionary technology for tree removal. Shortening day jobs to hours! The knuckle boom mounted grapple saw combines elements of a crane with a grapple and a chain saw, a perfect blend of equipment that allows a single operator to dismantle a large tree at almost lightning speed! Plus, since the operator is guiding the entire operation with a joy-stick, they have significantly reduced their exposure to the many hazards of tree removal.

We have two large declining cottonwoods to use as the demonstration and you do not want to miss this opportunity to see the boom in action! Lance Wallace, from Wallace Tree and Landscape, Inc in Wisconsin, will show how this equipment can make your work more efficient and safer.

The demonstration is from 9 am to 11 am, *rain or shine*. There is no fee or registration. Please park in the McCrory Gardens parking lot, 631 22nd Avenue, in Brookings and come in to the Visitor Center. We will walk over to the site from there. Please bring a hard hat and safety glasses if you have them on hand, otherwise we will provide them as necessary.

This event is sponsored by the South Dakota Cooperative Extension Service and the South Dakota Arborist Association. For more information, contact: John Ball, Extension Forestry Specialist/Forest Health Specialist by email: john.ball@sdstate.edu., phone/text to 605.695.2503, or by mail, room 230 Agricultural Hall, SDSU, Brookings, SD 57007.

E-samples

I received this picture from Dave, one of the service foresters with the South Dakota Department of Agriculture. Dave is down in Hot Springs and noticed these beetles coming out of his firewood pile. These are the cedartree beetle, *Semanotus ligneus*, a native beetle. This insect can be found throughout the United States and may infect any conifer species through arborvitae (*Thuja*) and junipers "Cedars" (*Juniperus*) are their preferred hosts.

The adults emerge in early spring and lay eggs beneath the bark scales or flakes. The larvae soon hatch and feed in the youngest sapwood though occasionally will go deeper into the wood, even into the heartwood of young trees. They pupae in the fall or spring. There is one generation per year, but sometimes this insect will have a two-year life cycle.

It is more a nuisance than a serious pest problem. I see them mostly in juniper firewood that has been brought in during the winter and in rustic cedar furniture

that was not kiln-dried. The adults will not attack finished or dried wood so they are not a threat to wood in the home.

Samples received/Site visits

Lawrence County **Declining roadside spruce**

This was a site visit based on a sample. Sometimes the only way to figure out what is the problem is to visit the tree, there being no signs of a pest on the sample submitted. This was a line of spruce planted next to a major road into town on a long downhill. The causal agent for the stunted shoots and discolored needles appears to be de-icing salt applications to the road. The injury was most apparent on the sides of the trees facing the road and there was more injury on the trees closest to the road. I am testing for chloride concentration to be certain of this diagnosis.

The chemical in road de-icing salts that injures trees is chloride. It does not matter whether you are applying sodium chloride, magnesium chloride, or calcium chloride as all contain chloride. A study we recently concluded at South Dakota State University found that much of our evergreen injury from de-icing salts is not due to chloride seeping into the root zone, but dried salts on the roads in early spring carried as a dust by the passing traffic and landing on the needles. There is less injury when we have wet springs that washes the dried salt from the roads and the foliage.

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