Pest Update (September 20, 2017)

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John Ball, Forest Health Specialist SD Department of Agriculture, Extension Forester SD Cooperative Extension

Email: john.ball@sdstate.edu
Phone: office 605-688-4737, cell 605-695-2503
Samples sent to: John Ball
Agronomy, Horticulture and Plant Science Department
rm 230, Berg Agricultural Hall, Box 2207A
South Dakota State University
Brookings, SD 57007-0996

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/

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.

Plant development for the growing season

More reports are coming in from eastern South Dakota of apples and crabapple trees in bloom. The out of sync blooming is due to the drought stress from the summer which caused growth to stop but resumed when the late summer rains began. This growth resulted in some of the flower buds flowering this autumn rather than waiting till spring.

All buds start as leaf buds but some become flower buds as they develop. This irreversible initiation occurs after the buds have started to form but are not actively growing. Normally this process of forming a flower bud is completed by mid-autumn and it's ready to open after being exposed to the winter cold.

Apparently the rains have resulted in a resumption of growth in some trees, 'fooling' the bud into blooming this fall. Generally not all the flower buds are opening on a trees, just a few here and there, so the tree should still have near normal flowering next spring.

Emerald ash borer - Update

This summer's confirmation of emerald ash borer in Buena Vista County in Iowa, a mere 80 miles from South Dakota, has heightening concern about its eventual presence in South Dakota. The day is certainly getting closer. Confirmed infestations are found in the Omaha, Nebraska and Minneapolis-St. Paul Minnesota metro areas and now in about half the counties of Iowa. The most ominous finding with the Alta, Iowa discovery is that it was about 100 miles from the closest known population in Iowa meaning someone moved infested wood there.

The *Update* will provide weekly information on the location of emerald ash borer confirmed in South Dakota or a bordering county of an adjacent state. ***At this time no emerald ash borer infested trees have been identified in the state or an adjacent county of a bordering state.*** The nearest infestations are highlighted in red; the Twin

Cities of Minnesota; Buena Vista County and the counties in central Iowa and the Omaha-Council Bluff area of Nebraska and Iowa.

The new infestation confirmed in Welcome (Martin County) Minnesota was made from adult beetles collected in a purple panel trap. This is a little unusual as most new finds are from infested trees. This find also appears to be isolated, much as was the Alta, Iowa discovery, and far from the established infestations at the eastern end of the state. This most likely means someone carried infested wood products, firewood or even logs, from an infested areas. There are probably a few infested trees in that area, but hopefully that's it for now. Regardless, this is a good reminder not to move ash wood, either firewood or logs, unless it has been treated specifically to kill any emerald ash borer larvae or pupae.

However, while EAB is closer, it's still too early to begin treating trees in South Dakota.

There are very effective treatments to protect ash trees from emerald ash borer. However, it is still too early to begin treating trees in South Dakota. Our recommendation, consistent with other states, is not to begin treatments until the insect has been confirmed within 15 miles of your trees. There are reports of companies already going around communities in eastern South Dakota telling people to start treatments now, but this is premature.

Treatments are now so effective that you can even save trees that have been infested for a few years so there is no need start pesticide treatments now. Owners of ash trees should wait until it is found near their area and then decide, based on cost, which ash to begin treating.

Timely Topics

This is also the time of year when I get lots of questions about eating those 'chestnuts' that are falling everywhere. This is one picture of these "chestnut" fruits sent in several years ago, but I am getting them almost every day now. First, these are not chestnuts. The American chestnut (*Castanea dentata*) is not adapted to our growing conditions and there are very few in the state. Actually there are not many American chestnuts anywhere due to the

disease Chestnut blight that entered the country from Asia in 1904 and almost eliminated the species – once one of the most common trees in the Eastern Deciduous Forest – within 50 years. The Chinese chestnut (*C. mollissima*) is even less hardy and I do not know of any in South Dakota or western Minnesota. The Chinese chestnuts planted at the Minnesota Horticulture Research Center near the Twin Cities have been short-lived.

What people bring or send in as chestnuts are usually nuts from the buckeye tree (*Aesculus glabra*). This is a common tree in our region since the squirrels plant them for free in almost every garden. The nut contains the poisonous glycosides aesculin and fraxin. Ingesting the raw seed can result in muscle twitching, vomiting and abdominal pain, diarrhea and death. The raw nuts, tender shoots and leaves, particularly wilted leaves, are also toxic to horses and cattle (rabbits too but they seem to be smart enough not to eat them). Squirrels seem to do just fine eating the raw nut and it apparently contains a sweetener that (at least to a squirrel) is sweeter than sugar. The nut can be made safe for human consumption by roasting and leaching and they were used as a starchy food by Native American, but I do not recommend trying to do this. Just buy some peanut M&Ms.

However, here is a nut that we can eat. This is a butternut from a tree known as white walnut or butternut (*Julgans cinerea*). The tree is a close relative of the black walnut (*J. nigra*) but it not nearly as common. Butternut is not native to South Dakota and there are only a few plantings scattered across the state. The tree is likely to become less common farther east as it is being eliminated by a canker disease (*Sirococcus clavigignenti-juglandacearum*). The tree is not considered an endangered species in Minnesota and there is a moratorium on harvest of healthy trees on state lands to conserve what is left. The disease appears to be accidently introduced from Asia (so some similarities to emerald ash borer) and was first observed in Wisconsin back in 1967.

We may remain free of this disease due to the isolation of our butternuts and that would be a good thing as the nut is excellent. The oblong fruit (black walnut is round) is a bright yellow-green sticky husk. The husk darkens and shrinks as it ages. The best time to harvest is to collect the fruit as it falls (but you will have to beat the squirrels). Take the collected fruits and dehusk them with a knife. The husk contains a dark stain (similar to walnut, but nearly as bad) so wear gloves and old clothes and dehusk on a surface you don't mind becoming discolored.

I just quarter the husk and peel it off. The peeling is not the easiest, you might even have to pry off some of it. Once peeled, wash the nut with water to remove any particles left attached and air-dry. The drying should be done in a dark room kept at about 60 to 70ºF with a relative humidity of 70%. Many basements work great for this during autumn. You might want to set up a small fan to keep the air moving. The drying takes about two to three weeks.

Once dried, take the nut out of the shell. A nutcracker might not be able to deshell these nuts, a small steel mallet works better – just a few strong taps. Once the nut has been shelled, the nutmeal can be refrigerated (for a few months) or placed in the freezer for longer storage.

E-samples

Ash flower galls are appearing on the twigs of ash throughout the state. These are the brown to black "balls" hanging in clusters beneath the branch shoots. The galls are due to the feeding activity of the ash flower gall mite (*Eriophyes fraxiniflora*) and this mite only feeds on the male flowers of ash. Many black, green and white ash cultivars are "male-only" as most tree owners do not like to deal with cleaning up the small winged samaras that develop from the female flowers. The galls may detract from the appearance, but do not harm the health of the tree.

Dogwood sawfly (*Macremphytus tarsatus*) is defoliating redoiser dogwoods (Cornus sericea) in eastern South Dakota. The larvae are feeding on the margins of the leaves leaving the leaf almost skeletonized, only the veins remaining. The larvae are about an inch long and most are a creamy white with mottled black marks along the body. They go through a series of color changes during their development so you might even find some darker ones.

If you open up some of the folded leaves on defoliated plants you might even find a curled larvae or two. The larvae will soon be dropping to the ground to find a place to pupate for the winter. Unfortunately they like to create a pupa chamber in logs or landscape timbers so they may borer a little into the wood. A large number of larvae can degrade any landscape timbers near dogwoods.

Since the larvae are almost finished feeding there is not much value in spraying. However, next year if the larvae are noticed on the plants (and they do not always appear on the same plant from year to year) in August, spraying with an insecticide containing Carbaryl or Malathion as the active ingredient and labelled for this use will eliminate most of the insects before they do much damage.

I am receiving pictures and samples of basswood and linden leaves. This is a common occurrence at this time of year, and there are several possible reasons for the discoloration and premature falling of these leaves. However, one of the more common is a fungal disease called **linden leaf blotch** (*Didymosphaeria petrakiana*). The blotches begin in late summer, often as small specks that expand to larger blotches. A characteristic of the dark brown blotches is the feathery margins. The disease can result in complete defoliation of the tree by mid-September.

There really is no treatment other than remove and destroy the fallen leaves, often impractical, and if the spring is relatively dry the disease is often minor and only results in some late season leaf discoloration.

A common call at this time of year is regarding the small bumps on maple leaves. These small dark bumps that appear on the upper side of the maple leaf are the work of the maple bladder gall mite (*Vasates quadripedes*). The galls started as green then turned red and finally black. You can find all three colors on some leaves, kind of pretty when you think about it. A leaf can be covered with them, almost completely, yet the tree suffers little harm from the mite infestation (other than it looks ugly). There are almost no real effective treatments for this pest, and some treatments such as oil sprays just before bud-break can actually do more harm to the maple than the mite.

Samples received/site visits

Brookings County **What are these worms in my walnuts?**

I had a gentleman stop by the office with a Jiffy jar filled with rotting walnut husks and small legless pale yellow larvae. These are walnut husk maggots (*Rhagoletis suavis*), a close relative to the apple maggot. The adult fly lays eggs on the developing husk in mid-summer. Once the larvae hatch out they burrow and feed on the husk which breaks down the fruit into a black, slimy mess. They do not burrow into the nut so the nutmeal is not affected by the infestation. However, the slime is more difficult to remove from the nut than a normal husk. The best advice is to pick up and destroy any infested husks when they fall. This will reduce the overwintering population (they pupate in the soil for the winter).

Davidson County **Here is a blue spruce sample. The shoot tips are without needles.**

The only problem I could find on the needles was spruce needleminer (*Endothenia albolineana*). Several of the yellowing needles had very small larvae inside them. Now is a little too late to spray and the next window of opportunity is next July. The needleminer usually attacks the needles along the shoot tips on the lower branches but I have also seen them strip the tops of young trees, those about 10 or 15 years old. At this time of year the best treatment is to spray a high-pressure stream of water through the tree to dislodge the infested needles then rake them up and burn or bury.

Union County **What is causing this growth on the tree?**

This is witches' broom, a dense clustering of short twigs that arise close together. These infected shoots in turn give rise to more short shoots and the broom develops. The cause of witches'-broom on hackberry, while common, is little understood. The most commonly accepted idea is that the disease is due to an interaction of an eriophyid mite and a powdery mildew fungus. There are no recommended treatments, but the disease is not a tree killer, just looks bad.

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