Pest Update (September 4, 2019)

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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/

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

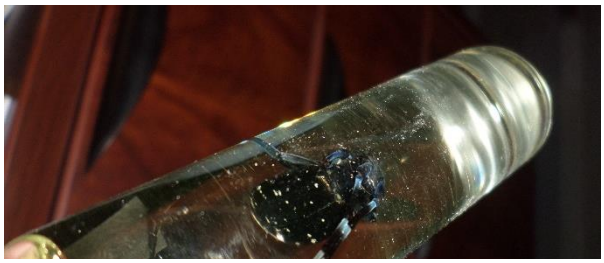
The Dolgo crabapples (*Malus baccata* 'Dolgo') are ready for harvest. This is an introduction from the South Dakota Ag Experiment Station in 1917 and was intended to be a cider apple. It is an excellent one, producing a tart, pinkish-colored cider. The purplish-red fruit is large for a crabapple, longer than one inch, and oval rather than round. The fruit will begin dropping soon so pick quickly!

Timely Topics

Asian longhorned beetle – not.

All the attention on emerald ash borer has caused the potential threat of Asian longhorned beetle (ALB) (*Anoplophora glabripennis*) to take a back seat. About two decades ago when this beetle was killing trees in the Chicago area, I would be getting about one or two reports a month during the summer from Chicago campers in the Black Hills that though they had found this insect. Once the insect was eradiated in Chicago, back in 2008, after the loss of thousands of trees, the reports from campers stopped.

One report arrived last week from the Black Hills and it, like the others, was not the Asian longhorned beetle, but our native spotted pine sawyer beetles (*Monochamus scutellatus*).



ALB adult in vial. Notice the sharp white dots on the back of the insect.

The two do look similar as they are both longhorned beetles. The Asian longhorned beetle adults is a little over an inch long, whereas the spotted pine sawyer beetle adult is a little under an inch. They both have antennae that are longer than their bodies, hence the name longhorned beetle.

The biggest difference is the color. The Asian longhorned beetle is a glossy jet black with sharp white dots on the wing covers (hence the name starry night beetle in China). The spotted pine sawyer (right) is gray to black with a spot between the head and the top of the wing covers.

Fortunately, this was not the Asian longhorned beetle. The favorite food of this beetle is a 12- to 16-inch diameter red maple (*Acer rubrum*),

followed by silver maple (*A. saccharinum*) and their hybrids, the Freeman maples (*A.* x *freemanii*). Norway maple (*A. platanoides*) is the next choice.

The two most common tree genera in many South Dakota communities are ash and maples. We are going to be losing the ash slowly over the next two decades as emerald ash borer moves across the state. Asian longhorned beetle has not been detected in our state but one day will. It is currently killing maples in New England and Ohio. Unlike emerald ash borer, Asian longhorned beetle infestations can be, and have been, successfully eradicated but only after a community losses thousands of trees.

This is the time of year when I get lots of questions about eating those 'chestnuts' that are falling everywhere.

At this time of the season I get lots of pictures of buckeye fruits sent in by tree owners looking for a free meal. "How do I roast these chestnuts?", is the common email question. First, these are not chestnuts. The American chestnut (*Castanea dentata*) is generally not adapted to our state's growing conditions and the furthest west one that I have found one growing is in the Hodgson Arboretum at the University of Minnesota Experiment Station in Waseca, Minnesota (a nice little arboretum, well worth the drive over if you are in the area).

There are few American chestnuts anywhere in this country 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 ones planted at the Minnesota Horticulture Research Center near the Twin Cities have been short-lived.

The unpollinated fruit is much smaller than the chestnuts found in stores.

Last weekend I drove over to Waseca and collected some chestnuts. The tree never fails to produce a big crop and the ground was littered with the spiny fruit. The fruit is never picked from the tree, you must wait for it to fall and then allow it to naturally split open before harvesting the seed inside. Squirrels, blue jays and other creatures like the seeds as well so it's best to gather up all the fallen fruit and store them inside until they split.

Once you harvest the tear-drop shaped nuts from the burs, clean them and place in an oven for 10 minutes at 400ºF. Remove from the oven and drop the nuts into cold water. The rapid change in temperature will cause the shell to split and now the nut inside (what you eat) can be removed and stored.

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 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 Americans, but I do not recommend even trying to do this.

Squirrels damage on hackberry trees

While the autumn foliage color change is starting on a few trees, the bright yellow leaves scattered throughout the canopies of hackberries are due to critters, not cold. Squirrels have been chewing on branches causing their leaves to turn yellow and wilt.

Squirrels strip off the bark on the tops of branches usually near their base where they are attached to the trunk (so not always visible from the ground – sneaky). The branch gnawing is deep enough into the wood that the tubes carrying water out to the leaves are damaged. Since the foliage is receiving less water, the leaves begin to senesce, turning yellow prematurely then wilting and becoming brown.

Hackberry and maples are some of their favorite trees to chew on as these trees have a high sugar content in their inner

bark in autumn and their fruits – the seed within the drupe for hackberry and the winged nutlets for maples - are also an attractant for squirrels. They also seem to prefer thinner, smoother bark and this wood is also used to line their winter dens.

Some trees are so attractive to squirrels this year that about one-third of their canopies have yellowing leaves. Trees that are severely browsed by the squirrels can suffer dieback and decline. Occasionally the squirrels even manage to kill a tree if its attack for several years in a row.

There is not much that can be done to discourage the squirrels from stripping bark from a tree. Some people hang mothball in their trees, but squirrels are not moths, and do not seem to be deterred by these little “snowballs” in the tree.

At least don’t encourage them to a tree so be sure bird feeders are not hung in these trees or placed near them.

E-samples

Chicken-of-the-woods. These are the fruiting structures of the sulfur shelf fungus, *Laetiporus sulphureus*. It is usually seen at this time of year along the trunks and bases of declining trees. The fruiting structures are hard to miss as they are a bright yellow or orange and appear as overlapping caps that may be as much as 16 inches wide.

The appearance of these fungal bodies means two things, 1) the tree is decayed and may need to be removed (if the failure could injury people or damage property) and 2) you have a meal! The fruiting structures are a choice edible fungus that have the texture of chicken (what doesn’t taste like chicken). Insects and other critters like them too so they need to be harvested soon. **IMPORTANT NOTE: DO NOT ASSUME FUNGI THAT LOOK LIKE THESE ARE EDIBLE – ALWAYS GO OUT WITH AN EXPERIENCE MUSHROOM HUNTER FIRST.**

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 - though some leaves are merely filled with holes. 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 some of the folded leaves on defoliated plants, you might even find a curled larva 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. If you have a lot of larvae, they 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.

Birchleaf spirea (*Spiraea betulifolia*) is one of my favorite shrubs. It has attractive white flowers in late spring followed by autumn foliage of gold, red, and purple. However, it does seem to have one pest problem that detracts from its otherwise near perfect appearance – **the fruittree leaf roller** (*Archips argyospila*).

The fruittree leaf roller infests a wide range of hosts from ash to willow but seems to really like birchleaf spirea (as well as apple trees). The insect gets its name from the habit of the larvae to feed inside a protective shelter of rolled up leaves that are webbed together. If you peel the webbing open now you can find this small, about 1/2-inch greenish larva with a brown head. While the fruittree leaf roller causes much of this damage in South Dakota, a similar appearing insect, the obliquebanded leaf roller (*Chorisoneura roseaceana*), can also roll the leaves of spirea.

Treating this insect on spirea is difficult as the larvae are protected by the webbed foliage. Systemic insecticides can be used as a soil drench, but these chemicals are also taking up by the flowers and can kill pollinators. The simplest is to spray the plant with an insecticide containing Spinosad (commonly sold as Captain Jack's Dead Bug Brew, no kidding) just as you start seeing the larvae. This will be sometime in late June.

Imported currantworm (currant sawfly, *Nematus ribesii*) is feeding on alpine currant. This picture is from Watertown and shows some of the larvae feeding along the stem of an alpine current bush. The sawfly larvae feed long the interior of the shrub but eventually all the leaves on a plant may be eaten.

The sawfly larvae become a light green gray with lots of black spots along the abdomen, but they are more a uniform light green just after a molt. The insect overwinters in a cocoon in the soil with the adult wasp emerging in mid-spring. The eggs are laid on the middle vein in the leaves and hatch in about a week. The larvae feed in colonies along the leaves for about three weeks.

The full-grown larvae (3/4-inch) drop to the ground to form a cocoon. Some remain in a cocoon until the following spring but others (as these did) emerge as adults the same summer and form a second generation.

The treatment is usually carbaryl (Sevin) or Malathion applied when the larvae are present. Irritants, such as soaps and even dishwashing detergents, can kill young larva. However, test these homemade recipes on a few leaves first as high concentrations of soap and detergents can damage leaves.

Pear sawfly (*Caliroa cerasi*) on pear. Pear sawfly, also known as pear slug because of the slimy appearance to the larvae. The olive-green larvae are about 1/4-inch long with front of the insect just a little wider than the rear. The insects in the picture have about another 1/8-inch to grow and will lose their green slime and become an orangish yellow.

The larvae are the damaging stage and feed on the leaves of pears (hence the name) as well as cherries and even an occasional plum or apple. They feed on only one surface of the leaf, a type of damage known as a window-paning. The damage is usually not severe enough to warrant treatments.

There are two generation per year of this insect. The adults emerge in the spring from cocoons in soil. The adults are a non-stinging wasp about 3/16-inch long. The adult female cuts slits in the edge of the leaves with her saw-like ovipositor with the eggs hatching within two weeks. The young larvae move out and feed on the upper surface of the leaves for about a month before dropping to the soil and

forming a cocoon. The second-generation adults emerge in early July to start the life cycle over again. The second-generation larvae, the ones out now, are the most damaging to the plant and can leave a young tree almost completely defoliated.

While almost any insecticide will kill the larvae (but check label first to be sure they are including on it). Usually the damage is not noticed until it's too late and their natural enemies provide the best long-term control.

Woolly aphids are appearing. These insects appear as patches of wool or lint lining the stems or shoots of apples, cotoneaster, elms, hawthorns or mountainashes at various times during the growing season. These aphids will often switch hosts at some point in the growing season and may also switch from feeding on leaves to roots!

At this time of year, the feeding is just about finished and the appearance of the fuzz is more a curiosity than a threat to the tree.

Samples received/site visits

Gregory County **What is wrong with this pine?**

The ponderosa pine was packaged a little too wet so there was a lot of mold on the sample when it arrived. However, the symptoms of dothistroma needle blight were still visible – tan to brown bands on the needles with an abrupt transition to a green base. This is a very common disease of ponderosa pine in our state and on the Great Plains. Infected trees rarely die of the disease, but the canopies can be full of straw-colored blighted needles that fall prematurely leaving an open, almost bare, tree.

The treatment is copper **or** mancozeb fungicides applied as the new growth expands (mid-May) and repeated in late June. Ponderosa pines should also receive a third application in mid-July.

Lawrence County **What are these bumps on my tree?**

I stopped to look at this tree last week and it had these small galls at the base of the branches. These are the galls to an adelgid (*Adelges*). These are insects that have a complicated life cycle – often between two different host and having possibly four or five different shapes so they look like unrelated critters. The feeding by most of them induces the formation of these succulent pineapple-shaped galls with each cell the home for an individual adelgid. Once the galls open, the insects fly to another host, often an unrelated species. Sometimes the gall formation is incomplete and not all adelgid species form a distinct gall, some just look like a misshapen shoot.

The few that are on this tree do not warrant treatment. Natural enemies will do a sufficient job of keeping them in check.

Minnehaha County **What is wrong with these trees?**

These crabapples appear to be suffering from apple scab, a foliage fungal disease that is on almost every susceptible crabapple in the state. We can blame the wet weather this spring and summer for the severity of the disease this year. While there are effective sprays to protect foliage from the disease, the timing and need for repeated applications means that most people just accept the damage that occurs during wet summers. The trees should recover next year (assuming not a third wet year in a row).

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