Pest Update (August 1, 2018)

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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 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

We are ahead of schedule for plant development this year, the hot weather is accelerating plant growth. The apricots were ripe last week and the crop this year is immense! Usually we can expect a good crop of apricots one out of every five years due to a spring frost injuring the flowers. The cold, long winter delayed flowering so many folks are seeing an abundant crop of apricots and peaches.

We are also seeing some spring-flowering shrubs, most commonly lilac, beginning to bloom again. While there are reblooming lilacs, the Bloomerang lilacs, that bloom in spring and summer, most lilacs flower in May and June and just remain green for the rest of the season. However, if you have enough summer rains, most lilac will produce a second set of flowers in late summer and I have seen dwarf Korean and common lilacs with a smattering of flowering during the past week or two.

This is not a harm to the plant though you might see slightly fewer blooms next spring, so enjoy the brief return to spring!

Timely Topics

Emerald ash borer update

We did not catch a single adult in the purple panel traps during the past week. While the panel traps are not the best means of gauging emergences, still the number of beetles flying is probably declining. The numbers should continue to decrease as the summer progresses. I do not expect to find adults after Labor Day.

Larval densities are still low in infested trees. I am finding more first and now some second instar larvae tunneling through the branches of infested trees. There are also third instars, which as I pointed out in past *Updates*, indicate that at least some of the beetles have a two-year life cycle rather than one-year.

A few surprising trees

Emerald ash borer would not be a concern if we had fewer, a lot fewer, ash in South Dakota. Unfortunately, as the elms started dying from Dutch elm disease back in the 1970s, everyone went out to plant another fast-growing tree – ash. Now about one-third of the trees in many communities are ash, a mistake we are going to pay for over the next 20 years as the emerald ash borer moves from one community to the next. Let's not repeat this mistake and focus on planting one tree – its seems maples are the "new" ash – and instead plant a variety of different genera.

Of course, the most common comment is nothing will grow here. This is correct to a large degree, we must careful to evaluate the microclimate and soils before planting, but we need to try some new plants to see just how well they perform.

One of the biggest surprises was a tree found by Cami, a Master Gardener, as she was walking her dog. Not only did she notice it was an unusual tree, but she also knew what it was – a sweetgum (*Liquidambar styraciflua*). This is a beautiful specimen, without any evidence of past winterkill, growing in Sioux Falls. It's a Zone 5a tree at best and better suited to Zone 5b, Omaha, Nebraska and Ames, Iowa south. This tree can reach a height of 80 feet or more in the Deep South where it's as common as silver maple is here. The growing site is just about optimal, the central portion of Sioux Falls where the soils are deep and fertile, and the climate is a little warmer. Still, it should not be growing here according to the books, apparently this tree never read the book.

Another interesting find was two Kentucky coffeetrees (*Gymnocladus dioica*). While these trees can be found planted in many communities in state (and are native to the Newton Hills region), these two trees were in Philip! The trees are about 25 feet tall and were planted 12 years ago as 5-foot whips. Kentucky coffeetree has an odd growth rate, slow at first – the first couple of years after planting it barely grows at all – then speeds up. If you plant a coffeetree and an ash (though who plants ash anymore), the first 10 or 15 years the ash will grow fast then the coffeetree takes off and at about 30 years the two trees will be at similar heights.

Cicadas are buzzing in the trees across South Dakota. I am sure there are some that will disagree, but I like the sound of cicadas synchronizing their shrill

buzzes on a warm summer evening. This is an insect more often heard than seen so some folks are surprised to find large (usually dead) stout bodied insects lying on their sidewalk or driveway.

These are the annual or “dog-day” cicadas (*Neotribicen canicularis*), with the adults becoming a little more than 2-inches long, usually with a brown to gray body and clear wings that fold over the abdomen like a tent. These are different from the periodical cicadas (*Magiciada*) that emerge every 13 or 17 years. Dog-day cicadas emerge from the ground every summer and spend the months of July and August buzzing away in trees (it’s the males that are making all that noise).

While some annual cicadas emerge from the soil every year, the life cycle of an individual can take several years or more. The adults lay eggs in slits made in the twigs of trees, maples and cottonwoods being some of their favorites. This is usually not harmful to the tree, but some young trees can have a substantial number of slit twigs break off. Once the eggs hatch the nymph drops to the soil to spend the next several years feeding on tree roots. Eventually the nymph crawls out of the soil and climbs a tree to molt forming an adult. The ‘cast skin’ from this molt often remains hanging from the trunks and lower branches of trees.

E-samples

Pear sawfly (*Caliroa cerasi*) on purpleleaf sand cherry. 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 insect has about another 1/8-inch to still grow and they will lose their green slime and become an orange-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-pane. 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.

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

More worms in the willows. I have had more pictures sent in about a worm in a willow tree and the defoliation seems to be heaviest in the northeast part of the state. This is the elm sawfly (*Cimbex americana*) larvae. The adult females "saw" a slit in the leaves to lay about 10 or 12 eggs per leaf and these eggs usually start hatching in 10 days. The larvae can become almost two inches long by maturity (about 1 ½ -inch now) and they are light green or yellow-green with a single middorsal dark or black stripe.

They feed along the margins of elm and willow leaves, usually in groups, devouring the entire leaf in the process before moving to another leaf. I have seen some trees almost completely defoliated by mid-August. Another common symptom of an infestation is the ground beneath the tree is covered with the very fine frass pellets (insect poop) from these insects. Once the larvae are finished feeding they drop to the ground to pupae with the adults emerging the following spring (Interesting note: not all the cocoons open in the spring. Some pupae do not become adults until spring of the following year so cocoons forming in the soil this year may either produce adults next summer and the following summer!).

The insect does not appear in large numbers every year, nor is it widespread. It is more common to find elm sawflies on a few trees scattered across the state, but you will find pockets of defoliated trees in towns and in windbreaks. The treatment is an application of an insecticide containing Carbaryl when the larvae are first noticed on the tree. The larvae are now become too large to spray.

They are just about finished and ready to drop to the ground, so any treatment is more revenge, rather than control.

There is also a willow sawfly (*Nematus ventralis*) that we occasionally see defoliating willows. The larvae of this insect are black to greenish-black, rather than the light green of the elm sawfly.

Sample received/site visits

Beadle County **What is this insect?**

This was an insect brought in to Huron while we were holding a Master Gardener class. It is one of the largest and most colorful caterpillars we see during the summer. This is a caterpillar to the cecropia moth (*Hyalophora cecropia*). The cecropia moth is one of the largest moths flying in spring and early summer. It is a native insect, common to much of North America. The caterpillars can be found during the summer feeding on cherry, elm, maple, and plum leaves.

The caterpillars can become about 4-inches long before they pupae in early Autumn. These are very stout larvae, usually bright green to sea green with equally colorful spines in orange to red. While its pretty to look at, you may want to avoid touching it. An alarmed caterpillar will twist and may leave droplets of "blood" on the skin that are an irritant.

Lincoln County **The walnut leaves are yellowing and dying.**

This is walnut anthracnose (*Ophiognomonia leptostyla*), a fungal disease that affects leaves and twigs. The symptoms begin as small brownish lesions in the leaf blades, petioles and twigs that gradually expand as the season progresses. The infected leaves turn yellow and drop prematurely. If the twigs are infected, the leaves will often wilt before falling. I see this disease every year in the state but not usually until August. However, with wet spring and summer weather the symptoms will sometimes begin in July and I am already seeing significant defoliation due to the disease. Fortunately, the disease does not affect every walnut tree, nor does it usually cause serious harm to the ones it does infect. There are no effective treatments once you see the damage and I suspect this tree is going to look much worse yet this year. It should recover next spring.

Pennington County **What is causing these fuzzy mats on the leaves?**

This is not a disease causing these fuzzy mats but a mite, the viburnum erineum mite (*Acaphylla*). These galls do not look like the typical gall, more like a patch of velvet than a bump. If you pull the mats apart you might find (if you are looking through a microscope) these very tiny pale colored "dots" moving about. These are the eriophyid mites causing the erineum (the name for the velvet appearance). There is no need to treat for these mite, the damage is mostly cosmetic.

Stanley County **What is burrowing into this Scotch pine cone?**

This is coneworm, a species of *Dioryctria* related to the Zimmerman pine moth complex. The infested cones are hollowed out and often have masses of tight webbing over the entrance holes made by the boring insect. The appearance of this insect is cyclical, so you see many of the cones infested one year and then not again for many years. The last time we saw this damage in many cones was in 2011.

Yankton County **What is causing this lace-like appearance to the horsechestnut leaves?**

This is the handywork of the Japanese beetle (*Popillia japonica*) adults. The adult beetles are about 3/- inch long with a dark metallic green head and metallic tan wing covers and can be found feeding on tree leaves now in communities south of Hwy 14. The larvae are C-shaped grubs that feed on grass roots. During hot, dry summers (like this one), the severing of roots can add to the water stress and large dead patches of turf can develop in grub infested soil. Skunks, moles and shrews find the grubs tasty so heavily infested lawns will also be torn up at this time of year as these animals search for the insect.

While the larvae are a concern to anyone that likes turf, the adults can defoliate trees and

shrubs. The defoliation is not complete leaf chewing, instead the adults feed on the soft tissue between the veins leaving a lace-like appearance to the foliage. Japanese beetle adults do not feed indiscriminatingly but prefer certain hosts. The trees that are their favorites include American elm (*Ulmus americana*), linden (*Tilia*), apple and crabapples (*Malus*), birch (*Betula*), cherry and plum (*Prunus*), Norway maple (*Acer platanoides*) and walnut (*Juglans nigra*). Horsechestnuts (*Aesculus*) are also one of their real favorites and this is the tree they were feeding on.

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