Pest Update (September 12, 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

Many woody plants are beginning to prepare for winter. The terminal growth stopped back in July or August and now some trees are beginning to have their leaves turn color. The tree species that are among the first to drop their leaves, often mid-September, are referred to as solar-friendly. These are deciduous trees that drop their leaves early in autumn and have them come out again late in the spring. This means they are not casting shade on the house during the heating season. I know this week while the temperatures are in the 90s and the air conditioners going full blast it seems hard to be thinking of cold weather but it's coming.

Sometime during late September many of us might hear an unfamiliar sound – the furnace kicking it. After that we want as much sun on the house as possible and the solar-friendly trees - catalpas, Kentucky coffeetrees (pictured above), and yellowwoods – will have already dropped their leaves to allow the sunlight to stream through.

Timely Topics

Emerald ash borer update

We are at the end for most treatment applications to manage this insect. The most effective time to inject ash trees is spring, once the leaves open, until mid-summer (or later if we have rains as we did this year). Once we get to the end of the summer most treatments are less effective and should be delayed until the following spring. There are several reasons for the limited effectiveness to fall applications. First, the larvae are large now and it takes a high

concentration to kill them (but not the younger, smaller larvae in June and July). Second, the larvae will soon stop feeding for the year, so they are not going to ingest any chemical. It may be best just to wait to inject next spring.

Another possible reason for waiting till spring is that fall applications may not provide two full years of control. So, if you inject the fall of 2018, you might still need to treat in the spring of 2020 to continually protect the tree whereas a spring 2019 injection will protect the tree until the spring of 2021.

Planting walnut seeds

I receive requests every fall on how to grow trees from seed. The most common request is how to start walnuts from seed. This tree is simple to grow from seed; squirrels do this routinely with great success considering the number of walnuts that germinate in gardens and other prepared soils! The trick is to think like a squirrel. Harvest the seeds as soon as they drop and plant them this autumn while the soils are still warm. The seed will not initiate growth this fall, but germination next spring improves if they are exposed to several weeks of warm temperatures before enduring the winter cold.

The planting site should be well-drained. A patch in the garden is probably the best spot. After planting cover the soil with a light mulch, straw, or leaves that will not mat such as oak leaves (do not use maple or basswood leaves, nor grass clippings as these tend to mat). The only trick is removing the husk of the fruit to find the seed.

First, begin gathering the nuts as soon as the first few start dropping from the tree. Once they begin to drop naturally, shaking branches with a long pole can encourage more to fall; however, do not pull the nuts off the branches. Do not wait too until they have all fallen on the ground and dried. The walnuts should be harvested while they are still firm but green. Once they dry and harden they are near impossible to crack.

The next step, after gathering the walnuts is to change into clothes you don't plan on keeping as well as wear an old pair of gloves. Now find a hard surface to hammer open the husk. You might not want to use your sidewalk or driveway as the removing the husk will create a dark green, oily stain (see circle) that does not easily wash off from most surfaces.

Some people cover the surface with thick cardboard to reduce staining; others use the neighbor's driveway. Once the husk has been hammered apart and the seeds extracted, let them dry for a day or two (and place them where the squirrels cannot find them) then plant. A good rule is to plant the walnut seed at a depth equal to three times its diameter. Finally sit back and wait till spring, and if the squirrels have not found your seeds you will probably be rewarded with 50 to 80% germination.

Watering the foliage of conifers

The South Dakota Department of Agriculture had an excellent two-day workshop on windbreak establishment and maintenance in Murdo this week. One of the questions that came up (and it seems to only come up in West River workshops) is should I mist the tops of my conifer seedlings rather than water around the base. I have heard, repeatedly, that conifers absorb 85% of their moisture through their needles so mist the tops rather than irrigate. This is false! Conifers absorb their water just like all other plants – through their roots.

The best care you can provide a newly planted seedling is give it about a quart of water, poured slowly around the base, at planting. This should be repeated every other day for at least the following two weeks unless the area is receiving at least 1-inch of precipitation. Even better, use drip irrigation.

E-samples

Cotoneaster leaf crumpler (*Acrobasis indigenella*) is crumpling leaves again this year as seen in this picture submitted by Dave, a South Dakota Department of Agriculture forester in Hot Springs. This insect is commonly found on cotoneaster but is an occasional pest of crabapples. The larvae consume the foliage in mid to late summer and construct a home from the dead leaf fragments, silk and frass pellets (insect poop with a little fiber). They live in this "house" but venture out to feed on foliage. The insect does not feed on enough foliage to harm the plant, the real problem these "homes" detract from the

appearance of the plant. The crumpler has only one generation per year with the adult moths flying in early July. Eggs are laid in July and once hatched the larvae begin to form these clumps in which they overwinter before resuming feeding in the spring. Insecticides containing Acephate as an active ingredient are effective in late summer to kill the young larvae. An infested plant can also be treated in spring as they begin to feed in the new foliage. Spinosad, an insecticide formed from a naturally occurring bacteria, is also available under various labels. Unfortunately, nothing will remove the clumps that have already formed.

I also receive a picture of a willow stem covered with white "bumps." These *appear* to be the shells of the oystershell scale (*Lepidosaphes ulmi*) and this is the lilac form that infests ash, lilac, poplar, and willows. The insect overwinters as an egg beneath the dead adult female scale's shell. The eggs hatch in the spring, about the time lilacs are in bloom, and the mobile nymphs - called crawler – move along the twigs and branches until they find a feeding site and begins sucking . The adult sucks the sap from the twig or branch and is stationary, remaining in this one feeding site for the remainder of its (short) life.

There are two generations for this scale during the growing season in many areas of the country but here on the Northern Plains there is only one so the treatment window is just after the crawlers hatch. The best treatment is Horticultural Oil applied in late May when the lilac flowers begin to fade. Insecticides containing Acephate as the active ingredient may also be used but these will kill the natural enemies of the scale as well. Since this is armored scale, there is no honeydew (the sticky liquid that drips down from the branches) produced by the insect. Armored scales feed on individual plant cells rather than in the sap as do soft scale, these insects cannot be managed with imidacloprid products.

I also mentioned at the beginning that this appears to be the shells of the oystershell scale. This might also be the **willow scale** (*Quadraspidiotus gigas*). This scale is larger than the oystershell scale and has a circular scale cover rather than the typical tear-drop shape of the oystershell scale. It also tends to be found on the trunks and larger branches of willow and aspen.

The flocking on pine trees, those small white bumps on the needles, is another scale insect known as the **pine needle scale** (*Chionaspis pinifoliate*) as can be seen in this picture. The pine needle scale is also an armored scale. Pine needle scale is very common insect on Austrian and mugo pines and can also be found infesting spruce trees. Right now, you can find eggs beneath the hard teardrop shaped scales and these will hatch about the time common lilac is in bloom, late May and early June. Treatment of this insect is difficult as most pesticides do a better job at killing the predators and parasites that feed on the scales than the scales themselves. Only use pesticides containing Acephate or Carbaryl if the scales are so thick they are killing the tree (and remember most of the scales you find on the needles are the old, dead adult scales. These you can scrape off with your fingernails. The new scales will stick). You will have more effective control and less of an impact on their natural enemies, if you use Horticultural oil, but it may require several applications.

I have received pictures of willow scab (*Venturia saliciperda*). This is a very common foliage disease that appears in late summer on willow trees across the state. The disease is closely related to apple and pear scab and the typical symptoms are discolored and falling leaves as well as tip dieback. This disease has similar symptoms to black canker (*Glomerella miyabeana*), a willow twig disease that can also cause the leaves to wilt and the shoot tips to die back. The two diseases are difficult to separate but the willow scab infected leaves will usually have “tufts” of spores on the underside of the leaf, generally along the midvein. These two diseases are often found in association with one another and when they occur together the disease is just simply called willow blight. There two disease are common problems when the spring weather is moist, a condition typically of eastern South Dakota this year.

Samples received/Site visits

Lawrence County **Discoloration on pine**

This is dothistroma needle blight (*Dothistroma pini*). We are seeing a lot more of this disease this season. It does not seem to be a problem when we have dry

summers and I have not received any samples (or seen the problem) in most of central South Dakota where drought conditions persist. But I am seeing more of the disease symptoms appearing in the Black Hills and the eastern part of the state.

Mellette/Todd County **What is wrong with our oaks? They seem to be dying.**

I received pictures of some damaged leaves earlier this summer and visited the region this week to walk through the wooded draws. While many of the oak groves appear healthy with normal, green foliage, there are groves where the foliage is discolored or tattered leaving the trees with a brownish cast. These trees have at least two problem and a possible third.

First, many of these trees appear to have been infested with the **oak skeletonizer** (*Bucculatrix ainsliella*). I was not able to find any larvae or pupae. They may have pupated by now but at least some of the silken cocoons should have been on the leaves. However, the foliage damage is consistent with this insect. The term skeletonizer come from the insect feeding on only a strip of leaf tissue and between the veins. The populations of this insect tend to come and go so I doubt if we will see much next year.

The second insect is the **variable oakleaf caterpillar** (*Lochmaeus manteo*). I was able to find some larvae of this insect. These were feeding on quite a few trees in some of the draws. This insect tends to have outbreaks for several years before the populations collapse and then we go through many years without seeing them at all. Next year I will be checking these groves in July to see if the population is increasing or decreasing. An increasing population may mean that we will see even more defoliation next year. If defoliation persists for several years these same trees will be susceptible to attack from the twolined chestnut borer (*Agrilus bilineatus*) and this insect can become a tree-killer. We saw this about 15 years ago.

A third problem is monochaetia leaf spot (*Monochaetia* spp). This is a fungal disease, one of many leaf spots, that occur on deciduous trees. This is not a major concern but is just one more agent responsible for the discoloration in the leaves.

Minnehaha County **Pine wilt disease samples**

The cores submitted from the dead Scotch pine (labelled #1) had the pinewood nematode. The cores submitted from the live tree (labelled #2) did not.

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