

Pest Update (May 18, 2016)

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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.

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Plant development

The crabapples are finishing their bloom in Brookings. Now the buckeyes and Tatarian honeysuckles are beginning to flower. The flowering of these two plants is the signal for the hatch and emergence of a number of insects. We are at about the same progression of plant development as last year, but still ahead of 2014.

That year the crabapples were just beginning to bloom at this time in Brookings.

Tasks to complete now



Cedar-apple rust - galls on the junipers have expanded during the past week and this is an indicator to begin treatments to protect susceptible apples and crabapples from cedar-apple rust. The galls form on the junipers (cedars) and release spores that infect the apples and crabapples. The infection on apples and crabapples results in discolored foliage (picture) and fruit and premature drop of the leaves. Fungicides containing

Myclobutanil as the active ingredients can be applied beginning now and repeat three more times at 7 to 10 day intervals. Captan, a common fungicide for apple scab is NOT effective against cedar-apple rust.



Codling moth – the larvae of this insect burrows into the apple, usually near the base, resulting in a trail through the fruit filled with brown, powdery frass. This frass often extrudes from the entry hole. Treatment is usually an application of Malathion sprayed about 10 days after petal fall and then 3 more applications spaced about 10 days apart. Do not spray insecticides on apple trees while they are in bloom! You will kill the pollinators. If you are

using a general fruit multi-purpose spray, it probably has an insecticide in it so these sprays should also not be applied during bloom.



Pine needle scale - appears as a small white, almost tear-drop shaped bump on the needles. It feeds by inserting its beak into the needle and withdrawing sap. The feeding causes yellowing needles and these may also drop prematurely. Heavily infested trees almost appear “flocked” as the foliage looks frosted or silvery from a distance. The insect overwintered as eggs beneath the scale

and these are now hatching. The young, called crawlers will move along the needles and eventually settle and develop the hard armor shell. Since pine needle scales are armored scales, they do not produce the sticky honeydew common with soft scale or aphid infestations. Treat with 2% horticultural oil or insecticidal soap as these do little harm to the natural enemies of scales. Insecticides containing acephate are also effective but harms natural enemies. All applications should be made beginning about one week after Tatarian honeysuckle blooms and another application mid-July.

Tasks to do in a week or two



Now that buckeyes are about to bloom, bronze birch borers will soon be emerging from infested trees. Bronze birch borer (*Agrilus anxius*) is a native insect that attacks birch. It is a close relative to the emerald ash borer so they both make the characteristic D-shaped hole as the adult emerges from the tree. A major difference is the bronze birch borer has always been here so our native birch, paper and water birch, have some resistance to this insect and are usually not attacked unless they are already declining due to stress from the site (e.g. drought or infertile soils) or old age. The European white birch,

on the other hand, does not have any resistance to this insect and these are frequently killed before they are mature. This picture was sent in of a Cutleaf European white birch which is presenting the classic symptoms of a bronze birch borer infestation, canopy dieback. If the insect is not managed, these trees will usually die after several years of infestation. The time to treat the trees is coming up in another week as the female beetles are finding a place to lay their eggs. The bark can be sprayed with an insecticide containing permethrin as the active ingredient next week with a second application in about three weeks. Insecticides containing imidacloprid can also be used as a soil drench in the fall to kill newly hatched larvae the following year. If the canopy has dieback back more than about 40% it's too far gone for treatments.



Timely topics



I expect to receive calls in the coming week regarding ash and hackberries dropping their leaves. The frost caught many ash and hackberries trees just as the leaves were coming out. When this happens, as it has in past years (2009 and 2010), the ground will soon be littered with small, partially

developed leaves that have a blackened margin. While it may appear alarming, affected ash and hackberries will soon put out additional leaves and usually by the end of May no one can even tell that the tree was defoliated earlier in the year.



I am still receiving pictures of the cedar-apple rust fruiting bodies on junipers including this picture from DeSmet. Generally the concern with cedar-apple rust is not with the cedar (junipers) but with the apples or crabapples. The orange gelatinized galls now appearing on the eastern redcedars and Rocky Mountain junipers are perennial so remain from year to year. It usually takes about two years for the galls to develop before

they produce these horns. The horns release spores that infect the apple and crabapple leaves. Later this summer, spores will be released from these infected leaves and carried by the wind to infect junipers. The injury to the juniper from the disease is usually minimal, just a few scattered woody galls through the canopy. However, the galls can become so numerous on a juniper that the infection results in tip dieback. There are no fungicide treatments that will remove the woody galls that have already formed on the juniper. The only treatment is to prune them off. Spraying a fungicide to prevent new galls from forming on the juniper is usually not recommended as the treatments are rarely effective due to the long time period in which spores are released from the apple leaves. If someone decides to treat their junipers, fungicides labeled for control of cedar-apple rust on junipers must be used and these generally have Triadimefon as the active ingredient. Bayleton is probably one of the most common fungicides available that is labeled for this use. The sprays begin when the spores are being released by from the apples, about mid-June and continue on a two-week schedule until the end of September.



Oystershell scale (*Lepidosaphes ulmi*) is continuing to be noticed by tree owners. I received a picture of some declining quaking aspen in Sioux Falls that were covered with the scale. I also saw numerous ash in Pierre that were covered with this insect, it was almost hard to find a green ash that was not infested! Oystershell scale is an armor scale. It forms a hardened waxy shell

over its body. The adult is sessile, it has no legs and remains stationary as it feeds by inserting its mouthpart into the host tissue. Unlike soft scales, armored scales do not produce honeydew. Oystershell scales can remove enough sap to result in infested branches thinning and even die.



There are many declining ash in Pierre where almost every branch is covered by these scales (see below). The young are hatching beneath the female scales and will crawl out to the newly expanding shoots to begin feeding (hence the name “crawler”).



The most common treatment is to apply horticultural (summer) oil when all the crawlers have hatched out and have moved to the shoots to feed. This will have occurred by next week. While the crawlers are easily killed by many insecticides, these same chemicals also kill most of the natural enemies of the scale. Summer oils are very effective at killing the settled crawlers but have minimal impact on their predators and parasites. The summer oils can be phytotoxic if misapplied. Do not apply oils when the foliage is wet or the relative humidity is above 90% or either event is predicted to occur within 2-days of application. Also do not apply when the air temperature is above 85°F. Even if applied properly, oils may injury maples and walnuts.

Commercial applicators can also use dinotefuron as a soil treatment. This insecticide is absorbed into the tissue and kills the crawlers as they feed. This is the only effective systemic treatment, other systemic active ingredients such as imidacloprid are not useful in managing armor scale populations.

E-samples



Maple bladder galls are beginning to appear on silver maple leaves. These small bumps are not the result of an insect, but a mite (you guessed it), the maple bladder gall mite (*Vasates quadripeds*). This mite overwinters beneath the bark scales of the maple and moves out to the newly forming leaves in the spring. The feeding by the mite on the underside of the leaf causes the galls to form on

the upper side. The galls begin as light green turning a pink to rose by mid-season and finally black by autumn. While the galls can be numerous, they do not harm the tree so no treatments are advised. There are also few effective treatments for this mite as the timing is difficult to judge. Also some treatments, the use of dormant oils, can actually do more harm to the tree than the mite. My suggestion is just to learn to live with them, the tree does just fine.



This picture is from a Mugo pine that had these sticky bumps along the shoots. These bumps are the adult female **pine tortoise scale**. This is a soft scale so it produces honeydew, a sticky material. A black sooty mold forms on the honeydew and this is what usually alerts plant owners to the infestation. This scale is found on Mugo and Scotch pines in South Dakota but occasionally Austrian pines are infested. The adult female scale is about 1/8-inch in diameter

and has a wrinkled brown shell, much like a tortoise when viewed from above. The eggs are laid beneath this shell and after they hatch, the crawlers, as the immature scales are called, move to the shoot tips to feed on the young needles and twig. Insecticides containing imidacloprid may be used as a soil drench in mid- September to kill the crawlers the following spring. Insecticides containing Acephate or Malathion applied in mid-June (when mockoranges are in bloom), and repeated 10 days later to kills this year's crawlers.

Samples received / Site visits

Hutchinson County

What are these insects under the bark?



These cute little critters are known as the handsome fungus beetles (Family Endomychidae). They are easily identified by the bright colors and the front corners of the pronotum extends forward. They live in decaying wood, logs or standing trees, where they feed on fungal spores and hyphae. They do not harm the tree but are good

indicators that the tree has some decay beneath the bark.

Stanley County

June bugs are emerging now



Amanda, an entomology field specialist with Extension has been collecting June beetles (*Phyllophaga*) in locations across central South Dakota. These insects are also known as May beetles as they can appear as adults during either month. The larvae are one of the C-shaped grubs that feed on the roots of grasses and other plants. The larvae take about three years to complete their life cycle

in the soil and emerge as adults. Apparently, based on grub sampling, this is going to be a big flight this spring. The adults feed on the young leaves of many tree species but seem to have a fondness for ash. I have seen the adults strip

an entire shelterbelt of foliage in just a few days during years of high populations. The adults are nocturnal so many people cannot figure out what has been feeding on the tree's leaves since they never see the insect. The adults are also a nuisance as they buzz around light fixtures at night and they really hurt when one hits you in the face as you are zipping down the highway on a motorcycle at night.

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