Pest Update (May 16, 2018)

Vol. 16, no. 14

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 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

Spring arrive two weeks ago and now we are rapidly moving into summer! This means that some of early spring flowering shrubs and trees are blooming along with our mid-spring blooms – the spring flowering season is become compressed. The crabapples are in full bloom now along with lilacs and Vanhouttte spirea, one of our earlier spring-flowering spireas. These are all plants whose flowering coincides with the beginning of many pest treatments.

Emerald ash borer are pupa now, I expect emergence to begin in another week or two.

Treatments to do now

Spruce spider mites become active as silver maple leaves are expanding which is now for much of the state. Spruce spider mites are cool season mites meaning they are active in the spring and fall, not during the summer heat. The mites will go dormant once the temperatures consistently reach into the mid 80^{o}F. While the mites will begin feeding soon, the damage to the needles, bronzing and browning, does not typically show until summer just as the mite populations begin to decline. Treatment options are very limited for homeowners, horticultural oils and insecticidal soaps being the two most common. These are really suppression treatments, not eradication, and the mite webbing often prevents these pesticides, particularly the soap, from penetrating and reaching the mites.

Any soap or oil must be applied very soon with another treatment in 7 to 10 days to kill mites that are hatching later. Be aware of the cautions for these products - particularly Colorado spruce - as oils or soaps can result in the loss of blue or silvery color to the foliage. You can make a *blue* spruce, a *green* spruce, very quickly, so read and follow label directions very carefully.

The other common homeowner spider mite treatments have the active ingredient acephate, an insecticide, but this kills more than mites and has limited effectiveness against these pests. There are products that provide excellent management of mites and have minimal impact on non-target organisms, but these are only available to commercial applicators. It is worth the money to have a commercial applicator provide these treatments considering the effectiveness of these products versus those available to homeowners. This is one pest it is far better to pay for a professional than attempt to do it yourself.

Zimmerman pine moth is not just a single insect, but a complex of three different species of closely related insects. The three species found in South Dakota are *Dioryctria ponderosae*, *D. tumicolella* and *D. zimmermani*. The first two are generally found West River, while the last is found only East River. All three insects are easily identified by the masses of reddish pitch created in response to the burrowing activity of the larvae. Typically, the pitch masses will be found near the branch whorls and infested trees will often have broken branches near these pitch masses as well as deformed tree tops. While the damage is the same, the treatment window differs among the three since they have different life cycles. ***D. ponderosae* and *D. zimmermani* should be treated with a bark spray now and again in mid-August.** *D. ponderosa* is treated the first week of June and again in early July. The most common insecticides for managing this insect contain Permethrin as the active ingredient. The application must be made with sufficient pressure to penetrate the foliage and cover the trunk and branch attachments.

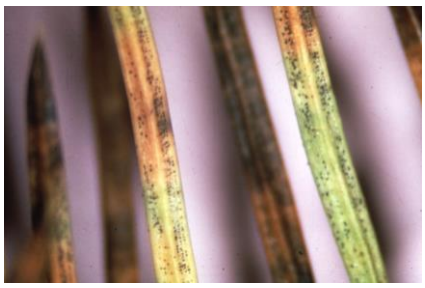
Treatments to begin soon

Clearwing ash borer treatment with an insecticide containing permethrin as an active ingredient also begin now. The bark must be sprayed to protect the tree as the insecticide will kill the adults as they are walking on the bark to lay their eggs. The insecticide will also kill the newly hatched larvae before they burrow into the wood. Systemic treatments to kill the insect once it burrows into the tree are generally ineffective so injecting a pesticide or pouring one around the soil are not practical means of managing this borer.

The adults are usually out flying about a week or so after Vanhouttee spireas begin to bloom and the shrub is flowering now. You will know the adults are flying when you see the pupa skins (picture above) sticking out of the emergent holes on infested trees

Diplodia tip blight first application of a fungicide should be applied soon. Tip blight is probably the most common disease of pines, particularly Austrian pine. Symptoms in early summer are the new needles becoming brown and stunted (as seen in the picture below). Twigs may be infected and become stunted and deformed. The treatment is a fungicide containing thiophanate-

methyl, propriconazole or chlorothalonil (labeled for control of this disease) just before the bud sheaths have opened and should be happening soon. Timing is critical, once the bud sheaths have opened and the candle begins to form, it's be a little late to begin the first application and this is the one that provides most of the protection.



The new shoots will be expanding soon on spruce so it close to time to apply a fungicide to protect against **rhizosphaera** or **stigmina needlecast**. These are the most common foliage diseases of blue spruce. The most common symptoms of these two diseases are the older foliage turning yellow by midsummer and then purplish-brown by fall. Usually small black fruit bodies can be found lining the stomata along the needles at this time of year. These disease result in premature needle drop in the lower canopy so the tree appears open near the base. The diseases can be managed by an application of a fungicide containing chlorothalonil as the active ingredient (and labelled for treatment of in another week with a second application about two weeks later. If the needlecast is due to Stigmina the applications may have to continue every 10-days till August. Also, for this needlecast it is important to treat the entire canopy, not just the lower branches.

Timely Topics

Emerald ash borer update

After an extensive ground survey, the infestation appears to be concentrated in the northern part of Sioux Falls. A large grouping of about 200 trees is in one area of the community with several smaller groupings of 4 to 8 trees found within 1/4-mile of the large group. However, even within this large group there are many ashes that are not presenting any symptoms or signs of an emerald ash borer infestation.

This does not mean that there are no infested trees outside of this area, just the probability is low. However, ash within 15 miles of northern Sioux Falls are candidates for treatments. The reasoning behind the common recommendation of 15 miles is that this is maximum flight distance of the insect. The likelihood of a tree being infested farther than this distance is very low.

The 15 miles would include the communities of Sioux Falls, Baltic to the north, Valley Spring to the east, Harrisburg to the south and Hartford to the west. This does not mean the trees in these outlining communities are infested, just a higher risk. The much higher risk are trees within 5 miles and this is most of the city of Sioux Falls. If a homeowner has an ash tree they want to keep, they should contact a tree company to determine if the tree is a good candidate for injection – e.g. canopy with less than 30% canopy decline, no large cavities or other major structural defects.

If the tree is a good candidate (such as seen in the picture to the left of an infested tree), I suggest contacting two tree companies and obtain a quote from each. I have already seen the price for injection begin to decline as more companies moving into providing treatments. However, the lowest price may not always be the best price so consider other factors in your decision such as their knowledge of injection technology (injections are used for other pests, so some companies have years of experience injecting trees) as well as knowing trees and the symptoms and signs of emerald ash borer.

Finally, there is at least one company advertising that only trees that are not infested can be injected. This is false. Injections are effective on trees that are infested and can restored a tree if treatments are properly timed. Again, a good tree company should be able to tell you whether your tree is still a candidate for treatment.

Lots of look-a-likes

As you might expect, I have received numerous photographs by email and text from concerned ash tree owners. Finding a few flecks along the bark where squirrels have peeled off the outer layer of bark is common for ash. We also have woodpeckers searching for our native redheaded and banded ash borers which also feed just beneath the bark for part of their life cycle.

However, woodpecker pecks are more common and extensive with emerald ash borer (picture to left). Woodpeckers are very efficient and do not waste their time in trees with only a few insects scattered throughout the canopy. They

are going to concentrate their time in trees that have a high population of insects. Emerald ash borer densities can be 3 to 4 per square foot of bark so that will certainly draw their interest.

Mushroom hunting, fun but first know your mushrooms! This week I have had samples and pictures sent of two different fungi with the question; “Can I eat them?” First, if you must ask the question, you probably should not be eating them! However, for general interest I will discuss the two mushrooms I have seen in the last two weeks, morels (which are tasty) and false morels (that can make you sick).

Morels (*Morchella*) are one reason many folks cannot wait for spring because as soon as the lilacs are in bloom (which started last week), morels are popping up in the forest. Morels are known as one of the “fool-proof” mushrooms, one that is not easily confused with other fungi. Morels have a unique nutty, meaty flavor that is made even better when cooks with a little butter. Morels are about 2 to 6 inches tall with a cap that fuses over the stem on the upper half or more of the mushroom. The hollow cap has irregular pits and ridges, and these are good identification features. The other is the light-colored stem that is hollow. Morel are in season right now in much of the state and can be found in woodlands, usually near old elm stumps. However, morels are also known as “mulch mushrooms” as they will sometimes appear the first spring that a shredded wood/bark mulch is put down. Usually they do not appear a second year on the mulch, but it is possible to pick 30 to 60 morels in the landscape beds of a typical home.

While morels are very easy to identify, there are some “close cousins” in the woods that you will want to avoid. One of the false morels, *Gyromitra*, also has a cap, but instead of a cap with pits and ridges, the caps has large rounded folds that sit on top of the stem. The stem is shorter and much thicker than morels and can sometimes even be branched at the top. It is also often filled with a filament rather than being hollow. False morels are also out in the woods at this time, often in the general vicinity of morels, but should not be eaten.

Finally, do not use this short guide as your means to identify edible mushrooms. Always

go on a hunt with a person who has experience in picking morels and can identify them in the field.

E-samples

As if ash do not have enough problems. Ash leaves are already beginning to fall in eastern South Dakota. The recent wet and relatively warm weather has been a good incubator of ash anthracnose (*Plagiostoma fraxini*), a common foliage fungal disease. The early symptoms of the infection are leaves with blotching and distortion. These infected leaves soon fall, and I am already receiving pictures of ash with fallen leaves.

The disease is rarely a tree killer, more an annoyance since the tree owner must start raking now. Probably the biggest concern now is tree owners are confusing this with emerald ash borer. There are no effective treatments of ash anthracnose once the leaves begin to drop. Any treatment would need to be applied in the spring as the buds open.

Will my willow tree live? People are responsible for killing far more trees than insects or pathogens. This is a willow about 15 years old that is being girdled by a string wrapped around its base. You can see how the trunk has been distorted by the string and this injury is more than bark deep. The phloem, the tissue responsible for the transport of sugars, is severed by this mechanical damage. Eventually the roots starve as the sugars manufactured by the leaves through the process of photosynthesis is blocked. Tree will try to compensate for this interruption by sending out sprouts (as seen in the picture) as a means of circumventing the blockage but usually not enough to save the tree.

My recommendation for this tree was to remove the string (pulling, not cutting as this might damage the tree more) and be patient. Willow are tough, and it might be able to reconnect tissue and survive.

Will this shrub hurt my dog if it chews on the foliage or twigs? Apparently, they have a puppy, a lab puppy at that, and lab puppies will chew on anything that holds still. I have seen them almost devour a wicker chair so chewing on twigs and needles is not a surprise.

But chewing on this plant would not be a pleasant surprise for the puppy. This is a yew (*Taxus*). Yew foliage and twigs contain the alkaloid taxine, a heart depressant (slows myocardial contractility and conduction delay). Cattle and horses have been poisoned by browsing on the foliage and twig and dried foliage is even more toxic. This is also poisonous to dogs so keep the puppy away. Just to answer the question I know is running through some folks – No it not poisonous to deer. They love to browse this plant!

Sample received/site visits

Turner County **Is this emerald ash borer?**

I made a stop in Turner County last week as the tree owner describe “D-shaped” holes in their tree. D-shaped holes are signs for the emergence of emerald ash borer adult. However, when I looked at the tree, the holes were more oval shaped, what we call a “fuzzy” D. These are the emergence holes for the redheaded and banded ash borer, two native insects that live in dead and dying ash. Woodpeckers will sometimes attack trees in search of these insects.

The South Dakota Department of Agriculture and South Dakota State University are recipients of Federal funds. In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability (Not all prohibited bases apply to all programs.) To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer. This publication made possible through a grant from the USDA Forest Service.