Pest Update (October 3, 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

Fall is upon us and we need to be thinking of winter. Remember now is the time to be watering your trees, not just before the soil freezes. While we have had sufficient rains in much of the state this summer (too much in some regions!), the central area of the state has been

dry most of the year. If you are in an area that has not received at least three inches of precipitation during September you may want to begin watering the trees, particularly the seedlings planted this year. Watering now is the best way to reduce desiccation injury this winter.

Timely Topics

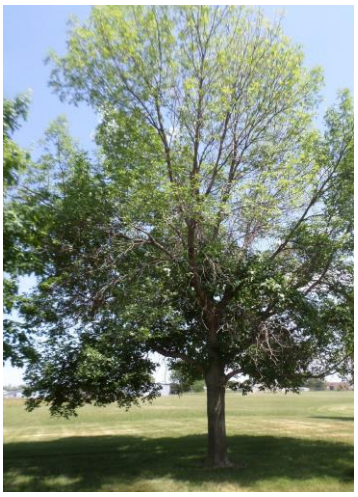
Emerald ash borer update

The growing season is coming to an end and with that most insect activity, including emerald ash borer. This is a good time to do a recap of the past emerald ash borer season. Let's start with the life cycle.

Time period	Life stage	Development
Sept – March	Larvae. 	The immature larval stage is dominate overwintering stage at this point of the outbreak in South Dakota. As the outbreak continues we should see mature larvae forming their pupal cell in the outer sapwood during October.
April – May	Larvae and pupae. 	The mature larvae form their pupal cell, and most are pupating during May. However, there are still immature larvae during this period as some will have a two-year life cycle (larvae that feed for two summers) rather than a one-year life cycle. As the outbreak continues, insect development will synchronize, and the one-year life cycle dominate.
June – August	Adults, eggs and larvae. 	The adults emerge about the time that black locust (*Robinia pseudoacacia*) starts to bloom. This is generally end of May, beginning of June for Sioux Falls. The peak of emergence was about the third week of June this year. No emergence was observed in August and no adults beetle were caught after mid-August.

Immature larvae can be found through the summer. Some are larvae from the previous year while others hatched during this year.

Second, the most common symptoms associate with tree infested for only a two or three are the following:



A thinning canopy. A portion of the infested tree's canopy has fewer leaves and these leaves will be smaller than normal. They may be a lighter green.

Blonding on the limbs in the upper canopy. This is the light appearance to the bark as the woodpeckers have remove the outer bark ridges in their search for the insect. Woodpeckers are laser-focused on emerald ash borer larvae. I have seen pecks that when you expose the sapwood, the emerald ash borer tunnel stops right there! The reasons the woodpeckers are so attracted to infested trees is that 1) the larvae are just beneath the bark so easy to reach and 2) the number of larvae is so high in a tree by the second or third year of being infested that its almost a buffet plate for these birds!

Once the insect has repeatedly infested the tree for four or five year, the ash will have extensive dieback and D-shaped emergence hold (where the adult emerged from the tree) will be visible near along the lower trunk.

E-samples

This is an elm that was "oozing" and had a white streak running down the bark. This is a common with elms and cottonwoods and is called wetwood. It is a bacterial disease that can result in wilting leaves and dying branches, but usually the oozing of a foul smelling, dark liquid is the only visible indicator of the disease. The bacteria live in the sapwood and the fermentation activity results in the development of an alkaline liquid under pressure that is forced out of the tree through cracks

and old pruning wounds. The liquid is so alkaline that it will bleach the bark while it runs down the trunk!

It was a common practice to place a drain tube in the tree to relieve the pressure, but now it has been found that wetwood reduces decay, so it may even be a benefit to the tree.

This is an Austrian pine, about 15 feet tall, that had a misshapen canopy and broken branches. There were these pitch masses on the trunk near where the branches were broken. This is **Zimmerman pine moth** which 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 due to different life cycles. *D. ponderosae* and *D. zimmermani* should be treated with a bark spray during the end of April 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 enough pressure to penetrate the foliage and cover the trunk and branch attachments.

Samples received/Site visits

Lincoln County **What is wrong with this mature (25 years old) spruce?**

The loss of the lower limbs is associated with these bluish-white resin blisters cytospora canker also know as Valsa canker (*Valsa kunzei*). This is a very common canker disease of mature (more than 20 years old) Colorado spruce and the infection will often result in the loss of the lower branches. Unfortunately, the only control is to prune out infected branches as they decline. This pruning is best done in winter, prior to

budbreak, to avoid exposing tissue to new infection through spores

Mellette County **Is this saltcedar or eastern redcedar?**

This is saltcedar (*Tamarix*) also known as tamarix. This shrub was planted in South Dakota for the past century, mostly west of the James, due to its' tolerance to alkaline and saline soils. The shrub is now considered an invasive weed in South Dakota and throughout much of the western United States. It crowds out the native vegetation along streams and rivers and now tamarix lines many western rivers.

It is often confused with eastern redcedar (*Juniperus virginiana*) and the best way to tell a twig sample apart during the summer (winter is easy as the tamarix drops its small scale-like leaves) is the slender twig of tamarix is a glossy and dark green with very light buds alternating along it. Eastern redcedar will have a darker green twig and the scale-like leaves will not alternate but be 4-ranked with each pair opposite one another.

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