South Dakota State University Extension

Tree Pest Alert

November 3-10, 2021 Volume 19, Number 37

In This Issue

Samples

John Ball, Professor, SDSU Extension Forestry Specialist & South Dakota Department of Agriculture and Natural Resources Forest Health Specialist

Email: john.ball@sdstate.edu

Phone: 605-688-4737 (office), 605-695-2503 (cell)

Samples sent to: John Ball
Agronomy, Horticulture and Plant Science Department Rm 314, 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 plants or insects from other states. If you live outside of South Dakota and have a question, please send a digital picture of the pest or problem.

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 as 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.

Reviewed by Master Gardeners: Bess Pallares, Carrie Moore, and Dawnee Lebeau

This publication made possible through a grant from the USDA Forest Service.

Plant development for the growing season

We are at 3,565 growing degree days (GDD – base 50). Over the past ten years in Sioux Falls the average annual accumulation is a little over 3,000 GDD so this has been a longer, warmer year than our average.

The fall rains, above-average in many regions of the state, have finally erased much of the drought threat. Aurora, Butte, Dewey, and Harding Counties are still under severe drought, but moderate or abnormally dry characterized much of the rest of the state.

The combination of hot and dry during much of the 2021 growing season is going to result in tree decline next year. I expect to see more borer damage next year, regardless of the weather, as there is usually a one-year lag between hot, dry weather and an increase in borer attacks.

Treatments to Begin Now

The treatment to start thinking about is picking out the Christmas tree! The next issue will cover the care of a Christmas tree along with tips for picking out the best one for home.

There is a Christmas tree that has already been harvested – the Capitol Christmas tree. It is the first time I harvested the tree in the rain! The 27-foot tall Colorado spruce was harvested from Pierre so it only had a short trip over to the Capitol. It is now being treated to preserve it for its seasonal display and will be set up in a few days.

Timely Topics

Emerald ash borer update

We are continuing to monitor emerald ash borer development this fall. The majority are in their overwinter

J-shaped form, curled in their protective chamber within the outer sapwood. They will spend the winter in this resting state - a long winter nap - and are insulated from cold temperatures.

The temperatures will have to be really cold between now and the end of February to result in significant larval mortality. We will need temperatures -30°F or colder for a few days this coming winter to really make a dent in the population. BRRR!!! - not something we look forward to this winter!

Spruce – potential new problems

The easy diagnosis for the lower branches of spruce shedding all or most of their needles is to call it either needlecast or cytospora canker. These are common spruce pathogens but they are not the only ones.

We have identified two more pathogens in recent issues of the Pest Alert, Diplodia and Phomopsis. These are considered secondary pathogens that only become branch killers when the host is stressed. The combination of dry and hot conditions has left almost every spruce in the state stressed.

The appearance of these two pathogens has been noted by diagnostic labs in other states. While the influence of these pathogens on spruce decline is to be determined, this is a good reminder that symptoms only describe the appearance, not necessarily tells what caused the symptoms. Lab work is still necessary to determine the pathogens present.

E-Samples

Not emerald ash borer

Many people use the warm fall weather as an opportunity to fell dead and dying trees on their property. We have always had dying ash in South Dakota, so these trees have common candidates for removal. But now everyone looks a little closer when they find an insect in the felled ash tree.

I have received numerous pictures of insects in felled ash with the question "*What is this?*" The concern is whether it is emerald ash borer. This is a reasonable concern and I appreciate people checking when they find something in their tree.

Right now almost all the emerald ash borer larva are in the sapwood, about 1/2-inch beneath the bark, so are not always easily seen when looking at the cut wood. They also require live inner bark (phloem) for food so they will not be found in rotted wood. However, we do find other insects in this wood. These are three that I recently had people send in for identification.

If the tree is very rotted, so the center of the trunk is almost the consistency of coffee grounds, it is a common host to the flower hermit beetle grub (*Osmoderma eremicola*). This is one of the largest white grub, almost 2 inches long, with a red head and large spots on the side of the C-shaped body. There are three pairs of legs. The grubs can be found in rotted ash, cottonwood, oaks and other hardwood species between August and April.

If the ash bark easily separates from the wood but the wood is still sound, this material is frequently home to redheaded (*Neoclytus acuminatus*) and banded ash (*N. caprea*) borers. These insects can also find a home in declining ash, not just dead ones, so may be found in trees infested by emerald ash borer.

The larvae for both *Neoclytus* are about 1 inch long, segmented, creamy white and legless. There are some larvae in trees right now, but most have already formed pupae and are within a chamber within the sapwood. These pupa are just waiting for warm weather to become adult and emerge. Ash firewood stored in the house during the winter will frequently have the adults emerge and begin buzzing around the house.

The other insect found in ash trees this fall is the clearwing ash borer (lilac/ash borer) (*Podosesia syringae*). This insect is found most often in declining ash, not dead ones.

Lilac/ash borer larvae are about an inch long at maturity. The larvae have a brown head and a white, segmented body. The larvae also have three pair of thoracic legs and rows of stub-like prolegs on the abdomen. They spend their winter as larvae in the sapwood.

Declining spruce in Edmunds County

This is a picture of some young (about 5 years old) declining spruce. Spruce suffer many problems, both insects and diseases, but these are not the only challenges to growing spruce.

Colorado spruce is more site-demanding then most people realize. It will persist on poor sites but not thrive. I frequently am called to look at stunted spruce – 20 year old trees that are less than 10 feet tall. The typical question is "*What can we spray?*" but pesticides are not the common solution.

The prerequisite for good performance for Colorado spruce is a good site. The trees have three conditions that must be met: 1) full sun, 2) good air flow around the canopy and 3) excellent soil drainage.

While people are planting the spruce on wider spacing to ensure sun and air movement (16 feet from trunk to trunk is the minimum), we often forget about the soils.

Compacted or poorly drained soils will result in root decline (these trees are on the down side of a septic drain field). Poor root development means stunted trees that are susceptible to pests. The best means to avoid future pest problems and have thriving spruce is to watch the spacing and plant the trees on moist, but well-drained soils. The species is more drought tolerant than other spruce but a good rain (an inch or so) every week or two between April and July are also key to performance.

Samples received/Site visits

Minnehaha County, raining bugs!

The gutters were filling with ash seeds and many tiny "grubs". The small, white, legless larvae were the ash seed weevils (*Lignyodes bischoffi*). These are insects that spent their larval stage feeding inside of ash seeds last summer. The larvae emerge from the seed in the fall while the seed is still hanging on the tree hence the "raining" of insects in gutters, driveway cracks, and decks.

The falling larvae will overwinters either in the soil or mulch. Pupation occurs in the spring and the adult weevil emerges in mid-summer with the females laying eggs on the newly-formed seeds. Once the larvae hatch they hollow out the seeds as they feed. There is one generation per year and no treatments are recommended or needed. Just sweep the deck and hose out the gutters!

Pennington County, Diplodia tip blight

A common pine sample this year is a stunted shoot tip of an Austrian or ponderosa pine. The shoot tip often has some white, crusty resin patches. The sample bag usually also has stunted, yellowing needles.

When shoots presenting these symptoms are submitted, the next check is examining for Diplodia fruiting bodies beneath the sheaths of the stunted needles (fruiting bodies can also be found on the tips of the cone scales).

As frequently mentioned in the *Pest Alert*, treatments begin in the spring as the buds begin to expand.

Yankton County, barklice

The very fine webbing on the lower trunk of this hackberry was puzzling to the tree owner but not a cause of concern. The webbing is the work of Psocids, barklice, insects that construct fine silky webbing in which colonies of the insect live (they are also known as “bark cattle” since they feed in herds). They are not lice.

Barklice feed on microscopic mold, fungi and lichens (as well as other sources of organic matter) so do not harm the tree. They are merely living on the tree. The webs begin to fall apart usually around Halloween but the warm fall is keeping some webbing intact a little longer. The webbing may appear again as the insects resume activity in the spring. A high pressure stream of water is sufficient to remove the webbing.