South Dakota State University Extension

Tree Pest Alert

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In This Issue

Samples

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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

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Plant development for the growing season

The cold weather is still lingering with light snow blanketing some communities. The weather forecast is for warmer weather to start again next week.

We are just about where we usually are for plant development. The cornelian-cherries (*Cornus mas*) are in full bloom in Brookings. They have bloomed as early as March 20th (2012) and as late as May 8th (2013) during the past decade.

Treatments to Begin Now

Diplodia tip blight (*Diplodia pinea*) is one of the most common disfiguring diseases of 2- and 3-needled pines in South Dakota. It is a common disease son Austrian (*Pinus nigra*) and ponderosa (*P. ponderosa*) pines.

The most common means of managing the disease is with fungicides. The treatment are foliage applications with a fungicide containing Thiophanate-methyl, Propiconazole, or Chlorothalonil (and labeled for treatment of this disease). The first application is applied just before the bud sheaths have opened.

Timing is critical. Once the bud sheaths have opened and the candle begins to form, it is a little late to begin the first application and this is the one that provides most of the protection. A second application is made about two weeks later.

Timely Topics

Emerald ash borer update

We are continuing to monitor insect development this spring. While there are a few larvae still in the J-shaped stage (which they entered last fall), most are now in the prepupa stage.

This means the insects are no longer curled and now are straight but shrunken. They will soon develop into pupae. This stage begins as the insect takes a white, cylindrical shape, nondescript form that gradually takes the appearance and form of an adult.

This process will take several weeks. Once the insect transforms into an adult, it may remain just beneath the bark for a few days to a week or more before chewing a D-shaped hole and emerging.

Based on the current development of the insect and the long-range weather forecast, emergence is expected to begin around June 1 in Sioux Falls.

Emerald as borer treatment workshop

Since the time to begin emerald ash borer (EAB) treatments is coming up soon, it is time for a workshop. The City of Sioux Falls, South Dakota Department of Agriculture (SDDA), and South Dakota Extension Service are sponsoring a workshop for applicators to learn about where the borer is found in the Minnehaha and Lincoln Counties, the developmental stages of the insect, and treatment options available to protect trees.

This is an opportunity for applicators to learn about and discuss the systems available for injecting ashes with demonstrations by Arborjet, ArborSystem, Rainbow and Warne Chemical (Chem-jet). I will discuss EAB life cycle and identification of the insect and infested trees. Bryan Peterson, Urban Forestry Specialist for the City of Sioux Falls will be on hand to discuss tagging and reporting specifications for applicators.

The workshop will be held at Laurel Oak Park, 3401 East 49th Street, Sioux Falls on Thursday, April 29. It will begin at 10:00 am by the Picnic Shelter and run for about two hours. No registration is required, and it will be held “rain or shine.” This is a great opportunity for those who already offer emerald ash borer treatments in the area to refine their skills as well as companies that are thinking about offering this service to learn more about it.

Pallet wood as a source of insects

We focus a lot of attention on reminding people not to move firewood, but this is not the only wood material in which insects can be transported into new areas.

I was checking pallet wood last week in Sioux Falls and was surprised how many boards still had bark attached to the wood. Many of more serious pests live as larvae just beneath the outer bark. If this is missing, they cannot survive.

This is a pallet board with the bark attached to wood. The wood is a red oak, not ash, so not a threat for carrying emerald ash borer. However, ash is also used for pallet wood. Considering that new infestations have been found near railroad yards and in industrial areas of communities, this is a sometime overlooked potential source of new infestations.

When to start planting bare-root trees

Bare-root seedling trees are those that were harvest last fall and stored during the winter without soil arounds their roots. These plants are planted in the spring before they break dormancy.

Bare-root is the most common way windbreak trees and shrubs are planted. It is an inexpensive way to plant and provides better establishment that other methods such as container planting. Since there no soil is attached to the roots of bare-roots seedling, there will not be any changes in soil texture around the trees which can interfere with water movement.

The challenge is the narrow window for planting bare-root seedlings. The top – stem, branches, and buds – must be dormant. If the buds are starting to open, the expanding leaves will require water but that will be very limited until the roots begin to grow.

Keeping the top dormant is easy. Just keep them in the cooler until planting (except for those that require sweating – discussed in the next issue of the *Pest Alert*). However, the roots need to start growing as soon as they are in the ground since root growth must precede leaf growth.

Seedlings need water even before they leaf out. When the tops are exposed to temperatures in the 40ºF, water will be lost through their buds and stems. Water loss is even greater in evergreens as they will also be losing moisture through the foliage.

This means we need soils warm enough to start root growth when they are planted, not a week or two later. Root growth may begin as low as 42ºF for some species and as high as 48ºF for a few others, but most will start at soil temperatures (upper 4 inches) at 45ºF.

This threshold is being reached in almost all the state, except for the upper elevations of the Black Hills. Much of the southeastern part of the state is now at 48ºF.

Precipitation in the form of cold rains and snows are expected in the early part of this week and then the warm-up begins. Bare-root planting can begin later this week.

Ideally, we will have a long period of day temperatures below 70ºF along with cloudy, wet weather. The worse the weather for the planter, the better for the plant!

E-samples

Cutting tree roots

The picture came with a concern about new curbing and a sidewalk installation near the mature silver maple. The curbing and sidewalk are not replacing old ones but is new construction.

The new sidewalk will be placed within a foot or two from the tree's base and about 8 inches of soil will be excavated in the process. This is a little closer than we like to see for mature trees.

A more acceptable distance would be to stay off the root plate, a distance about 9 to 12 feet out from the trunk. While roots can be severed closer, this may result in significant root decay. The damage will not appear right away, the decline, and possible tree failure, might take more than a decade.

Declining spruce, possible Phomopsis

While lower branch dieback on spruce has long been attributed to the combined actions of Cytospora canker and drought, Phomopsis may also be an agent in the decline. Phomopsis is another fungus that can create cankers on spruce which can result in the branch dying back. The cankers are not as noticeable as those caused by Cytospora but may also ooze resin, a symptom associated with Cytospora.

The general symptom pattern between the two diseases is similar, the lower branches are the first to shed needles and die. The needles on the affected branches often turn brown or purple before they drop, but this again is a common symptom for Cytospora canker. One symptom that also associated with Phomopsis is wilting or curling of the terminal, almost resembling frost, or herbicide injury.

Whether Phomopsis is a major factor in this spruce decline is not known yet. However, it is appearing on more trees and a follow-up is needed to determine which (or perhaps neither) are associated with the decline.

Samples received/Site visits

Lincoln County, Dying spruce

The calls are continuing about dying spruce. An issue of the *Pest Alert* can be filled with them at this time of year. The problem is that Colorado spruce is a very popular evergreen trees, almost everyone has at least one in their yard, and the trees can be a little fussy about their site.

Poor draining is often a cause for the decline of young spruce trees. The species does have a shallow, wide-spreading root system so does best when the soils are moist. But they also need to be well-drained. Soils that stay wet, even for only a few weeks in the spring each year, can result in lose of the lower branches, stunted growth, and eventual tree mortality.

This is a row of Colorado spruce along a water-filled ditch. Some of the trees are more than 10 feet tall and look good but there are also groupings of spruce that were stunted or dead. Even minor changes in planting depth or soil texture in wet soils can make a difference between survival and death.

Lake County, Declining Austrian pines

A request to look at declining Austrian pines in the southeast often means another pine wilt disease infection. While this disease is killing thousands of Austrian and Scotch pines in the state – at this time far more than emerald ash borer – it is not the only pine disease or disorder.

These pines had only a few Austrian pine presenting foliage symptoms. These trees were not showing decline throughout the canopies (except for one tree) but

discolored needles near the shoot tips, not common symptoms for pine wilt disease.

The shoot tips were not stunted or dead so not likely Diplodia tip blight, the other common pathogen. Instead, this may be Dothistroma, a needle disease that causes banding. However, this is also a difficult disease to diagnosis in the field. Samples were collected and we will look for signs of this pathogen back in the lab. An update in the next *Pest Alert*.

Minnehaha County, Lightning strike

Rick, our community forester in Sioux Falls, asked me to stop and look at these two trees. They were two trees, an ash and a honeylocust, each about 30 feet tall that were recently struck by lightning.

The trees had bark stripped off from a single limb near the tops, down along the trunk and down to a root. These two species have a slightly different water transport patterns in their trunks, so the debarked strip pattern was not the same. The honeylocust has a debarked strip, about 4 inches wide, running straight down the trunk while the ash, the debarked strip spirals around the trunk. Bark was blown more than 40 feet away for both trees!

The question was: will the trees survive? This is not an easy question to answer. We cannot look inside the tree to see the extent of injury.

Many trees do survive this injury, but a few begin to wilt during the growing season and die within a year or two. Others have enough lower trunk and root injury that they become unstable and fall after a year or two (or longer).

The tree should be assessed by an arborist every couple of years.

Lightning struck trees are also stressed and vulnerable to attack by insects. Emerald ash borer will attack all ash but are attracted to dying ash so this ash will soon become a target.

The tree owner was planning to remove the ash rather than begin emerald ash borer treatments. The lightning strike sealed the deal. The honeylocust will be retained and monitored for any changes.