

Pest Update (September 5, 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/>

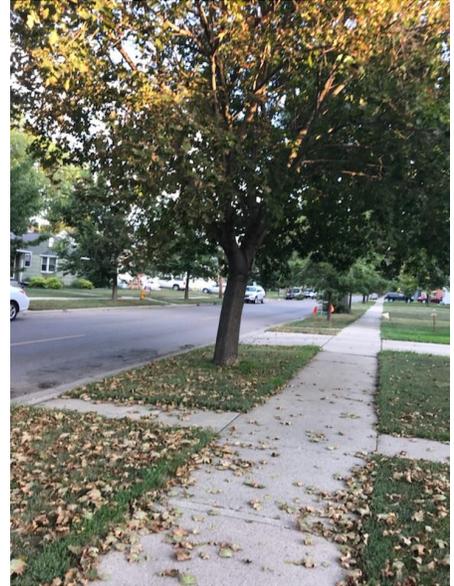
Any treatment recommendations, including those identifying specific pesticides, are for the convenience of the reader. Pesticides mentioned in this publication are generally those that are most commonly available to the public in South Dakota and the inclusion of a product shall not be taken as an endorsement 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.

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Plant Development

We are now into September and as the days shorten we are just beginning to see a hint of fall foliage color. Some of this color is on trees and shrubs that are among the first to herald the coming fall, but others are stressed, and the fall color is a warning, not a celebration.

While most of the state has enjoyed (or endured) abundant precipitation, there are areas of the state, Brown County for example, that are still in a drought. Mike, a Master Garden in Aberdeen, sent in this picture of a tree already dropping its leaves due to water deficits. If you are unfortunate enough to live in the drought pockets in the state, now is the time to water your trees so they survive the winter – not in October.



Timely Topics

Emerald ash borer update



We are past Labor Day and the summer ban on felling or pruning ash trees in Sioux Falls has ended. Moving infested wood during the summer increases the possibility of adults emerging from it and into a new environment. Now we are past Labor Day, so all the emerald ash borers are snug within the tree as larvae and will remain there until next June when they emerge as adults.

This does not mean ash logs and brush within the quarantine area (all of Minnehaha County, northern Lincoln County, and northeastern Turner County) can be moved outside the quarantine area (at least not without a specific permit to do so). Just that the raw ash wood can be move around within the area. However, all ash wood

cut this fall and winter should be burned or chipped before spring to avoid spreading the insect even more within the quarantine.

This also means the end for most treatment applications. The most effective time to treat is spring, once the leaves open until mid-summer (or later if we have rains as we did this year). Once we get to the end of the summer most treatments are less effective and should be delayed until the following spring.

Planting for the post-EAB community forest

Many ash tree owners in Sioux Falls are making the decision this year on which trees to keep (treat) and which to remove. This means a lot of business now for removals and there will be a lot of tree sales next spring as folks begin to replace the ash that are being removed.

The time to decide what to plant is now, or during this winter, not as you are walking through the garden center aisles next spring. You want to put some thought into what should be planted in your landscape, after all it will be there for many decades and hopefully increase in value to you – think of it as a marriage. Unfortunately, some people choose trees (and spouses) with little thought other than what caught their eye one day. A choice that often ends in failure.

So, what to plant? The most common response is nothing grows here so I will just plant whatever I can find usually a maple. Each year I am amazed at what will grow here. I am willing to bet there is a palm tree growing somewhere in the state (note Jon, a South Dakota Department of Agriculture's Urban and Community Forester, and I did see two palm trees out in northcentral South Dakota last week, but they were the metal variety).



The latest, *it can't grow here but it is*, example is the Japanese zelkova (*Zelkova serrata*). This is an Asian tree that was promoted as an elm substitute during the outbreak of Dutch elm disease during the 60s and 70s. It never really caught on, perhaps due to its branching – it needs a lot of training to develop a good structure. It's still a nice tree but not really adapted to the Dakotas. It's not the soils, this is an alkaline tolerant tree, but our cold winters and spring temperature fluctuations that are the killer.



But apparent one did not know this and is growing as a street tree in Mobridge, SD. Jon found it where he was setting up a tree inventory for this community and while he had seen this species before when he worked in Iowa, he really did not expect it to be here and certainly not in northern SD. I was also skeptical of his find so stopped by as I drove through Mobridge last week. It is a Zelkova. Not that large of one, but it seems to be growing 6 to 10 inches a year and there is very little dieback or other evident of struggling with our cold winter.

I had only seen zelkova in Yankton, at the Memorial Park, though I am sure there are a few in Sioux Falls. I also found a reference that several were growing along the river in Pierre back in the 1970s though

I have never seen one there. This is not an endorsement of this tree, just a reminder that we probably have more choices in plants than we realize.

My suggestion is take advantage of the nice fall weather and explore a local garden center to see what might be available for your growing area. Its also a good time to talk with their staff for suggestions. The spring rush of customers can limit the time the staff can spend with any one customer and, while fall can also be a busy time, usually they have more time to chat. You can also help the conversation by bringing in a picture or two of where you are considering planting a tree and if you have some soil information, pH and texture, that can be a big help in guiding the conversation.

E-samples



I received two pictures of the ash plant bug problem in Sioux Falls from Rick, one of the South Dakota Department of Agriculture's Urban and Community Foresters. One picture shows the plant bug and the other the common symptoms of an infested tree. **Ash plant bug** (*Tropidosteptes amoenus*), along with other plant bugs, seem to be more a problem this year than previous years. Plant bugs, both the nymphs and adults, insert their piercing-sucking mouthparts into the leaf and secrete a toxic substance into the tissue while pulling chlorophyll

out of the tissue. This injury results in white to brownish black dots referred to as stippling. Usually the extent of the injury is just a few random light-colored dots on the leaves, but high populations of plant bugs can result in the leaves curling and turning brown before falling prematurely.



There is more than one ash plant bug, *T. amoenus*, the species native to eastern US, *T. ilitus* and *T. pacificus*, are native to western US. The widespread shipping of ash trees back and forth across this country has mixed these populations but dominant one is *T. amoenus*. This insect has two generations per year and that seems to be the situation here in South Dakota where we saw a large population of nymphs in late May and another peak in late August. The insect overwinters as eggs which hatch as the leaves begin to expand. The nymphs move out onto this tender foliage to suck sap from the undersides of the leaves. They feed for about five weeks before becoming adults.

These adults lay eggs in late July which hatch in early August with the second generation of nymphs feeding during August. The adults, which also suck sap from the leaves, lay eggs and continue feeding until they are killed by the frost. We usually do not see high populations of plant bugs from one year to the next, and ash trees have bigger problems than plant bug, so little need or reason to treat for them.



At this time of year, I start receiving pictures of some interesting fungi, usually with the question “Can I eat this?” First, let’s not be looking at things sticking out of trees for a meal. Most will kill you or at least make you very sick and most are also not healthy for the tree. However, an exception, at least for people, is the **sulphur shelf fungus** (*Laetiporus sulfureus*). It is a shelf fungus that forms fruiting bodies of colorful orange and yellow rosettes that arise from overlapping, fan-shaped shelves in the fall (as they age they become bleached). Eventually by late fall they degrade and fall off.

This is a delicious fungus, when picked young and properly cooked, but should not be

consumed with alcohol as the combination will make some people very sick It's also known as chicken-of-the-woods as it tastes like chicken, but what doesn't? (**WARNING:** do not use this brief description of the fungus to identify edible fungi, always have an experienced mushroom hunter along on any gathering expedition).

The fungus belongs to a group of wood-rotting shelf fungi. The appearance of these fruiting bodies also means the tree is suffering from extensive decay. Fruiting occurs when most of the decay has already rotted the interior of the tree. These infected trees should be removed if a failure could harm people or property.

Sample received/site visits

Corson County

Why are my spruce so stunted?



The first thought is the problem is these are spruce in Corson County. This northcentral county is not the ideal spot to be a spruce. The summers are too hot and dry and the winters too cold and windy. Pines are a better choice for an evergreen or the Rocky Mountain juniper.

But it's not the climate that stunted these trees but the planting. These have been in the ground for several years, but I was able to almost pull them out of the ground. The reason? These



trees were potted stock planted with a post-hole auger in clay soil. The trees still had not pushed many roots into the soil surrounding the potting mix. If it were not for the fact these trees were being drip irrigated, they probably would have already died.



While potted material is a convenient means of planting, it introduces two new problems. First, the potting mix is not the same texture as the surrounding soil so can inhibit water movement and root expansion. Second, the use of a post-hole auger for planting creates a deep, narrow hole with glazed sides. The trees tend to be planted too deep with this method and the narrow hole with the glazed sides retards the movement of roots out from this environment.

Potted trees should be planted in a shallow, wide hole, one in which the uppermost root is near the soil surface. This means you often are pulling soil away from the top of the pot as they come too deep in the pot. A wide hole, one where the soil has been turned, is also easier for the new roots to penetrate the surrounding environment.

Jones County FL1800040 **What is this tree? Bought two because was told you need two for fruit but one died.**

This is a black walnut (*Juglans nigra*). While I can find stunted walnuts in Murdo and Kadoka its not the best location for these trees due to limited precipitation. Walnut are wind-pollinated and while they can self-pollinate, often the pollen is out when the stigma on the same tree is receptive, so planting two trees increases the chances of successful pollination.

Minnehaha County FL1800039 **What is this tree coming up in a CRP planting?**

This is cottonwood (*Populus deltoides*). It can seed in almost anywhere as the light seeds are easily carried by the wind. If they land on bare soils and have adequate the seeds will germinate.

Turner County **What is wrong with these cedars (junipers)?**

This is Phomopsis blight (as well as a high population of two-spotted mite). Phomopsis blight (*Phomopsis juniperovora*), one of the fungi responsible for juniper twig blight, is a common disease in South Dakota. The symptoms begin as the new foliage turning a light green but over the summer this infected tissue changes to a reddish-brown and dies. Phomopsis can be treated with a fungicide labelled for juniper twig blight and containing copper, mancozeb, or propiconazole as an active ingredient. Applications should be made at 14-day intervals beginning in mid-May and continuing until growth ceases or dry weather begins.

The two-spotted mites (*Tetranychus urticae*) has been a problem in some southern and central South Dakota tree belts this year. Generally, their feeding results in a bit of stippling damage but in high populations they remove enough sap to cause the foliage to turn yellow or bronze. There will usually be extensive webbing on these infested branches and foliage. The two-spotted mite is a warm-season mite so is active during most of the growing season. It may take two or three applications of a pesticide, spaced 10-days apart, to drop the population and it might take two years of treatments. One problem is that mites can develop resistance to pesticides quickly so it's also a good idea to switch between products from one application to the next or at least one year to the next. There are few effective products for mite control and these have

bifenazate, hexythiazox, or spiromesifen as the active ingredient. Not all products are labelled for shelterbelt use so be sure to read the label carefully.

While dormant oils are a frequent recommended treatment for spider mites, they do not work for two-spotted mite as the overwintering female is found in the surrounding plant debris and grasses. One simple treatment is just mow the edge of the belts to keep the grasses and forbs away from the junipers.

We rarely see mite populations stay high from one year to the next. The natural enemies of two-spotted mites generally do a good job of keeping the population down, so I would delay any treatment until next early summer to see if there is enough to warrant action.



Walworth County

What is wrong with these trees?

The ponderosa pines are infected with Diplodia tip blight (*Diplodia pinea*), but this does not appear to be the only problem. We are seeing if there is another pathogen involved and will update next week.

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