



Tree Pest Alert



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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

Sioux Falls is at 3542 growing degree days (GDD- base 50). We gained another 60 GDD during the past two week but I doubt if many more will be added as the forecast is highs in the 40s for week. It has been a warm fall and, surprisingly, a wet one for many areas of the state. Many counties have had above-average rainfall for October.

It has not been universal, nor have the fall rains made up for the summer deficiencies. Many areas of the state are in moderate drought, down from extreme at least. Let's hope for rain next spring when we need it!

The rains have helped turn the tables on autumn foliage color for some tree species that are late to color. The rains provided much needed moisture for these trees. They responded with some brilliant reds as seen in this Autumn Blaze maple (*Acer x freemanii* 'Jeffersred') in Dakota Dunes.



Treatments to Begin Now

Not much to do now but continue raking as the leaves fall. Mowing, rather than raking, is a good substitute for trees with small leaves such as crabapples. Not so good on the large 'elephant-ear' leaves of a catalpa.

The mowing will shred the leaves into small pieces that will degrade quicker. Since many of our common leaf diseases overwinter on fallen leaves, this can be a good strategy to reduce infection of diseases such as apple scab next year.

However, you need to get your neighbors in the act as well. This sanitation effort is best applied as the neighborhood scale.

Timely Topics

Emerald ash borer update

The emerald ash borer larvae are beginning to migrate into the outer sapwood to carve out overwintering chambers. The overwintering form of the 4th instar is J-shaped. These have become more common during the past two weeks. However, there are still 4th instars present in the phloem at the end of October.



I also found a few 2nd and 3rd instars that may overwinter in the phloem. These younger larvae are more sensitive to the cold and there is less protection in the phloem than the sapwood. The overwinter survival is not good for this group – but that is just fine with us.

Community tree inventories

During October I completed the street tree inventory for Dakota Dunes. It's a nice community and an enjoyable one to walk. But the inventory was a little monotonous – ash, ash, ash, ash, linden, linden maple, maple. The completed inventory shows the community has about 1,700 street and park trees: 595 are ash (35%), 329 lindens (19%) and another 270 maple (16%). This means 70% of their street and park trees are in three genera. While there are many different maple species in Dakota Dunes and even three different species of ash, this is no protection from introduced pests which tend to attack specific genera, not species.

Emerald ash borer has not yet been confirmed in Union County, nor the adjacent counties in Iowa or Nebraska but that day is coming. One big advantage of a community tree inventory is to determine just how much of the street and park tree canopy is at risk from this insect. Communities with a high percentage of ash (>20%) can start preemptive removals in anticipation of the losses to the beetle. Starting now helps stretch the cost of removals over a longer period. The gradual removal of ash also provides planting opportunities.

This is another advantage to a community tree inventory. It lets communities know what else not to plant! Dakota Dunes, for example, has too many maples and lindens. This does not mean any of these should be removed but probably few should be planted. Instead, the community forest should be populated with other appropriate species such as coffeetree, honeylocust, and hackberry.

All trees that do perform well in the Dakota Dunes area and are underrepresented.

E-samples

Snowstorm tree damage in Rapid City

Josh, the SDDANR urban and community forester based in Rapid City, took some pictures a few weeks ago of the damage left from the early season snowstorm. The heavy, wet snows we receive in October can lodge on the fine twigs and leaves of trees, weighing them down and causing branches to snap.



Another “What is this plant?”

This is chokeberry, *Aronia melanocarpa*, a commonly planted shrub that is noted for its spring white flowers and deep red autumn foliage color. While the autumn color can be very attractive, it also tends to color late so sometimes an early frost browns the leaves before the color change. The plant is also known for its very sour fruit – hence the name chokeberry – that remains hanging on the shrub late into the year as even the birds do not seem to like them much (at least until the fruit goes through several freezes and thaws). However, the fruit does make a nice jam and juice.



Samples received/Site visits

Clay County, Dying birch

This call was to look at a Whitespire birch (*Betula populifolia* 'Whitespire') that had one of the three stems presenting with dieback. Whitespire birch is a popular choice for birch in our region. The tree is usually grown

as a clump – multiple stems – and the bark is a chalky white that does not peel unlike the paper birch.

Whitespire birch is consider tolerant of the bronze birch borer (*Agrilus anxius*), but it is not immune to it. During dry years the tree can be attacked by this insect as can the paper birch. However, this is still a good choice for planting, just water more during hot, dry years and a good organic mulch is helpful in keeping the soil cooler.

The bronze birch borer is a native relative to the emerald ash borer. But bronze birch borer attacks birch, not ash, and since it is native our North American birch have a degree of tolerance to attack (not so with the Asian and European birch that are often attacked and killed).



The attacks are usually concentrated on one stem of a clump birch and as that one dies the attacks move to another stem in the clump. A common symptom of an infestation is one of the stems having dieback near the top of its canopy. Another common symptom is there will be reddish blotches on the trunk. The insect tunnels are just beneath these blotches.



The treatment is like that for emerald ash borer. Birch can be injected with emamectin benzoate in the spring just after the leaves begin to open. However, injecting a multiple-stem tree can be difficult as the injected insecticide may be unevenly distributed in the tree. A soil injection of an insecticide containing dinotefuran or imidacloprid can be made in the spring or fall. This will be absorbed into the tree and kill the adult beetles as they feed on the leaves before laying eggs and kill the larvae as they feed in the phloem.

Lincoln County, Dying spruce top

There have been several calls from homeowners concerned about the top of their spruce tree dying. There are many different reasons for the top dying back, from insects such as bark beetles and Zimmerman pine moth to drought.



This 25-foot-tall Colorado spruce (*Picea pungens*) had the top five feet devoid of needles. When I climbed up the tree to see what was at the base of this dead top, I found a large sunken patch bark covered with resin. The edges of the sunken patch had swollen callus that was bulging out on the sides.



This is cytophora canker (*Cytophora*), a common fungal disease of spruce branches. The branches also were infected and most had the bluish-white resin blisters along their length. The disease often starts in the lower branches; the common recommendation is to remove these dead and dying branches.

The disease can infect the trunk as it did here. The only recommendation for this tree is removal.

Minnehaha County, *Diplodia* killing spruce terminal

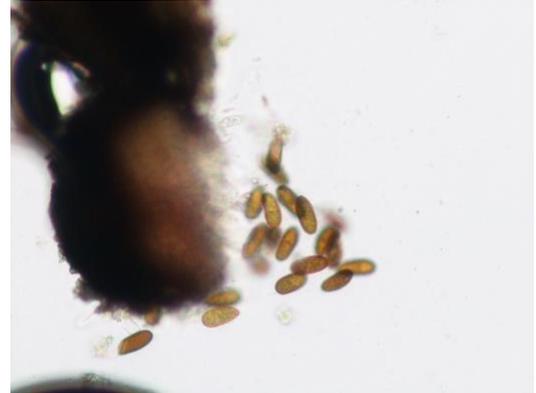
This stop was to look at a weeping white spruce (*Picea glauca* 'Pendula'). This is becoming a popular evergreen cultivar. The tree has pendulous branches that are densely covered with short needles. The weeping white spruce has a mature height of about 25 feet but a width of 6 to 8 feet. A nice tree for small landscape gardens.



This tree is about 20 feet tall (and next to a two-story deck) and the terminal shoot was curled over and dying. It was an easy snip from the deck and the terminal was brought back to the University. The spores revealed that the tip was infected with *Diplodia* tip blight (*Diplodia*).



This is a common disease of pines and we frequently see it in Austrian and ponderosa pines. The infected trees present with stunted shoot tips covered with brown to gray hanging needles. Generally, not all the shoot tips are affected so the tree will grow out from other shoots but becomes misshapen.



The loss of the terminal, however, will often result in numerous side shoots vying for this role and the tree develops a 'bird nest' of shoot at the tip. This is not very attractive and in a weeping white spruce destroys the overall appearance.

We occasionally see the disease in spruce. This usually occurs on a tree here and there, rather than becoming widespread. It also seems to appear in years of hot, dry weather, a time when the trees are stressed and more vulnerable to infection.

The management of the disease on spruce is like that for pines, two applications of a fungicide in the spring. The first is applied as the buds begin to swell, the second as the needles are expanding from their sheaths. A third application may be made during wet springs. The third is applied about two weeks after the second treatment.