Pest Update (November 4-11, 2015)

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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. **Walnut samples may not be sent from any location – please provide a picture!**

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 particular 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.

Timely topics

Emerald ash borer is such a looming threat to ash we tend to forget these trees can have other problems. Prior to the discovery of emerald ash borer, one of the

emerging threats to ash was ash yellows. The causal agents for this disease are phytoplasmas, bacterial-like organisms, of the ash yellows group. Ash yellows was not really studied until the 1980s when it was found associated with declining ash in the Northeast where is appeared to be mostly a problem in white ash (*Fraxinus americana*). It was first detected on the Northern Plains in the mid-90s and out here green ash (*F. pennsylvanica*) was the primary host since white ash is relatively rare.

The disease was associated with decline and death of trees in New York and other eastern states so there was some concern whether the Great Plains would experience the same damage to its trees. Ash is a major component of our community forests and windbreaks so any possible threat needed to be investigated.

Jim Walla at North Dakota State University, initiated a study back in 1999. Trees were examined for ash yellows throughout the Great Plains from Alberta to Kansas. About half the trees sampled tested positive for ash yellows. South Dakota had the highest infection rate with about 70% testing positive for ash yellows. A graduate student and I did the sampling in South Dakota and we collected samples from throughout the state. Essentially, almost every ash you see in the state has the disease. While the disease was more prevalent in older trees and trees exhibiting dieback, this was not universal.

The symptoms of the disease are stunted growth, with tree putting on less than half their normal growth, leaves may also be smaller and are sometimes a lighter green or even chlorotic. Infected trees may also exhibit extensive dieback and may die from the disease. All these symptoms can also be associated with other causes including drought and other site conditions so an ash that is dying back is not necessarily doing so due to the presence of the disease. However, considering that almost every ash in the state probably has the disease, it may be a contributing factor in the decline.

Another common symptom of the disease is witches'-brooms or epicormic shoots appearing on the base of the tree or the lower trunk. The leaves that appear on these shoots will often be simple leaves, a single leaf blade, rather than the compound leaf, one divided into 5 to 9 leaflets, that is more typical of ash. These do not always appear on an infected trees but the presence of these brooms are a very good indicator that a

tree in infected.

Last week I was up in Eden, SD looking at some ash trees for the Conservation District. The trees were declining and the concern was emerald ash borer. The symptoms were not entirely consistent with an infestation, no woodpecker activity or gradual thinning of the canopies, for example. However, the trees were exhibiting reduced growth and brooms were present. Ash yellows is the most likely causal agent.

While much of our attention is focused on the looming threat of emerald ash borer, it's good to remember this pest is not the only problem that can occur on ash.

While up in the northeastern part of the state I had a change to visit the golf course in Britton. The visit was worth the trip in itself as I found an unusual tree growing on the course, **jack pine** (*Pinus banksiana*). This is not a commonly planted tree but it has merit on dry soils. It is typically found on dry, sandy soils from Saskatchewan to New Jersey and it is one of our hardiest trees, adapted to USDA Plant Hardiness Zone 2! While it is a tough tree, it does not fare well on poorly drained soils or ones that are slightly alkaline. The foliage can turn more of a sickly yellow on these sites. Jack pine is a close relative to Lodgepole pine (*P. contorta*), the primary difference being the length to the needles and how much the individual needles are twisted.

The other pines on the course, Austrian (*Pinus nigra*) and ponderosa (*P. ponderosa*), were suffering from **diplodia tip blight**, a very common disease and one that has been discussed numerous times in the *Update*. The disease is very common on these two hosts and I have a hard time finding a mature Austrian or Ponderosa pine East Rive that does NOT have the disease. Diplodia tip blight is more a disfiguring disease than a lethal threat. Infected trees are easy to spot as they have numerous tips that are stunted with ashen-gray

needles hanging from them. The stunted tips often have resin droplets hanging from them. Trees that have been infected for many years often exhibit branch dieback and old, stressed trees may even die from the disease. You cannot cure an infected tree, but the disease can be managed with fungicide applications made when the terminal buds begin to expand in the spring with a second application made a week or two later as the new growth (the candle) is half-way expanded and a third made a week or two after the second when the candle has fully expanded. Fungicides labeled for diplodia and containing Chlorothalonil or Thiophanate-methyl as active ingredients may be used but will still provide only partial control and may have to be applied for several years in a row to significantly reduce the disease's presence.

E-samples

I received a picture of this very **large apple** growing in Langford, SD. The fruit is this size every year but the amount of apples varies from year to year so the tree is alternate-bearing. They are a mid-season apple that is good for baking but can be eaten off the tree. The tree is about 15 years old. I am thinking the apple is a 'Wolf River', the color is about right and it fits the size. 'Wolf River' is an old variety from Wisconsin but it's still a favorite for baking and you don't need a lot of apples for a pie. Any other suggestions from readers are welcomed!

I also received a picture of a shrub with strange growths coming from the stems. Actually the "growths" are not strange at all, they are perfectly normal for this plant. This is wintercreeper euonymus (*Euonymus fortunei*) a clinging shrub that forms these **aerial rootlets** that adhere to any structure. Some varieties do not climb, but merely crawl along the ground though this rootlets may still appear on the stems.

I am seeing more trees in the southeastern part of the state that are infected with **pine wilt disease**, even as far north as Dell Rapids now. The disease in the 1990s was confined to the extremely southern border of the state, but by the early 2000s it was detected in declining pines as far north as I-90. Pine wilt disease is caused by a nematode but there may also be bacteria involved. The disease is vectored by sawyer beetles that carry the nematode from infected to healthy pines. The disease is most common in Scotch (*Pinus sylvestris*) and

Austrian pine, but mugo pine (*P. mugo*) can also die from the disease. Our native ponderosa pine appears not to be affected by the disease.

I received the picture on the previous page of a declining Scotch pine in the southeastern part of the state with the comment that the tree looked fine at the beginning of the growing season, but now the needles are discolored and falling. Pine wilt disease usually kills the tree the same year symptoms appear so this may be another tree that is infected with the disease. However, the only way to be sure this is the disease is to extract the pine wood nematode from the tree. The treatment for infected pines is to removal (cut flush to the ground) and destroy the wood before April 1. This prevents any sawyer beetles from emerging out of the tree in the spring.

Another dying pine had these series of holes along the trunk. The question was what borer is attacking my trees? The culprit in this instance is not a bug, but a bird, a **sapsucker** which is a species of woodpecker. They create holes about ¼ inch in diameter that are drilled horizontally or vertically in rows. However, unlike other woodpeckers, sapsuckers are drilling for sap, not insects. They usually do not drill enough holes, nor are they deep enough, to harm a mature trees. The most common way to discourage further damage is to wrap burlap around the affected area. This will usually keep the sapsuckers from returning and continuing to drill holes in the tree.

Samples received/site visits

Meade County **What are these growths on the Hansen hedge rose?**

The growths are galls that were formed by a small cynipid gall wasp (*Diplolepis* spp). There are more than 30 different wasps that form galls on roses and each has a unique shape. Unfortunately there is no effective control for eliminating these galls as the life cycles of these insects is poorly understood. His best option may be to remove all the galls from his 10 plants and burn them (the galls) this winter but this will not discourage attack from adjacent planting next year.

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