Pest Update (August 30, 2016)

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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 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

Lightning and trees. All the summer storms have resulted in numerous fallen trees and broken branches. It seems that just about every week some South

Dakota community is cleaning up from a storm – almost makes you wish for winter. While broken trunks and branches are a common outcome of strong winds, we often forget about another storm-related problem for trees – lightning.

Everyone remembers the advice for avoiding being struck by lightning, get inside and if you cannot, stay low. Unfortunately, this advice isn't applicable to trees. They are usually the tallest objects so are a frequent attractant for streamers. The picture shows a weeping willow about two weeks after being struck by lightning. Initially, except for a strip of bark blown off the tree, it appeared to be fine. Now almost the entire tree has wilted leaves except one side that has a ribbon of yellowing leaves. The tree is not likely to recover, even the buds are brown and brittle.

This is an unusual outcome of a lightning strike on a tree. The majority of strikes result in little damage, sometimes there is no evidence that the tree was even struck. A few are very noticeable as most of the bark has been blown off. However, sometimes the damage is systemic and not easily observed. If the vascular tissue, the tissue responsible for the transport of water, is severely damaged, the tree will wilt within a day or two. Some time it may take a month or two to appear. Unfortunately there is not much that can be done to treat a lightning struck tree. The only recommended treatment is to water.

Bur oak blight, otherwise known as BOB (*Tubakia iowensisi*) is showing up more along the woody draws in Sioux Falls. The disease was first noticed on bur oaks in southern Minnesota, Iowa and eastern Nebraska back in the 1990s where it became associated with dying oaks. It has been reported in past *Update* issues and the disease has been found in most of the South Dakota counties bordering Minnesota and Iowa. The leaf symptoms do not really become noticeable until August so now is the time samples and phone calls begin to come in.

The most common symptoms associated with the disease are leaves becoming discolored in late summer with purple-brown lesions appearing along the middle vein, yellow wedge shaped blotches on the leaf blade and black pustules at the base of the petiole. The infected leaves tend to persist on the tree throughout much of the winter. The symptoms generally occur on the lower branches but during successive years intensify and eventually cover the entire canopy.

The disease is a leaf disease and infected trees will produce new leaves the following spring. However, infected trees are more susceptible to secondary stress agents such as two-lined chestnut borer and often begin showing extensive dieback after a few years of the initial symptoms and may die if the disease and the secondary stresses are left unmanaged. It is common to see only one or two trees in an oak grove expressing symptoms so there appears to be some variation in resistance to the disease. The disease is also more prevalent on the bur oak botanical variety *Quercus macrocarpa* var. *oliviformis* which is more common to dry, upland sites. This variety is common in eastern South Dakota and produces slightly smaller acorns than most other bur oaks. Since the disease is specific to this subspecies of bur oak, we are not likely to see the disease appearing east of Highway 81 except along the Missouri River.

The disease really needs a wet spring (like we had this year) to get it going. When we experience wet weather during the initial shoot expansion in May, the disease proliferates and mature bur oaks can develop symptoms throughout the canopy during August, sometime almost appearing overnight. If we have a series of dry springs, infected trees can make a recovery.

The most common treatment for BOB is an injection of proprionazole, a chemical used to treat oak wilt (Alamo), made during the early growing season (May or June). The trees should be injected after they have leafed out, but before symptoms appear. The injections may reduce symptoms that autumn and even the following year. Not all trees will response to treatment and treatments are on-going, every few years, rather than a cure. An additional approach is to manage the overall health of the tree, reducing the impact of any other stress agents, construction and borers being two common ones. Only trees that are showing symptoms now should be considered for injection next spring. Bur oaks vary in their susceptibility to the disease and not all will present symptoms or need treatments.

Fungus among us. A sign of late summer is the appearance of these brilliant orange and yellow bracket fungi on the sides of trees. These are known by various names, sulphur yellow fungus, Chicken of the Woods, or Rooster Combs, to name a few of the more common ones. The name sulphur yellow makes sense because of the bright color, but chicken? The texture of the fungus is similar to chicken meat and some folks think it even tastes like chicken (but what doesn't). Regardless, the sulphur yellow fungus is delicious! The young fruiting bodies are tender and have a mild flavor. The fungus can be cooked and added to dishes; pasta is one of my favorite.

While sulphur yellow fungus is one of the safest to eat and usually not confused with other, there are also some precautions to take. First, be sure you are collected the right fungus. Sulphur yellow fungi produce bright orange or yellow fan-shaped lobes and the underside of each lobe is a bright yellow. The fungus is found on dying hardwoods, do not consume any similar fungi collected from conifers.

While most people can eat the fungus without any reaction, still the fungus should be well-cooked and consumed in a small amount the first time someone tries it. It should also not be consumed with alcohol. Finally, the first time you collect any fungi go with an experienced mushroom hunters – do not rely on pictures as your only guide.

Verticillium wilt was covered in last week's *Update* as we are seeing more samples than received in a typical year. One of the genera mentioned as susceptible hosts was the elms. About two weeks ago an American elm began presenting yellowing and browning leaves that soon started to fall. Initially it looked like another case of Dutch elm disease. However, the symptom pattern was not exactly matching up with this disease. The affected branches, ones with yellowing and browning leaves, also showed sharply reduced shoot growth for the past couple of seasons. The sapwood also did not have the characteristic streaking of Dutch elm disease. Verticillium wilt can show streaking but this is often much fainter than what is seen with Dutch elm disease.

Samples were collected and the tree does not have Dutch elm disease but verticillium wilt was present. I am guessing that this year a few elms have been removed for Dutch elm disease that actually were infected with verticillium wilt. The injections used to treat Dutch elm disease are not effective for verticillium wilt so I also bet a few treated elms died and it was written off as a poor injection, rather than realizing the tree died from another pathogen.

Unfortunately there is little that can be done to protect elms from the wilt disease. It is present in the soil so tree removal does not reduce the spread and even after the tree is removed, the disease can survive in the soil for 15 years. The best recommendation is not to plant elm (or maples and catalpas) in that same soil.

While many elm cultivars have been tested for Dutch elm disease there has been little investigation of verticillium wilt susceptibility. Some elm cultivars have shown resistance to this disease are Cathedral, New Horizon and Regal.

E-samples

At this time of year a common sample is the willow cone gall, also called the willow pine cone gall. These cone-shaped galls appear on the tips of willow shoots. Sometimes just a few and other times the entire willow shrub is covered with them. The cause for these galls is the **willow gall midge** (*Rhabdophaga strobiloides*). The adult fly lays its eggs on the stem of the host in early May. Once the eggs hatch, the young larva burrows into the base of the developing shoot tip. The larva feeding causes the expanding bud to grow abnormally, creating a cone of stunted overlapping leaves. The gall begins to form in early summer but are not very noticeable during this time. However by the time the larva matures, late summer, the galls have reached their full size and are a gray color so stand out against the foliage. The larva overwinters in the gall, becomes a pupa in the spring and then emerges as an adult.

Can I eat this?

I still continue to receive pictures of berries with the question “Can I eat this?” or “Can I make this into wine?” You can eat or drink almost anything. The correct question is what will happen if you eat or drink this. **Common buckthorn** plants (*Rhamnus cathartica*) are covered now with these blue-black fruits along the shoot tips. The fruit should not be eaten as it is a powerful laxative. It should not be

made into wine, it still will be a laxative.

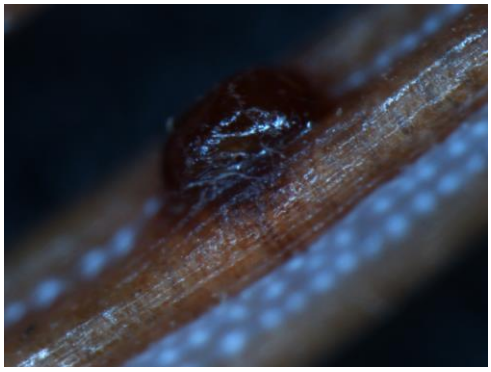
American cranberrybush viburnum (*Viburnum opulus* var *americana* syn*. V. trilobum*) bright red fruits are out now. These drupes (a fleshy fruit with multiple seeds in the center) can be eaten raw, or better, cooked and are an acceptable cranberry substitute. The fruit is rich in vitamin C and has a tart, acid taste. The fruit makes an excellent jam. The best fruit is either slightly under-ripe or over-ripe and touched by a frost, either will cut the tartness a little. The European form (*V. opulus*), a common ornamental has bitter fruit.

Samples received/site visits

Brookings County FL1600046 **Is this Dutch elm disease?**

No, it's verticillium wilt. See the discussion under Timely Topics.

Campbell County **Why is this spruce declining? Seems like many of the trees in the same row are presenting these symptoms.**



The typical spruce sample often has the stressor either an environmental agent, drought, or a pathogen, canker or needlecast. This one was a little different. First the growth was normal so that tends to exclude drought and there were no signs or symptoms associated with a pathogen. Instead there were small 'bumps' on the needles, along with some debris, that turned out to be scales. These look like the black pineleaf scale (*Nuclaspis californica*). These are very small scales, less than 1/8 inch long and have a brown to black waxy covering. The scale is not very common but can be found on stressed pines and spruce. The management is spraying in late May as the crawlers emerge with an insecticide labelled for scale and having acephate or carbaryl as the active ingredient.

Fall River County **Why is this pine producing a cluster of cones?**

The proliferation of cones at the tips of pines is a rarity, but common enough that the phenomenon is in the literature. This abnormal cone production was observed in 1 out of every 35,000 cones in one study or every 3 to 4 trees out of 500. This proliferation (forking) of cones is under genetic control so does not appear to be environmental related, just happens.

Turner County **Is this the large leaf maple that can be worth $30,000 or more?**

No, this is an American sycamore (*Platanus americana*). It is one of the largest trees out east but nowhere near the most valuable. Most folks cut them down because the tree is a nuisance, always dropping leaves, rather than selling the wood. We have some nice ones in South Dakota and their best value is shade.

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