

Pest Update (April 13- 20, 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. **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.

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Spring is rapidly advancing across the state. The apple leaves have opened and by this time the second application of a fungicide for management of apple scab. The timing for the first two applications is critical to the effectiveness of the treatments!

Plant development



The warm weather is certainly pushing woody plants into bloom. This week the apricots and magnolias in Brookings are in full bloom. Unfortunately we have also had several nights of cold temperatures and this has resulted in many of these flowers becoming frost-damaged. The star magnolia in the picture was in full bloom but most of the white flower petals (technically called a tepal in magnolias), are now fringed in brown from the frost.

Timely topics

Buying nursery stock. This is the time of year when people begin to visit their garden centers to “spruce” up their home landscapes. While this is a good time to start looking, it might be a bad time to start buying. Many of the big box stores have seasonal garden centers that rely on container material shipped in from distance wholesale nurseries. Where the plant material is grown does not influence its hardiness. If a tree hardy to USDA Plant Hardiness Zone 4 (which covers most of South Dakota) is grown in California and shipped to South Dakota this spring, it will still survive our next winter. However, plant material shipped in during the spring from warmer climates may have already leafed out and the tender foliage is susceptible to frost injury. I have seen rows of frost damaged trees and shrubs lining the pavement of these seasonal garden centers. These damaged plants may survive but will need to releaf again this spring which is an additional stress. This may impact planting success and growth this year. Be sure to inspect container trees and shrubs for frost injury before buying them this spring and purchase trees and shrubs that have not leafed out any more than the trees and shrubs already established in the landscape.



Blueberries. Another issue with some of the seasonal garden centers is the large wholesale nurseries that supply them are growing for national chains so not all the plant material shipped to South Dakota is adapted to our soils and climate. A perfect example is the ‘Bluecrop’ blueberries I found for sale at one of these nurseries. Not only were the plants frost damaged, they are probably not going to survive a year in a South Dakota

landscape. 'Bluecrop' is one of the more cold-hardy blueberries but its limit is about -10°F, and we certainly have many winter days that dip lower than that. 'Northland' blueberry is one of the hybrid half-highs, a cross between the northern low bush blueberry (*Vaccinium angustifolium*) and the high bush blueberry (*V. corymbosum*). This cultivar is a better choice for our climate since it tolerates winter temperatures as low as -30°F. 'Northblue' blueberry is another half-high that is well suited to our climate and while blueberries are self-fruitful you will obtain more fruit if you have two cultivars so best plant one or two of each. But climate is only one challenge for South Dakota growers. Blueberries perform best in well-drained organic soils with a pH about 5.0-5.5. This is far different than the typical yard in South Dakota which often is a poorly drained clay soil with a pH near 7.5 and lacks sufficient organic matter. The best means of growing blueberries in much of our state is to build your own soil. Create a slightly raised bed, about 15 inches tall and at least 3 feet wide and 3 feet long (blueberries should be planted about 4 feet apart so the final dimensions of the bed are based upon the number of plants). Fill the soil with sphagnum peat and a sandy loam soil at a ratio of about 2:1 by volume. This will settle over the year so expect to add peat every year. Partially covering the plants with oak leaves or pine needles during the winter and then allowing much of this material to break down into the soil in the spring will help supplement the organic matter.



There is still time to complete a little training on the young trees in the landscape. Trees that demand training to develop a good, strong structure are the hybrid elms. These trees are fast-growing and highly resistant to Dutch elm disease so they have become popular choices for homeowners that desire low maintenance and fast growth. While they can grow 3 to 5 feet a year for several years after planting, this growth may go out, rather than up, if the trees are not pruned. A critical need in pruning trees is to establish a single leader. The picture (next page) shows a hybrid elm with two or three competing leaders (arrows). These will grow at an equal rate and create a forked trunk which is susceptible to splitting in wind or ice storms. Prune to reduce this to a single leader that is higher than the others. This does not mean that the competing leaders must be completely pruned off, just that they are pruned so they are shorter than the leader.

If you miss this time period for training, you do not have to wait until next spring. Recent studies have indicated that during the growing season, from April to August, is the best time to prune a tree. This is different than what most of us were taught 20 or 40 years ago. It was once thought that winter was the best, but at the beginning of the growing season trees are able to most effectively compartmentalize pruning wounds. The only exception is to avoid pruning certain trees during times insects that carry diseases are attracted to pruning wounds. This means still avoid pruning oaks in May through June to reduce the

possibility of oak wilt and American elms during April to September due to bark beetles carrying Dutch elm disease.



E-samples



Ash flower galls really stand out at this time of year. The dark gray lumpy growths are hanging from many ash trees. The “growths” are the male flowers that been infested with the ash flower gall mite (*Eriophyes fraxinovorius*). This mite spends the winter under the buds and moves out to the twigs as the male flowers begin to form. The mites lay their eggs in the developing flowers and once hatched the feeding activity by the nymphs causes the galls to form. There are several generations per year. The reason we see so many of these galls on

ash is that ash trees are dioecious, meaning it produces either male or female flower. Since no one likes seeds, almost all the ash cultivars we have planted are males so lots of food for this mite. The galls do not harm the tree and they eventually fall off, usually within a year or two, though new ones will form every spring.

Mushrooms are showing up in lawns. I received this picture of mushrooms coming up in a lawn and the question, how can they kill them. First I asked if a tree use to be there and yes, there was an elm that had died a couple of years ago. Fungi need a food source and this group of fungi, known as inky caps,



frequently grows in clusters on or near decayed wood. The cap of the mushrooms are rounded, like an egg, and about the size of an egg. They are called inky caps as the structures liquefy at maturity, turning the mass into a black goo. Unfortunately there is nothing that can be done since the mushrooms are the fruiting structure, not the complete fungus, so until the old roots decay completely these will keep coming up every spring.

I also received a picture of parallel rows of holes in the trunk of a tree. These are the work of a **sapsucker**, not an insect in this instance but a bird. The woodpeckers are not after insects, but the sap the runs from the wounds, hence the common name of sapsuckers. The damage is easy to spot from the bands of round drill holes that encircle the trunk. The holes are usually very shallow and may weep sap. The damage to the tree is minimal and most people once they find it's not a borer attacking their tree do not worry about them further. However, if rows of holes in a tree trunk are an aesthetic concern, the birds can be discouraged from returning (they do favor some trees more than others) by smearing a stick material such as Tanglefoot^R in a band above and below the holes. Since sapsuckers are protected, shooting them is not an option and may create holes in the tree as well for those that are bad shots.



Samples received / Site visits

Lincoln County

What is wrong with this spruce tree?

Frequent readers of the *Update* are not too surprised to find spruce questions in this publication. Colorado spruce is one of the most common trees planted in the state and one with many problems. One common problem with these trees is needlecast disease. This was once a fairly easy task to diagnose. If you found

small black dots on the needles it was probably *Rhizosphaera* needlecast disease. However a few years ago another disease began to appear (or had been there and was misdiagnosed) and that is *Stigmina* needlecast.



The sample came in properly packaged, a branch with live needles that were showing symptoms rather than just a bare branch, and it was placed in the bag without a damp paper towel. Placing anything damp in the bag along with the sample tends to be an incubator for mold and usually all we receive is a bag of goo. The sample was

expressing the classic symptoms of needlecast disease, last year's needles (2015) were still attached but the previous year's (2014) were already cast. Once the needles were examined under a microscope, small black dots were found lining the stomata. The fruiting structures had these tiny hair-like projections sticking out from them and this is a characteristic of *stigmina* needlecast. The reason to know which pathogen is present, *rhizosphaera* or *stigmina*,



is to determine the spray coverage on the tree and the time period for applications. Both diseases are treated with a fungicide containing chlorothalonil



as the active ingredient and the seasonal timing is also the same, first application applied when the expanding new needles this spring are about half the size of the older needles and then a second application made a few weeks later. The difference is that only the lower branches need be treated for *rhizosphaera* while the entire tree should be sprayed with a fungicide to manage *stigmina*. Also treatments for *stigmina* may need to be repeated later into the summer if conditions

are wet so it might take more than two applications in a season. Another difference is *rhizosphaera* symptoms may be reduced with a few years of treatments while *stigmina* might require treatments for many more years.

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