

# Pest Update (July 5, 2017)

Vol. 15, no. 21

John Ball, Forest Health Specialist SD Department of Agriculture,  
Extension Forester SD Cooperative Extension

Email: [john.ball@sdsu.edu](mailto:john.ball@sdsu.edu)

Phone: office 605-688-4737, cell 605-695-2503

Samples sent to: John Ball

Agronomy, Horticulture and Plant Science Department  
rm 230, Berg Agricultural Hall, Box 2207A  
South Dakota State University  
Brookings, SD 57007-0996

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.

Plant Development.....	2
Emerald ash borer update.....	2
Timely topic	
BOB is back!.....	3
Cedar and other conifer new planting update.....	4
E-samples	
Ash leaf curl aphid.....	5
Bronze birch borer.....	5
Spur blight.....	6
Marssonina blight on aspen.....	6
Spiny elm caterpillar.....	6
Tree-of-heaven.....	7
Woolly elm aphid.....	7
Samples received / site visits	
Clay County (fireblight).....	7
Potter County (apple scab).....	8
Turner County (maple bladder gall mite).....	8

## Plant development for the growing season



The lindens (basswood) are in bloom in Brookings and their fragrant blossoms are easy to detect when walking on a still evening. The delicate scent is attractive to bees as well (so be careful when looking at a flower up close it may be occupied!) and basswood honey is one of the best, light with a mild flavor.

## Emerald ash bore - Update

The recent confirmation of emerald ash borer in Buena Vista County in Iowa, a mere 80 miles from South Dakota, is heightening concern about its eventual presence in South Dakota. The day is certainly getting closer. Confirmed infestations are found in the Omaha, Nebraska and Minneapolis-St. Paul Minnesota metro areas and now in about half the counties of Iowa. The most ominous finding with the Alta Iowa discovery is that it was about 100 miles from the closest confirmed finding.

I spend some time last week looking for suspected emerald ash borer infested trees in Union County in some of their communities and along the Big Sioux River. Fortunately I did not find any infested trees, at least not any trees presenting the common symptoms of emerald ash borer attack, e.g. extensive woodpecker damage and shredded bark. I did see a lot of ash with extensive dieback, but half-dead ash have always been a common sight in South Dakota and there is always the possibility that one of these trees harbors emerald ash borer. However, at this time we are still without a confirmed tree in our state.



The *Update* will provide weekly information on the location of emerald ash borer confirmed in South Dakota or a bordering county of an adjacent state. ***At this time no emerald ash borer infested trees have been identified in the state or an adjacent county of a bordering state.*** The nearest infestations are highlighted in red; the Twin Cities of Minnesota;

Buena Vista County and the counties in central Iowa and the Omaha-Council Bluff area of Nebraska and Iowa.



This week I received a call and a follow-up picture of a suspected EAB infested tree. I was not too concerned since the caller mentioned sawdust around the base of the young tree and “skins” but asked for a picture. As all can see in the picture, the skins are the pupa covers for the clearwing

ash borer (*Podosesia syringae*), a native insect and a common problem in younger (usually less than 8-inch diameter) ash.

## Timely Topics



BOB is back! **Bur oak blight**, otherwise known as BOB (*Tubakia iowensis*) is showing up more along the woody draws in the eastern side of the state. The disease was first noticed on dying bur oaks in southern Minnesota, Iowa and eastern Nebraska back in the 1990s. It has been reported in most of the South Dakota counties bordering Minnesota and Iowa. The leaf symptoms do not really become noticeable until midsummer so now is

the time samples and phone calls start to come in. I found this tree down in Dakota Dunes. It has been infected for several years now and probably not likely to survive many more.

The most common symptoms associated with the disease are leaves becoming discolored in 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 native to just 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 to get it going so we may not see many trees with symptoms this summer. 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. This may be the only good news about the drought.

The most common treatment for BOB is an injection of propiconazole, 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 (and they are just beginning to appear now). 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.

**Cedar and other conifer seedling update.** I have continued looking at failed planting this year and the majority can be traced back to the lack of irrigation. Trees need to be watered at planting and then an inch a week of precipitation for the first growing season. Since many areas of the state have not received anywhere near this amount of rain on a regular basis that means producers must be irrigating their new planting several times each week. The lack of rain and supplemental watering is going to mean a lot of planting again next spring.

While I still hear that the seedling mortality must be due to either the nursery or the district storage, I have not found that to be the case this spring. Plant material I inspected was stored properly under cool (mid-30s°F) and humid (95% RH) conditions and left in the nursery boxes.

While the majority of failures can be attributed to lack of irrigation, there are two others that I have seen this year. The first is improper planting. While most trees were properly planted so that the root collar was at the soil level, I have seen a few where the trees were planted too deep. These were browning trees that I could pull branches out of the soil. I have also seen a few plantings that had the roots sticking up out of the soil. These





trees were hand-plants and the holes were not made deep enough. The seedlings were planted so the roots made a complete U and the roots struck up out of the ground. Obviously this “planting method” is going to dry out the tree every quickly.

Another problem is herbicide carryover when corn fields were planted to seedling trees the following year. Atrazine can remain in the soil for months to more than a year and can kill or stunt newly transplanted seedling trees. I am looking at a couple of instances where almost all the conifers failed, despite irrigation and proper planting, but atrazine was used the previous year when the field was in corn. I am testing for residue now and will update in a future issue but this is a good reminder to check what herbicides were used in any crop land that is being converted to a windbreak.

## E-samples



the remainder of the year.

**Ash leaf curl aphid** (*Prociphilus fraxinifoli*) is continuing to appear in ash trees across the state. The feeding by these aphids results in the terminal leaves becoming curled and distorted on green and white ash. At this time the aphids are just about finished with their leaf feeding so insecticide treatments are not recommended. The aphids will fly to the ground soon where they burrow into the soil to feed on the roots of ash for



the remainder of the year.

**Bronze birch borer** (*Agrilus anxius*) infestations are apparent on birches by this time of the summer. The adults are flying in June and seeking stressed trees to lay their eggs. Once the eggs hatch the larvae burrow into the inner bark (phloem) to feed for the remainder of the summer and into the spring before pupating and emerging as adults. Birch that have been infested for several consecutive years show extensive dieback. The tell-tale signs of the borer are raised bark which outlines the galleries beneath and the reddish stains on the trunk. If the tree is presenting less than 25% canopy dieback, the infested tree can be treated with a soil drench of an insecticide containing imidacloprid or dinotefuron as a soil drench or

bark spray to kill the larvae feeding beneath the bark. The insecticide must be labelled for borer and products available to commercial applicators are more effective than those sold to the general public.



**Spur blight** is a form of fireblight (*Erwinia amylovora*) that affects only the flowering spurs hence the name. The bacteria is spread in the spring to flowers as the bees carry the disease along with pollen. The infection begins with single flowers collapsing, a phase called blossom blight, with the infection spreading down into the spur. The infected flower spur results in these patches of blackened, wilted,

leaves along a shoot. Often the disease will stop here as the tree walls off any farther spread into healthy tissue. However there is the potential for the disease to spread the following year. The disease can be slowed by pruning out shoots that have infected spurs though the work can be time-consuming on all but the youngest trees. The pruning may be delayed until cold weather as the disease is not likely to spread farther in the hot summer. If pruning is done now it must be completed during dry weather (not a problem this summer). The shoots should be pruned back to two-year old wood and leave stub cuts by making the cuts several inches always from the trunk or limb. The pruners or saw should be disinfected between cuts.



**Marssoninia leaf blight** (*Marssonina*) is a common leaf disease of *Populus*, including aspens and cottonwood. The fungal disease on aspens appears as necrotic leaf spots or blotches sometimes with yellow margins. The petioles of affected foliage may have lens-shaped lesions. The disease overwinters in the fallen leaves and in infected shoots. These tissues release spores in the spring during wet weather which infects the new

foliage as it forms. The longer we have cool, wet weather during the spring, the more severe the disease. The disease generally only causes some premature defoliation on aspens and fungicide treatments are not generally used though they can be effective. However, the applications need to be made in the spring as the leaves are forming, not now.



**Spiny elm caterpillar** (*Nymphalis antiopa*) is appearing on hackberries and elms in the eastern side of the state. The mature larvae are almost 2-inches long, velvety black with white dots along the body. However, what cannot be missed and the source of their name, are the rows of branched spines. The spines are a defense against predators and they even are effective on people. Do not touch the spines as contact can result in an

allergic reaction for some folks.

The larvae are almost finished with their feeding so spraying now is more a form of revenge than controlling defoliation. The larvae will soon pupate, their resting stage, and become adults this fall. The adults are called mourningcloak butterflies and they have a black body with dark reddish-brown wings highlighted by a yellow border – definitely an insect into gothic fashions.



**Tree-of-heaven** (*Ailanthus altissima*) is not a common tree in South Dakota and thank goodness for that! The tree has become a weed in much of the South and East where it chokes out native vegetation. The tree is also known as “stink tree” as the flowers on the male trees have a very disagreeable odor (often described as that of a tom cat marking its territory). The leaves look similar to sumac and walnut as they are a

long compound leaf but the leaflets have a small gland (appears as a dot) near their base. The tree is only common in the central and southern part of the state from Yankton to Pierre to Kadoka. It’s a street tree in Pierre and I have seen some in yard down in Yankton that are near 40 feet tall.



**Woolly elm aphid** (*Eriosoma americanum*) is curling leaves of elm trees at this time. The curled leaves are covered with white cotton-like masses and inside you can find small aphids. These aphids will be soon flying to serviceberries to feed on the roots only to return to the elms come fall. The aphids do not really cause much harm to the elms, other than their appearance, so insecticides are rarely used. Once the leaves are curled, there is nothing that will

uncurl them. Also the aphids have lots of natural enemies, lacewings, lady beetles, wasp, and all these do a good job at keeping the aphid population in check.

## Samples received/site visits

Clay County

**What is wrong with my mountainash?**

I am seeing fireblight beginning to appearing on apples, mountainash and pears this year. The typical symptoms are a discoloration and wilting of the foliage, often limited to a branch or two, though sometimes throughout the entire tree. The foliage soon dies and the tips of the affected shoots also often curl and turn

black as if scorched, hence name fireblight. The best means for combating this disease is to prune out infected branches when the symptoms first appear as this action can often prolong the life of the tree. However, since the disease is systemic, it often has spread throughout much of the tree before symptoms are noted. Late winter is the best time to prune to reduce the chance of infection spreading. Usually the disease is no longer moving during the hot, summer weather, but if pruning is performed now, the pruners should be disinfected between cuts to avoid transferring the disease to healthy tissue.

Potter County  
**leaves?**

**What is causing these blotches on the crabapple**

This is the fungal disease apple scab. The infection results in olive-drab colored blotches on the foliage. Crabapple cultivars that are very susceptible are already beginning to dropping infected leaves and this disease may leave some trees almost completely defoliated by mid-August. The treatment is regular applications of a fungicide, beginning as the buds expand in the spring and continuing every 10 days until mid-June.

Turner County

**What are these spots on the silver maple leaves?**

These are maple bladder galls and they are created by the feeding activity of a very small mite. The pin-size bumps on the leaves turn several color, green, red and black, as the season progresses and by August some leaves are completely covered with the galls. Surprisingly the galls do little harm to the tree so no treatments are recommended nor are any really effective.

The South Dakota Department of Agriculture and South Dakota State University are recipients of Federal funds. In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability (Not all prohibited bases apply to all programs.) To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

This publication made possible through a grant from the USDA Forest Service.