



Tree Pest Alert



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Samples

John Ball, Professor, SDSU Extension Forestry Specialist & South Dakota Department of Agriculture and Natural Resources Forest Health Specialist

Email: john.ball@sdstate.edu

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

Samples sent to: John Ball
Agronomy, Horticulture and Plant Science Department Rm 314, 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 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: Carrie Moore and Dawnee Lebeau.

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Plant development for the growing season

We are finally seeing some cooler seasonal temperatures. We started September in the 80's to 100's°F but now the 60's to 80's°F are more common. The switch from hot to cool weather has fooled some shrubs into blooming!

Here are the accumulated Growing Degree Days-base 50 (GDD) for communities across the state.

Aberdeen	2,575
Beresford	3,020
Chamberlain	3,060
Rapid City	2,480
Sioux Falls	3,030

East River has not had a break from the drought. The drought intensity map from the US Drought Monitor has not changed much for most of East River for several weeks. The southeastern quarter of the state – south of Hwy 14 and east of the Missouri – is still classified as “Abnormally Dry,” “Moderate Drought” or “Severe Drought.” The counties along or east of I-29 to the North Dakota border are also included in the drought.

The only change to the intensity map is a stretch of drought is continuing to expand through the counties that border the White River from Lyman to Jackson and Haakon Counties.

Spring-flowering shrubs are blooming!

We are seeing some unusual plant developments. Some spring flowering shrubs are beginning to flower in September. The floral display is limited to a few flowers along a branch or two but still it is noticeable. This occurs on cranberrybush viburnum (pictured), forsythia, lilac and even a few crabapples.



The reason for this out-of-season blooming is these spring-flowering shrubs set their flower buds for the following year by July. If the summer is hot and dry – the weather we have seen East River this year – the plants go into a dormant-like state. A few late summer days of rain and cooler weather will trigger a release from this state and flowers will open.

This phenomenon is sometimes called remontant flowering, flowering out of sequence. This trait has been selected in some of our “re-blooming” lilacs and other spring flowering shrubs that have a short second bloom in late summer. But a switch from hot to cool temperatures can cause the blooming as well.

Treatments to Begin Now

Water

As mentioned in previous *Pest Alerts*, now is the time to water your trees and shrubs to improve winter survival. The desiccation injury we saw on birches and maples last spring – dead tops – was due to these trees going into the 22-23 winter dry.

Timely Topics

Emerald ash borer updates

Emerald ash borer sampling continues in Sioux Falls and Canton. Most of the larvae are in their third instar, but there are a few fourth instars burrowing through the trees. The fourth instar is the last stage of larval development. These mature larvae are also more than one inch long.

More tree tube question – when to prune

I received pictures of tree tubes on rows of young trees in a windbreak. Many of the tubes have canopies forming above the rim. The question was not when to remove the tubes but whether to prune some of the lower branches that bend upward in the tubes. Some of the tubes have a thick mat of leaves and vertical branches.



There is a benefit in removing these lower branches (and any suckers). A thick mat of leaves and shoots can restrict air flow in the tube. This can slow the replenishment of CO₂ as it is absorbed for photosynthesis and slow growth.

The mat of leaves can also prevent light from penetrating the tube. This will also slow growth. The removal of lower branches and suckers is most beneficial when part of the canopy is still confined to the tube.

The easiest way to prune is to raise the tube up six inches to a foot. Reach into the opening with hand pruners and clip any suckers growing up around the main trunk. Some of the lower branches on the main trunk can also be removed. This should be done in the spring; about the time the buds are opening.

Apple maggot

What is worse than biting into an apple and finding a worm? Biting into an apple and finding half a worm! I have been receiving questions and pictures about dimpled apples and crabapples with a mushy center and small worm-like creatures.

This is a crabapple infested by the apple maggot. This insect and the codling moth are the two major insect pests in apples. The apple maggot adult resembles a fly and the females “stings” that apple skin (which leaves a dimple) to insert an egg; once the egg hatches the larvae tunnels into the flesh. The larvae are maggots, so leg-less and a pointed end with a small head capsule.



The larvae make as mess of the fruit as they tunnel. They turn the pulp into a discolored, rotted mess. Not too attractive for eating. While you will not want to pick these infested fruits to eat, they should still be picked before they fall. If the infested fruit falls to the ground, the larvae will crawl out and pupate in the soil. This means there will be more apple maggots out next summer.

E-samples

Cecropia larva in a birch

This is a worm that will get your attention! This is the fifth instar larva of the cecropia moth (*Hyalophora cecropia*). This large (3 to 4 inches long), colorful larva is covered with lines of peg-like knobs (protuberance) ending in black spines.



This larva will soon be spinning a large, silky, spindle-shaped cocoon to pass the winter. The equally large moths – one of the largest we see in South Dakota – emerge in the spring.

Chlorotic silver maple in a windbreak

This is a picture of a silver maple leaf that presented with a pale-yellow leaf blade with radiating green veins. There are also dark blotches within the leaf.



These are common symptoms of chlorosis. This abiotic disorder is common on silver maples that are on alkaline soils. This soil can render two microelements, iron and manganese, present but unavailable to plants. The problem is made worse if root growth is limited by either dry or wet soils.

Silver maples in yards can be treated by either injecting iron and manganese into the trunk or the soil around the trunk. The treatments are repeated about every two or three years. They continue for the life of the tree.

These treatments are not practice for windbreak trees. Instead, the soil should be tested for pH. Any soil with a pH higher than 7.3, silver maple is moved to the “no plant” list.

Horntails are emerging from trees

Horntails are found on or around dying or recently dead trees. The wasps lay eggs on these hosts and the white legless larvae burrow into the soft decaying wood for two or three years before pupating. Adults emerge through round 1/4-inch holes in late summer. The presence of these insects on a tree is an indication the tree is decayed and dying – not that this insect is responsible for the decay.



Another concern is the tail, the stout ovipositor used to drill eggs in the host. While the insect is a wasp, this is not a stinger. The insects do not attack people.

The 1-inch-long adults are cylindrical, lacking the narrow waist of most wasps. They are blue-black with yellow stripes and the long “stinger” at the end. Horntails will buzz around you; leave them alone and they will leave you alone.

Samples received/Site visits

Beadle County, Drought/apple scab on apple leaves

This sample came with the question about fireblight. While we can only diagnose from what is in the sample box, this does not appear to be fireblight. The terminal shoots of infested branches appear water-soaked and turn brown or black. The tips usually bend over; a condition called a shepherd's crook. The leaves often turn black and hang.



None of these symptoms appeared on the sample. Instead, there were a few olive-drab lesions that are associated with apple scab. Some of the margins were also dry and crisp, symptoms found with drought.

Lincoln County, Japanese beetles on roses

Japanese beetles (*Popillia japonica*) have become a common sight in southern South Dakota during the past decade. The adults stand out on the host plant. They are about 1/3 to 1/2 inch long, with copper-brown wing covers that shine in sunlight. There are also five white patches of hairs on the side of the abdomen, just below the wing covers.



The adults feed on the leaves and flowers of many plants. Roses, hydrangea, and lindens are common woody plant hosts. The feeding rarely kills the host but the lace-like pattern to the leaves is unsightly. But the adult beetles are like kids that will not eat the crust on bread – they avoid the tough veins – so the appearance of the plant is affected.

Killing the adults is difficult to do without affecting pollinators. One insecticide that has the least impact on bees is Neem oil. Frequent applications are needed as it is only effective for several days.

Minnehaha County, Oak lace bug

There are many bur oaks with numerous white to brown mottled spots speckled across the upper surface of the leaves. If these leaves are turned over, small (1/8 to 1/3 inch) light colored insects with dark markings can be seen. The nymphs and adults look similar, but the adults will have rectangular lacey wings that are held over the body.



These are the oak lace bug (*Corythucha arcuata*). The adults and nymphs suck the sap from the leaves. The underside of infested leaves will also have a varnish-like film and be covered with small peppers that are the excrement of the insects.



The adults overwinter in bark crevices. At this time of year, the feeding is nearly completed. Any spray applied now is more revenge or out of boredom. Fortunately, the feeding rarely results in more than a few discolored leaves falling prematurely.

Minnehaha County, Dutch elm disease in American elm

This was a stop to look at a large American elm in Sioux Falls. The tree is more than four feet in diameter and 70 feet tall. It is a beautiful specimen with the classic arching canopy known to elms.

Unfortunately, some of the branches on one of the large limbs are presenting with flagging – a small area of the canopy with yellowing and browning foliage. This is a common symptom of a new infection of Dutch elm disease (*Ophiostoma novo-ulmi* and *O. ulmi*) that has been introduced into the trees by bark beetles carrying the spores from one tree to another.



While flagging is commonly due to Dutch elm disease, squirrels will occasionally girdle small elm branches and these will also flag. The only way to tell is to remove the flagged branches and examine the sapwood for streaking. If there is streaking – and no evidence of squirrel feeding – it is Dutch elm disease.

If the flagged branches are removed promptly, this may stop the infection before it moves into the larger branches and limbs. This should be done quickly as the disease can yet spread this fall.