South Dakota State University Extension

Tree Pest Alert

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In This Issue

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 listing 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

The weather is still mild, warm but not hot days and cool nights. Rains continue to fall in most areas of the state. Overall, it is pleasant late spring in South Dakota.

The warm weather has accelerated the growing degree day (GDD-base 50) accumulation. Many sites added another 100 GDD or during the past week. Here is the current GDD for communities across the state.

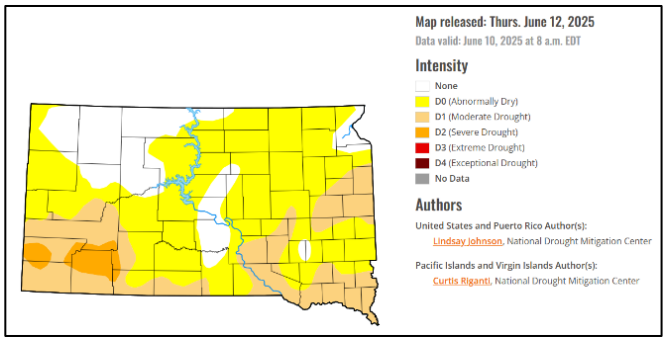
Aberdeen	731
Beresford	911
Chamberlain	894
Rapid City	691
Sioux Falls	869

Catalpas (*Catalpa speciosa*) are in bloom across much of the southern half of South Dakota. This is one of those trees we have a love-hate relationship. Everyone likes the white, trumpet-shaped flowers, but no one likes to rake the litter from the fallen flowers, leaves and capsules.

Drought monitoring

The light rains during the past week have reduced the drought intensity in much of the state. About 20% of the state is no longer classified as drought. Another 50% of the state is classified as "Abnormally Dry." Only 3% of the state, the southwest corner, is classified as "Severe Drought."

Here is the current map from the National Drought Mitigation Center at the University of Nebraska-Lincoln.



Treatments to Begin Now

Cottony maple scale

Cottony maple scale (*Pulvinaria innumerabilis*) is very noticeable during June. The adult female scales – the only one out now – are small (1/4 inch), flat oval brown insects that lack legs, wings, or antennae. They are just beginning to develop their white cottony eggs masses called ovisacs.

These egg sacs expanding from beneath the shell look like Jiffy Pop. But rather than containing popcorn, these sacs release tiny mobile crawlers which migrate out to the leaves to feed and develop. They feed by sucking sap from the leaves and excrete a sticky, sweet substance called honeydew.

In the fall, the females migrate back to the twigs and become the immobile adults. They resume feeding in the spring and produce eggs which hatch at about 850 GDD, about when catalpas bloom.

Cottony maple scale infests more than just maple trees. Buckeyes (*Aesculus*) and lindens (*Tilia*) are also common hosts. Many injectable systemic insecticides cannot, and should not, be used on lindens because of their flowers which are extremely attractive to bees and other pollinators.

If the tree is small, insecticidal soaps are effective. But read and follow the label very carefully as soaps can be phytotoxic if used improperly. Maples and buckeyes can be treated with insecticides containing Dinotefuran that are labelled for this use. These may be applied as a soil drench or injection.

Spruce bud scale

Spruce bud scale (*Physokermes piceae*) crawlers will soon be hatching. The scale resembles a small round, reddish bud which can be found on the tips of the branches where the side branches attach to the shoot.

They, and their mobile young called crawlers, suck the sap from the shoots resulting in dieback and decline of the lower branches. Since these are soft scales, they produce honeydew which results in a black, sooty appearance to the needles and twigs. This scale has one generation per year. The crawlers hatch at 900 GDD, a little before littleleaf lindens bloom which should be in another week or two.

The best treatments are insecticides containing Carbaryl as the active ingredient and applied on the foliage and shoots near the tips. Products containing Imidacloprid can be effective as a soil drench but need to be applied in the fall or early spring for control during the summer.

Timely Topics

Emerald ash borer workshop June 25 in Bismarck

There will be an EAB workshop held on Wednesday, June 25 from 8:30 am to noon at the Sertoma Community Center, 300 Riverside Park Road, Bismarck, North Dakota. The workshop will cover EAB history, life cycle, and habits.

It will also explore effective strategies for protecting ash trees, covering both community-wide approaches and individual tree management. There will be an outdoor hands-on tree injection demonstration. ISA CEUs are available. There is no cost to attend.

Register at: Bismarck Emerald Ash Borer Workshop

Emerald ash borer updates

Adult emerald ash borers (EABs) are emerging from their ash hosts from Union to Grant County. Peak emergence – where half have emerged for the season – is not until about 1000 GDD. Littleleaf lindens (*Tilia cordata*) bloom about that time.

The adult EAB is torpedo shaped and about 3/8 to 1/2 inch long but only 1/16 inch wide. They, as true with all beetles, have a thick outer wing known as elytra. The hind wing is membranous and clear but revel the bright red to purple of the upper abdomen.

EAB confirmed in Milbank, South Dakota

Last week EAB was confirmed in Milbank. A homeowner noticed their ash trees had extensive blonding and woodpecker drills. Woodpeckers feed on emerald ash borer larva and are quick to take advantage of this new food source.

The trees also had numerous D-shaped exit holes where the adults were emerging. We were able to capture some adults as they were emerging from the trees. These trees also had a dense pattern of serpentine galleries beneath the bark.

This is one more state county with a confirmed population of EAB. The other counties are Brookings, Lincoln, Minnehaha, and Union. I expect other counties to join the “EAB club” this summer.

E-samples

Crown rust

I am receiving more pictures of crown rust (*Puccinia coronata*) on common buckthorn (*Rhamnus cathartica*). The disease causes yellow to orange spots on buckthorn leaves and petioles which are very noticeable.

I usually get a few pictures of this disease every year. As with apple scab, it may become a bad year for this disease. The mild, wet weather is perfect for the development of the disease.

Epicormic shoots on a Colorado spruce

This is a young Colorado spruce (*Picea pungens*) struggling to survive in western South Dakota. Epicormic shoots are short shoots that originate on the trunk. These are produced by dormant buds that “wake up” in response to a stress. The stress in this instance is the severe drought that has prevailed during the past two years.

The tree is trying to recover (and the cool, wet weather is a help). The epicormic shorts are like a reserve chute for a skydiver – it is the back up. While the tree may look funny for several years, given moisture and more moderate temperatures, the tree may recover. Just prune off the dead limbs and water if the weather turns dry.

Stinkhorn mushrooms appearing in lawns

There are usually two questions that come with the picture. First, what is this odd-looking thing that seemed to appear overnight in the yard and second, can they eat it?

Let us start with the first question; what is it? This is one of the stinkhorns. They are easily recognized by the white stem and dark cap hence the name 'horns. You might say they look like a part of the anatomy and, yes, that is why they are in the order Phallales.

This fungus depends on its foul, slimy surface to attract flies. The flies, which cover the caps at this time, walk through and ingest the spores and spread the fungus to new locations. They also seem to appear overnight and pop up in lawns after a light rain or the sprinklers came on.

Second, can you eat them? First, who would want to eat something slimy that smells like poop? No, do not eat them either raw or cooked. The "egg" stage which occurs in the soil before the stem forms is considered edible by some, but I suggest skipping this.

NOTE: do not depend on a picture or brief description to decide if a mushroom or any of its parts are edible. Only collect mushrooms with experienced hunters who know what is edible and what is deadly.

Samples received/Site visits

Brookings County, Hickory leaf stem galls

Shagbark hickory (*Carya ovata*) is one of my favorite trees. It has an attractive oval form that requires little training. The autumn foliage can become a golden yellow.

The tree also has few serious pest problems but there are some minor ones that appear. The hickory leaf stem gall aphid (*Phylloxera caryaecaulis*) is one of them. The feeding by this aphid causes the leaf tissue to enclose the aphid. Several generations of aphids will live within these galls until late July when the galls split and the aphids leave. They overwinter in bark crevices.

Custer County, White pine blister rust on limber pine

Most tree lovers are familiar with two introduced threats to our native trees: Dutch elm disease and emerald ash borer. But these are not the only lethal threats that were accidentally introduced to this continent.

White pine blister rust (*Cronartium ribicola*) is an Asian fungal disease of five-needles. It moved to Europe and then to eastern North American in the early 1900s. Once on our continent, it slowly spread west and arrived in the Black Hills in the late 1980s.

The disease infects only the five-needled pines and is lethal to North America five-needled pines such as eastern white pine (*Pinus strobus*). The disease is rarely found in urban areas or field windbreaks, so it poses little threat to white pines in South Dakota.

The same is not true of the native limber pine (*Pinus flexilis*) stands in the Black Elk-Cathedral Spires area of the Black Hills. The disease has killed some of these trees during the past three decades and there are others that have become severely disfigured by infection.

Since the disease is a rust, it requires an alternate host. The alternate host for white pine blister rust are currants and gooseberries (*Ribes*). This explains why the disease is so pervasive in the Black Hills limber pines yet uncommon in white pine (and limber pines) planted in eastern South Dakota communities. Native currant bushes are common throughout the native limber pine stands. Currants and gooseberry species that serve as alternate hosts are rare in urban and windbreak plantings.

The disease is very noticeable on the infected limber pines in the Black Hills at this time of year. The cankers

are covered with pustules filled with orange aeciospores. The spores are carried by the wind to infect susceptible Ribes. Once spores are released, the pustules wither and cankers are barely visible. The disease has not disappeared, however, and continues to expand from the cankers to adjacent healthy tissue.

Later in the summer, orange pustules will form on the undersides of the Ribes that release spores to be carried by the wind to the limber pines. The spores spread from the Ribes are heavy and only move a few hundred feet. The lighter spores produced on the pines can move hundreds of miles.

Minnehaha County, European elm flea weevil

Elms are beginning to show thread-like serpentine lines running through the leaves. The threads always start at on the underside of a leaf along the midvein and meander out from there. If a thread is carefully cut open, there will be a surprised larva that was interrupted from its busy task of tunneling through the leaf.

This is the European elm flea weevil (*Orchestes steppensis*). An insect that feeds on the leaves of elms, mostly Siberian elms, and any hybrid elm with Siberian elm in its ancestry (despite the name European, it is native to central Asia). It rarely feed on American elm though I can find infested these trees in the Black Hills.

The adult weevil is about 1/10 inch long. It is reddish brown with black spots and a long snout. It also has long back legs and can quickly jump if disturbed. The adults overwinter and move out to the expanding leaves to lay eggs along the midvein.

Once the eggs hatch the larvae tunnel through the leaf tissue from the vein to the margin. The small larvae are legless, pale yellow with a deep brown head capsule. The tunneling results in blotches of dead leaf tissue. The insect pupates in blotches that remain in the leaves and the adults emerge in late summer. The adults feed on the underside of the leaves leaving irregular holes.

The insect rarely causes severe injury to the host. The outcome is usually just browning leaves by late summer. The most effective treatment, if control is warranted, is an injection of an insecticide containing Imidacloprid labelled for this use, applied in early spring just as the leaves are expanding.

Union County, Ash bark beetle

Not every insect in an ash is an emerald ash borer. We have clearwing ash borer along with the redheaded and banded ash borer that were discussed in the last issue of the *Tree Pest Alert*.

Another common borer in ash is the ash bark beetle (*Hylesinus*). These are small beetles, about 5/64-inch long, that have a gray and brown pattern to their wing covers. The adults are out now. Ash tree owners are called because they believe these are emerald ash borers.

The adults are attracted to dying ash branches or limbs. If the tree is severely weakened, the adults will also attack the trunk. The female adult constructs egg galleries perpendicular to the wood grain. Once hatched the larvae tunnel at right angles to the egg gallery so parallel to the wood grain.

These tunnels are quite different from the wider, serpentine galleries craved through the inner bark by the emerald ash borer. (below).