South Dakota State University Extension

Tree Pest Alert

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In This Issue

Samples

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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 this past week was what we expected for July. The days were in the 80s or 90s with the nights dipping to the 70s. The rain has continued to fall in much of the state. The combination of warm and wet weather has resulted in a high mosquito hatch. If you sit outside in the evening – you are a blood donor.

The warm weather has accelerated the growing degree day (GDD-base 50) accumulation. The GDD jumped about 180 or more during the past week. You might think that the growing degree days would be flying off the chart with the temperatures in the 90s, but the accumulation is capped at 86ºF, as plant development is limited by higher temperatures.

Here is the current GDD accumulation for communities across the state.

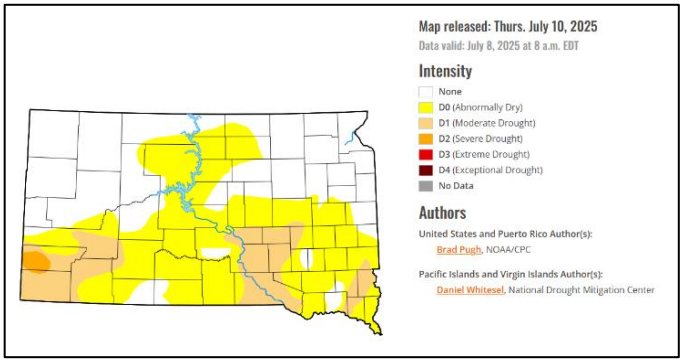
Aberdeen	1280
Beresford	1587
Chamberlain	1554
Rapid City	1230
Sioux Falls	1548

We are still ahead in GDD accumulation over most years. This means we are seeing woody plants bloom earlier than normal. Amur maackia (*Maackia amurensis*), one of our best summer-flowering trees, is in full bloom in Brookings. This is a week or two earlier than its typical display.

Drought monitoring

The rain continued during early July. Now almost half the state is drought free. Another 35% of the state is classified as “Abnormally Dry.” About 15% of South Dakota is classified as “Moderate Drought” and only 1% of the state, western Custer County, is still classified as “Severe Drought.”

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



Treatments to Begin Soon

Fall webworm

We usually start to see fall webworm caterpillars spin their silky nests at about 1400 to 1500 GDD. Unlike tent caterpillars, the fall webworm spin nests at the tips of branches rather than in the interior.

The best time to treat this insect is when they have first hatched. Waiting until the caterpillars are full size and have almost finished feeding is revenge spraying rather than effective control.

The treatments include foliage applications of insecticides containing Carbaryl, Cyfluthrin, or Permethrin (among others) that are labelled for this use. The biorational insecticide Spinosad is also effective and has minimal impact on the predators of the webworm.

Timely Topics

Emerald ash borer updates

Adult emerald ash borers (EABs) emergence is in its emergence. This does not mean you cannot find adults during the day on an ash tree. They live for three weeks or more, so they are still out there. Just not as many.

Eggs laid in mid-June have been hatching for about a week. The 1st and 2nd instar larvae are less than 1/2 inch long, white, legless and with small bell-shaped abdominal segments. They are threading their way through the inner bark but are too small to do considerable damage.

Pine engraver beetle second generation adults appearing

The overwintering adults began burrowing into green slash (the leftover branches from forest thinnings or harvests) back in late May. They laid eggs in their tunnels, the eggs hatched, and the larvae cut their own galleries out from their parents. They are finishing their resting stage in pupal chambers.

The pupae are soft and white. They have some adult characteristics such as eye spots and wing covers. They will be emerging as adults within the next few days. Some adults have already emerged and have taken flight.

If there is fresh green slash, the adults will burrow into this debris. But if this food source is not available, they can attack standing trees. But the trees must be stressed and not able to use abundant pitch as a defense.

The most common stress agent is drought. If the April to June precipitation is less than 75% average, ponderosa pines are susceptible to attack. The Black Hills region has experienced average to slightly above-average precipitation for April through June. The exception is western Custer County where drought conditions persist.

This means that for much of the Black Hills the pine engraver beetle will have to be content to infest whatever recently fallen trees or branches they can find. They can also infest dead or dying branches in the canopies. Only in western Custer County might we see the second-generation adults successfully attacking trees.

Plant Health Care workshop on common tree pests and their management July 30. 2025

The Dakotas ISA chapter is sponsoring a free workshop on common tree pests on the Northern Plains and their management. The focus of the workshop will be identification of the most common insects, mites, and pathogens, their signs and symptoms, and management.

The program will include lectures, field diagnosis and demonstrations on pesticide delivery equipment including injections for emerald ash borer and Dutch elm disease, among others.

The presenters include John Ball, Forest Health, South Dakota Department of Agriculture and Natural Resources, and Martin Shervey, Forest Health, North Dakota Forest Service. Lydia Kan from Rainbow Ecoscience and Jay Goughnour, from Arbor-jet, will also be presenting and demonstrating some of the latest equipment.

The workshop will be held at the “Birdhouse” located in Wylie Park, 2300 24th Ave NW, Aberdeen. It begins at 9 am and concludes at 3 pm. It will be held rain-or-shine. There will be refreshments during the day, but lunch will be on your own. There will be ISA CEUs available.

The workshop is open to all arborists, conservation district employees, city workers, parks workers and Master Gardeners. For more information, contact John Ball at john.ball@sdstate.edu or by text to 605-695-2503.

E-samples

Another Agrilus – a close relative of EAB

The recent expansion of EAB into Codington and Grant counties has put many people on high alert for EAB. This is good as the only way we find this insect in new areas is through an observant person that notices some of the common symptoms and signs of the insect or an infested tree.

But EAB is not the only Agrilus insect found in the state. There are other close relatives that are native and infest other hosts. They usually limit their attacks to weakened hosts, so they are called secondary pests. There is another stress – drought, age, etc. – that weakens the host tree leaving it vulnerable to attack.

This is a branch that broke from a cottonwood. The galleries beneath the bark are identical to those associated with EAB. It is an Agrilus but *Agrilus granulatus granulatus*, a subspecies to the bronze poplar borer, not *Agrilus planipennis*, the emerald ash borer.

We made a collection of the native Agrilus species in South Dakota back in 2007. The objective was to identify all the look-a-likes to EAB so we would be prepared to accurately determine the Agrilus species.

Another longhorned beetle in South Dakota

This is one of the “longhorned” beetles, along with sawyer beetles (see July 2 *Tree Pest Alert*). This stout beetle is a member of the family Cerambycidae. The adult Prionus beetles are rarely seen as night fliers. They have long, serrated, or toothed antennae.

The adults are not a problem – it is the kids. The larvae of many species feed on tree roots. The larvae are large – more than two insects long – white and legless. They can cause tree decline in orchards in southern United States but are not much of a threat in South Dakota.

This specimen is probably *Prionus cuneastus*. It is a prionus beetle that is found in grasslands. It has been collected from about a fourth of all South Dakota counties and is distributed across the state.

The largest insect in the world is also a member of this family. It is the Titan beetle *Titanus giganteus*, native to South America. This insect looks like prionus beetles but much bigger – more than six inches long!

Siberian elm seedlings coming up everywhere

We had an abundance of seed on Siberian elm (*Ulmus pumila*) this spring (see April 23 issue of the *Tree Pest Alert*). Lots of seeds means lots of seedlings. Small seedlings of Siberian elm are appearing in any bare spots from gardens to lawns.

The seedlings have elliptic, serrates leaves that have a short, pointed tip. While the tree has its leaves arranged alternately along the shoots, the young seedlings often have opposite leaves.

Samples received/Site visits

Kingsbury County, Spruce planted too deep

This stop was to look at Colorado and white spruce planted at different times and coming from different sources. Two short rows of Colorado spruce – about four feet tall – were either dead or near death. Some of these trees still had a few branches with needles. These needles were purplish red and brittle. The shoot extension was normal until it just stopped.

Sudden death and purplish needles are common symptoms of improper planting. That is the cause of the spruce mortality here. Another clue that the trees were planted too deep was the branches below or near the soil line.

These trees had been planted too deep. I had to dig down six inches before I came to the first roots. Planting too deep is one of the most common planting mistakes.

Lawrence County, Fireblight in crabapple

Many of the new shoots on this crabapple have turned black with a curled tip. The leaves crisp and hanging from the shoots. This is fireblight caused by the bacterium *Erwinia amylovora*.

The disease is common on apples, crabapples, cotoneasters, and pears. Fireblight is not found on all cultivars of these species. Some cultivars are resistant; others are very susceptible. Some crabapple cultivars that are resistant include ‘Adam’ and ‘Centurion.’

Management includes pruning out infected shoots and branches during the winter when the trees and bacteria are dormant. The pruning should extend a foot beyond symptoms. If the infection is in the trunk, remove the tree.

The new shoots are most susceptible to the disease. Reduce nitrogen fertilizing for trees susceptible to the disease or those that are infected. Also prune these trees to increase airflow. The disease can multiple quickly in moist, humid environments.

Susceptible or infected trees can be sprayed with a copper fungicide just before bud break. These fungicides do have bactericide properties. There is an injectable antibiotic, Bacastat™, which is a formulation of oxytetracycline. This is best as a preventative treatment but can be effective on trees with shoot symptoms.

Lawrence County, Mountain pine beetle strip attack on ponderosa pine

The population of mountain pine beetles (*Dendroctonus ponderosae*) is increasing in the northern Black Hills. This is not a precursor to another epidemic but within the normal fluctuation we see between these outbreaks.

There are smaller (less than 20) pockets of infested trees in Lawrence County. These pockets do not expand the following year. Instead, the beetles are dispersing to other trees. There are also strip attacks appearing on individual tree surrounding homes in the housing developments in the county.

Strip attacks occur on one side of the tree. The large globs of sap – where the tree produces resin to pitch the burrowing beetles out – start at about three feet on the tree and go up twenty feet or more. Trees often survive these attacks, especially if the globs of sap are white and gooey. These are indicators that the tree won and prevented the beetles from burrowing through the bark. You might be able to dig into the sap and find a stuck beetle.

Lawrence County, Not EAB, but close

This beetle was caught by a person pruning some small trees. They wondered if it was EAB. While it is not EAB, it is a very close relative.

This is *Agrilus cuprescens*, a stem girdler of roses and raspberries. The insect is greenish-bronze and has the same shape as EAB. The biggest difference is the size – this stem girdler is about half the length of EAB adults. There are other differences of interest to entomologists such as the pronotum with a distinct prehumeral carina which is absent in EAB.

This is a good reminder that we have more than a dozen Agrilus species in South Dakota. Species identification is required to separate EAB from its relatives.

Miner County, Dicamba injury on Colorado spruce

This stop was to look at some Colorado spruce (*Picea pungens*) that have curled and deformed shoots and needles. Only one was showing these symptoms this spring but now several others are affected.

Curled and deformed shoot tips are common symptoms of exposure to growth-regulator herbicides. The ground around the trees was also devoid of broadleaf weeds, despite the appearance of quack grass and other undesirable grasses.

Dicamba was applied to the ground around the trees this spring. While the application was made on still day, the problem here is not aerial drift but soil residue. The tree roots are absorbing the herbicide applied to the lawn. Unfortunately, Dicamba can remain active in the soil for more than a year.

A common caution on Dicamba herbicides label is to avoid application near desirable trees. Always read and follow the label!

Minnehaha County, Pear sawfly on cotoneaster

This stop was to look at a hedge of hedge cotoneaster (*Cotoneaster lucida*) that had bronzing leaves. The leaves were discolored and showed window paning. This occurs when a small larva scrapes the upper layer of the leaf (except for the veins) leaving a translucent surface resembling a windowpane.

The culprit was still munching on the leaves. There were small snail-like insects on the foliage. These are pear sawflies, also known as pear slugs. Despite the name pear, they feed on a wide range of Rosaceae species, including cherries, hawthorns, mountainashes, and cotoneasters.

The larvae are dark green, with a swollen head, and slimy. They feed for about three weeks and become about half inch before dropping to the ground to pupae. They soon turn to small nonstinging wasps that lay eggs on the leaves. There are two generations per year. This is the first generation of larva, another will appear in late August. The pupae are the overwintering stage.

The most common treatment targets the larvae when they are first noticed. Foliage applications of insecticide containing Carbaryl and Malathion are often used. Insecticidal soaps are also effective.

Pennington County, Cedar-hawthorn rust galls on creeping juniper

The visit was to look at a bed of creeping juniper (*Juniperus horizontalis*) that had some small nodules on the stems. These are the galls caused by cedar-hawthorn rust (*Gymnosporangium globosum*). The homeowner had noticed small threads of orange gel from the galls this spring.

The disease is more common on eastern redcedar (*Juniperus virginiana*) but can also appear on creeping juniper and Chinese juniper (*Juniperus chinesis*). The disease appears as small (about ¼-inch) woody galls on the stem. They are rarely harmful to the juniper host. The disease results in leaf spots and premature defoliation on the hawthorns (*Crataegus*).