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 was what we expected for early summer. The days were in the 80s with the nights dipping to the 60s. We had a few humid days but mostly it was a pleasant way to end the month of June.

The warm weather has accelerated the growing degree day (GDD-base 50) accumulation. The GDD jumped about 160 or more during the past week. Here is the current GDD accumulation for communities across the state.

Aberdeen	1130
Beresford	1410
Chamberlain	1371
Rapid City	1070
Sioux Falls	1367

The summer flowering hydrangeas are beginning to flower. The panicle hydrangeas (*Hydrangea paniculata*) are some of the most popular shrubs. They are the most sun tolerant of the hydrangeas – not the "water pigs" like smooth hydrangea (*Hydrangea arborescens*).

Panicle hydrangea cultivars run the alphabet from Bobo® (white flower, three feet tall) to Vanilla Strawberry™ (flowers start a cream then turn pine and finally red by fall, five feet tall). The only challenge with growing beautiful panicles hydrangeas is that deer like the flowers as much as we do – but as food. They will nibble the flower buds, so the flowers never appear!

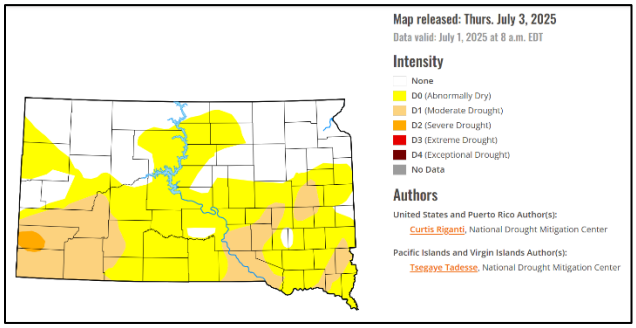
The flowering of panicle hydrangea marks the beginning of the decline in adult emerald ash borer emergence. Adults will continue to emerge from their host for about

another three weeks or so. Since adults can live a month or longer, expect to see a few beetles flying up to Labor Day.

Drought monitoring

The rain continued during the latter part of June. Some areas picked up more than five inches. Now about one-third of the state – mostly the northern third – is drought free. Another 45% of the state is classified as "Abnormally Dry." About 20% 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 Now or Soon

Apple maggot, Dutch elm disease and more

Apple maggot treatments should continue (see *Tree Pest Alert* June 18 issue). Fungicide injections to protect American elms from Dutch elm disease should be started or repeated (they are done every three years (more information on Dutch elm disease was in the June 25 *Tree Pest Alert*).

The second generation of pine needle scale will be hatching in another week. This insect can have one or two generations in South Dakota. There is no distinct second generation as egg hatch is over an extended period. But if we have a warm summer like this year, we do see an uptick in emergence at about 1350 GDD. The summer egg hatch continues for three weeks.

Summer treatments of pine needle scale are through conventional foliage applications of insecticides containing Carbaryl or Permethrin (and labelled for this use). Applications should be made next week.

Timely Topics

Emerald ash borer updates

Adult emerald ash borers (EABs) are still emerging from their ash hosts. Peak emergence – where half have emerged for the season – has now based. We are beginning the long decline in emergence.

Eggs laid in mid-June are beginning to hatch. The 1st instar larvae are less than 2/5 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 much damage – yet but they do get bigger by August.

Hardwood firewood of any species cannot be moved out of quarantined counties

A reminder that hardwood firewood cannot be moved out of a quarantined county regardless of its age and condition. As we increase the number of counties with an EAB infestation we also increase the chances that infested firewood will be moved to other counties beyond the quarantines.

There is also some confusion about what hardwood firewood is. This distinction is not based on the hardness of the wood – it includes aspen and cottonwood as well as honeylocust and oak. The term hardwood applies to all broadleaf trees.

E-samples

Western cherry fruit fly midge

This small, legless "worm" was emerging from a distorted sour cherry. The worm, referred to as a maggot, is the larval stage of the western cherry fruit fly (*Rhagoletis indifferens*).

Sometime there is a slight distortion in the fruit prior to worm emerging from it. The larvae are creamy white, about 5/16-inch long with a tapered head and rounded tail.

The adult flies emerge about 850 GDD (early June in southern South Dakota this year). The female flies lay their eggs on the developing fruit. The eggs begin hatching in about a week. The larvae burrows through the fruit moving towards the center.

They feed for two to three weeks before emerging through the cherry skin. The larvae drop to the ground. The larvae burrow into the ground where they pupae. The adults emerge from the soil the following spring.

The larvae resemble the spotted wing drosophila (*Drosophila suzukii*). This is another fly that infests cherry fruit. The rear end of the western cherry fruit fly larvae is rounded. The posterior of the drosophila has two protuberances, raised bristles.

Treatment for the cherry fruit fly is application of Spinosad beginning at 850 GDD to kill the adults before they lay eggs. The treatment may need to be reapplied if it rains during the three-week period.

Sawyer beetle in pine trees

Pine sawyer beetles (*Monochamus*) are emerging from dead and dying pine trees in the Black Hills. These longhorned beetles, so called because of these long antennae, are about one inch long, cylindrical and colored in bands or spots. They attack dying pines but do not hesitate to land on your picnic or even you (but they do not bite).

The name for sawyer beetles comes from the sawing sound the large, white, fleshy larvae make as they chew through the wood. The tunnels craved by the larvae as they burrow through the tree are filled with coarse, fibrous sawdust (and insect poop).

The insects can be found on and in recently dead trees. They also emerge from firewood that was harvested during the past year.

Tree-of-Heaven identification

This is a Tree-of-Heaven (*Ailanthus altissima*) growing near Tea. This is an invasive tree native to Asia. It is not hardy north of Sioux Falls but follows the Missouri River north to Pierre. It is also found south of I-90 between Chamberlain and Rapid City.

The tree has sumac-like leaves that are divided into 10 to 40 leaflets. Each leaf may become more than two feet long. The flowers, which are in bloom now, are small, yellow-green and appear in large panicles. The species is dioecious (male or female) with the male flowers producing a strong odor (like a tomcat marking territory).

The tree is also a preferred host to the spotted lanternfly (*Lycorma delicatula*). This insect, also from Asia, sucks sap from leaves of trees (and grapes). While it can kill grape hosts, it is only an added stress to other trees and shrubs.

The real problem is the spotted lanternflies are a mess! Large populations of nymphs excrete honeydew, a sugary substance, which leaves a sticky film on all surfaces between the trees. It is a major annoyance in recreation areas out East.

The insect was first found in Pennsylvania about a decade ago. It is now found as far west as Chicago. It is not a visitor we want to come to South Dakota, but wherever we have Tree-of-Heaven in the state we will have a home for the insect.

Samples received/Site visits

Bon Homme County, Spruce needleminer

This is a double row of mature Colorado spruce (*Picea pungens*) planted on a 12-foot spacing. The lower and interior branches were dying and the foliage thinning. The affected branches had bluish white resin blisters – a common symptom of cytospora canker (see June 25 issue of the *Pest Alert* under site visit for Brown County).

If someone only wants a Colorado spruce windbreak for 15 years, then 12-foot spacing can work. But if you want the belt to last 30 years, 16-foot spacing is needed. Once the branches of adjacent trees begin overlapping, pest problems begin.

These trees were also infested with the spruce needleminer (also in last week's issue). The lower branches were covered in tightly webbed clumps of detached needles. In some of these clumps, there were the pupal skins of the insect. The insect emerged from it in June to spend its short adult life as a moth.

Eggs are being laid on the new needles. Once these eggs hatch, the young larvae will tunnel into a needle – they are that small. They spend the remainder of the year in the needle. Once they have outgrown their home, they detach needles and form a tent with them. The larvae live in this new home until spring where they form their pupal cocoon, then emerge as adults.

Treatment information is in the June 4th issue of the *Pest Alert* under treatments.

Minnehaha County, Fireblight on serviceberry

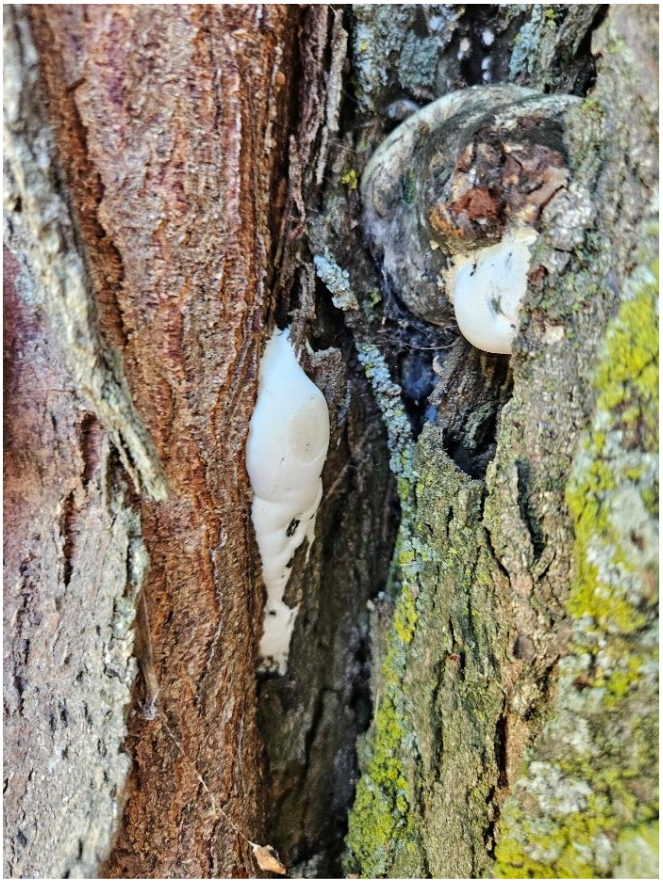
Serviceberries (*Amelanchier*) are one of our best small ornamental trees. They are covered in apple-blossom-like flowers in the spring followed by tasty fruit in the summer (and birds will eat them if you do not!), and red foliage color in the fall. The smooth, bluish-gray bark adds interest year-around.

No tree is perfect. Serviceberries are occasionally infected with leaf rust disease but that is about the extent of their pest problems in South Dakota. But fireblight (*Ewinia amylovora*), the bacterial disease we find on apples and pears, can infect serviceberries. It is rare but infections do occur, most commonly during wet spring weather.

The disease causes wilting of leaves on affected branches. The shoots will appear scorched. This is extremely easy to see on the bluish gray bark. The treatment is to prune out infected branches, usually at least a foot beyond the symptoms. The pruning should be done in the dormant season.

Minnehaha County, Ganoderma fruiting bodies on a honeylocust

The honeylocust (*Gleditsia triacanthos*) had a long, narrow cavity on the lower trunk. The cavity began sprouting these soft, white structures. They are young fruiting bodies of *Ganoderma sessile*, a common decay fungus.



The fruiting bodies become more shelf-like, a tougher as they age. The appearance of these fruiting structures are indicators of decay in the host tree. The fungus is one of the decay fungi that rot out trees, but this one is commonly restricted to the roots and lower trunk.

The early stage of decay may not present as decline in the canopy. The fruiting bodies may be the only indicator of infection. The appearance does not necessarily mean the tree needs to be removed, at least not yet. But an infected tree that is close to the house does need to have the risk assessed by an arborist holding the Tree Risk Assessment Qualification.

Yankton County, Ash dieback was herbicide, not EAB

If you drove by this tree in Yankton, you would be sure you found an EAB tree. The large ash has extensive dieback. But branch thinning and decline are the hallmark indicators of an EAB infested tree, not dieback. We do not see dieback until the tree has been infested for four years and by then the trunk has been blonded by the woodpeckers in their search for the insect.

But there is not any blonding on the trunk or branches. If you looked close at the tree there were numerous shoots with short, stunted, tufts of leaves on the new shoots. The lawn beneath the tree was perfect, not a weed in it. The problem here was herbicide, not a beetle.