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 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 all enjoying some warm weather along with much needed rain. The combination of warmth and wet is kicking our spring floral display into high gear. Here are the growing degree days (GDD-base 50) for communities across the state.

Aberdeen	134
Beresford	318
Chamberlain	308
Rapid City	263
Sioux Falls	315

We are near the same GDDs as last year at this time but behind the average. This means some of the trees and shrubs that typically bloom in April are flowering in May this year.

Apple serviceberry (*Amelanchier* x *grandiflora*) has just finished blooming in Brookings. We often see this small tree bloom in mid-April. According to folklore, the name serviceberry, at least the service part, from the observation that the tree was in bloom when soils were warm enough to bury the interned bodies of those that died during the winter.

There may be something to this as much of the state has soil temperatures at 4-inches in the 60sF. Good temperatures to bury or plant!

Treatments to Begin Now

Diplodia tip blight

Diplodia tip blight (*Diplodia pinea*) is one of the most common disfiguring diseases of 2- and 3-needled pines in South Dakota. It is a common disease of Austrian (*Pinus nigra*) and ponderosa (*P. ponderosa*) pines.

The most common means of managing the disease is with fungicides. The treatment are foliage applications with a fungicide containing Thiophanate-methyl, Propiconazole, or Chlorothalonil (and labeled for treatment of this disease). The first application is applied just before the bud sheaths have opened. This is occurring in the southern half of the state.

Timing is critical. Once the bud sheaths have opened and the candle begins to form, it is a little late to begin the first application; this is the one that provides most of the protection. A second application is made about two weeks later.

Spruce spider mite

Spruce spider mites become active now as silver maple leaves are expanding. Spruce spider mites are cool season mites meaning they are active in the spring (beginning at 190 to 360 GDD) and fall, not during the summer heat. The mites will go dormant once the temperatures consistently reach into the mid 80's. While the mites are beginning to feed, the damage to the needles, bronzing and browning, does not typically show up until summer just as the mite populations begin to decline.

Treatment options are very limited for homeowners, horticultural oils and insecticidal soaps being the two most common. These are really suppression treatments, not eradication, and the webbing often prevents these pesticides, particularly the soap, from penetrating. They should be applied now and then another treatment next week, about 7 to 10 days after the first treatment to kill new mites as they hatch from eggs.

Be aware of the cautions to using these products, particularly for spruce, as applications of oils or soaps can result in the loss of blue or silvery color to the foliage. You can make a blue spruce a green spruce very quickly, so read and follow label directions very carefully. You can also turn it brown if you apply oil sprays when the temperatures are too hot so read and follow label directions exactly.

A spray homeowner can use on their smaller yard spruce contains Tau-*f*luvalinate as an active ingredient. This is usually found in pesticides that also contain chemicals to kill insects so it will be one of the active ingredients listed rather than the only one. Pesticides containing Tau-*f*luvalinate and labeled for mite control should be applied in two treatments spaced 10 days apart.

There are a number of products that commercial applicator can use that provide excellent control and have minimal impact on non-target organisms. *I*t *is w*orth the time and money to have a commercial applicator provide the treatments considering the effectiveness of these products versus those available to homeowners. This is one pest it is far better to pay for a professional than attempt to do it yourself.

And finally, another value in hiring a professional is to be sure the problem is spruce spider mites. We have another mite, the two-spotted mite, that is found on many plants in our state (including soybean) and sometimes it is the problem on the spruce, not the spruce spider mites. The two-spotted mite is a warm season mite and does not overwinter on spruce bark so the timing of controls is different.

Tent caterpillars

Tent caterpillar nests are expanding and becoming more noticeable as hatch continues. Tent caterpillars begin to hatch and start spinning webs at about 95 GDD and we are above this threshold throughout the state (finally!). The webbing becomes visible at about 150 GDD so tiny silky tents are beginning to appear along branches of crabapples, apples, and other trees.

We have three different tent caterpillars in South Dakota: forest tent, eastern tent, and western tent. They have similar life cycles and treatments, so identification is not critical to management. The most noticeable difference

is the forest tent caterpillar produces more of a silky trail than a nest. The eastern and western tent caterpillars are responsible for the large cotton candy webs that form in the spring.

Regardless of which worm is in a tree, now is the best time for treatment as the insects are venturing outside of their nests and beginning to feed on foliage. The caterpillars are less than one-fourth inch long, so it does not take a lot of insecticide to kill them right now. There are many insecticides labelled for their control.

But the simplest and best treatment now is to tear open the nests. The nests help protect the young larvae from the environment and their natural enemies. Kicking them out of the house now is certain death. Just tear the nests open - do not burn the nests. While that is entertaining, it can lead to “fire blight” on much of the tree!

Timely Topics

Emerald ash borer update

We are continuing to monitor insect development this spring. The insect is still in its winter chamber in the sapwood but are no longer larvae. The majority are prepupae but some have developed into pupa. Adult emergence is still expected to begin in late May or early June.

Don’t move firewood

While emerald ash borer adults can fly, it does not build up mileage like airline frequent fliers. About 15 miles is the maximum over their three-week lifespan. But they are good at hitchhiking. Wood from infested trees cut over the winter are common carriers. A single log, about 3 inches in diameter and a foot long, can have a half-dozen adults emerge from it during June to July.

Firewood from deciduous trees cannot be moved out of the quarantined counties – Lincoln, Minnehaha, Turner and Union at any time of the year. This is helping slow the spread of this invasive insect across the state.

In addition to prohibiting the movement of firewood, any raw ash product, such as mulch, and ash trees cannot be moved out of these counties (except by special permit).

E-samples

Ash flower galls falling

I have received several calls regarding small clusters of dark “buds” on the ground beneath ash trees. These are clusters of male flowers falling from the trees. Most of the ashes planted in communities are male cultivars as no one wants the seeds produced by the female trees. This means there are a lot of flowers falling at this time.

The male flowers appear as bundles of dark purple, apetalous (no petals) flowers on very short stalks and open before the leaves. These flowers are often infested by the ash flower gall mite (*Eriophyes fraxiniflora*) which results in an abnormally large bundle of flowers that turn dark brown and often remain hanging from the tree for one or two years. Most of the dark fuzzy clusters lying on the sidewalks were infested by the mites last year, remained hanging over the winter and are falling now.

Oystershell scale on apple

The picture shows the branch covered with overlapping layers of oystershell scales (*Lepidosaphes ulmi*). These are the adult female scales which resemble tiny brown oyster shells. The females and their young, known as crawlers, live by sucking sap from the twigs and branches.

Mom is dead now. She died last fall after laying eggs beneath her shell. The young will be hatching at about 400 to 500 GDD, about when sweet mockorange are blooming. The crawlers move out to the new shoots to feed for the summer.

The best treatment is often to do nothing. There are many natural enemies of oystershell scale – they do not have many friends. Usually these other insects that feed on scales provide sufficient control to keep the population in check.

An insecticide that is soft on natural enemies but hard on the scale is summer horticultural oils. These summer oils do little harm to the natural enemies but can suffocate the young crawlers. The application needs to be made just as the crawler hatch – 400 GDD – with a second application about 10 days later.

Samples received/Site visits

Lincoln County, Dead tops on maples

The calls are still coming in about shoot dieback on maples (*Acer*), birch (*Betula*), catalpa (*Catalpa*), and yellowwoods (*Cladrastris*) among other trees. There are also shrubs that have died back such as smokebush (*Cotinus*) and wegelia (*Wegelia*).

What many of these plants have in common is sensitivity to desiccation injury during the winter. We experienced a dry fall so these plants entered winter with a moisture deficit.

We saw this same problem in 2012. There were tree and shrubs that looked as if a line was drawn across them and everything above that line was dead. Some of these trees recovered but it took years for the canopies to recover.

Minnehaha County, Cotoneaster leaf crumpler

The cotoneaster leaf crumpler (*Acrobasis indigenella*) crumpled leaves on many cotoneasters this past fall. The dried, blackened masses of crumpled leaves are very easy to see against the background of the glossy new foliage.

This insect is commonly found on cotoneaster but is an occasional pest of crabapples. The larvae consume the foliage in mid to late summer and construct a home from the dead leaf fragments, silk and frass pellets (insect poop with a little fiber). They live in this “house” but venture out to feed on foliage. The insect does not feed on enough foliage to harm the plant, the real problem is these “homes” detract from the appearance of the plant.

The crumpler has only one generation per year with the adult moths flying in early July. Eggs are laid in July and once hatched the larvae begin to form these clumps in which they overwinter before resuming feeding in the spring. Insecticides containing Acephate as an active ingredient are effective in late summer to kill the young larvae.

An infested plant can also be treated in spring as they begin to feed in the new foliage. Spinosad, an insecticide formed from a naturally occurring bacteria, is also available under various labels. Unfortunately, nothing will remove the clumps that have already formed.

Sully County, Possible atrazine carry-over to cedars

This was a visit to a cedar (juniper) windbreak planted last spring. Almost all the young trees are dead. The tops are brown and crisp, the stems brown, and the roots dry, snapping easily. While the symptoms are similar to what we often see with winter desiccation, the damage is more extensive and uniform than we see with winter injury.

The causal agent may be the use of atrazine on this same site during the summer of 2021. Atrazine results in cell destruction leading to desiccation and disintegration of tissue. Foliage dies, followed by stems and then roots.

Atrazine can persist in the soil for a couple of years. Cedars appear to be sensitive to carry-over injury. I have seen plantings die from atrazine applied two years previously. We are tissue testing now for atrazine residue in these plants and will provide an update in a later issue.