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

The warm weather continues across the state. We are in for a stretch of extremely hot temperatures, close to 100ºF at times. Temperatures in the 90s and 100s are of no help to our woody plants. These extreme temperatures will add to the stress imposed by the persisting drought in the eastern part of the state.

Here are the accumulated growing degree days (GDD-base 50) for communities across the state.

Aberdeen	2,060
Beresford	2,380
Chamberlain	2,370
Rapid City	1,860
Sioux Falls	2,390

The drought intensity map from the US Drought Monitor has not changed since last week. 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 combined stress of drought and heat continues to present as premature fall foliage color for trees from Aberdeen to Yankton. The reds and yellows appearing on trees are about a month early. This is also showing up in Minnesota which also has been suffering drought for the past two years.

This is a picture of an ornamental pear in Aberdeen. The reds and browns are indicators of stress, not the crisp fall weather. This is a good reminder that trees in the areas of the state under drought need water.

Treatments to Begin Now

Most insects and diseases are beyond their treatment window. Usually when we see signs of a pest or problem at this time of year, the only advice is wait until next year to treat. There is one insect, however, that is beginning to emerge now.

This is the banded clearwing ash borer (*Podosesia aureocincta*). The wasp-like adults are emerging from ash trees in the eastern side of the state. This insect is a close cousin to the clearwing ash borer which emerges in the spring.

These insects are native pests which attack stressed ash trees. The clearwing ash borers were not noticed until the emerald ash borer came along. The two are easy to separate. The clearwing ash borer adults emerge from a round hole while the emerald ash borers cut a D-shape hole as they emerge. Another difference is that the larvae for the clearwing ash borers push their frass – a granular powder of poop and chips – out of the hole so you will often find this dust at the base of an infested tree.

The banded clearwing ash borer treatments are the same as the other clearwing ash borers – a trunk application of an insecticide containing permethrin as the active ingredient and labelled for this use. The difference is the treatment is applied now as the adults are out laying eggs in late summer, not spring as with other clearwing ash borers.

Timely Topics

Emerald ash borer update

We are continuing to monitor larval development of the emerald ash borer. Many of the larvae are in their third instar now. These and the even larger fourth instar are the real tree-killers due to their wide and extensive tunnels.

Pine looper update

The trees that were defoliated last year have been defoliated again this year. The hillsides have ribbons of gray where the defoliated trees stand. If you walk beneath them and look up, the entire canopies are gone – no needles.

The difference from last year is the larvae are gone along with the needles. Last year at this time large larvae were dropping from the trees to pupate for the winter. Not so this year. The large larvae we were seeing last week have shriveled and died. The ground beneath the trees is covered with these dried-up insects. They are even hanging from the bark.

While starvation may be a factor, most likely the massive die-off was due to their natural controls - parasitoids and diseases. This is the reason for outbreaks only lasting one or two years. We are not likely to see a third year of defoliation in this area.

We are finding larger, and healthy, larvae in pockets of infested trees three to four miles to the north and east of the Pringle infestation. These trees are experiencing their first year of defoliation. It is possible that we might see another year of defoliation in these areas.

E-samples

Cottonwood rust disease

This picture was sent by a tree owner that noticed these spots appearing on their young cottonwood “almost overnight.” This is melampsora rust of poplars, which includes cottonwood as a host.

The disease first appears as small yellow spots on the leaves along with orange pustules on the undersides. Infected leaves may brown as the season progresses and fall prematurely.

The disease has a complex life cycle, as do many rust diseases, traveling between poplars (aspens, poplars, and cottonwoods) and conifers. The disease appears on the poplars when we have some summer rains – which we have had in some areas of the state – but we do not see the disease every year on the same hosts. The trees survive the infection.

Earwigs beneath maple bark

Earwigs annoy many people. These folks may remember the Night Gallery episode (March 1972 “The caterpillar”) where one burrowed from one ear to the other in a victim (and laid eggs). Fortunately, earwigs do not do that to people or trees.

The appearance of earwigs beneath the flaky bark of a maple means only that the insects found a nice place to hide out for the day. They feed on organic matter which also collects among the flakes of bark. Earwigs are no threat to the tree.

Sulfur shelf fungus appearing on trees

Sulfur shelf fungus is hard to miss at this time of year. The bright yellow to orange layered lobes of the fruiting bodies contrast with the darker tree trunks to which they are attached.

These fruiting bodies appear in late summer or fall – usually after a little rain. The fungus is also known as “Chicken of the Woods” as the fruiting bodies taste like chicken (what doesn’t?). It is used in casseroles and hot dishes. But as with all wild foods, mushrooms included, be sure of the identification, prepare it properly and only eat a small amount the first time you try them. Collecting with someone who is familiar with the fungus is also a good idea for the first time gathering these tasty treats.

The appearance of the fruiting bodies also means the tree has extensive decay. Trees infected with this fungus are often hollow.

Samples received/Site visits

Charles Mix County, Dying seedlings in a new windbreak: carry-over issues

This visit was to a new windbreak planted this past spring with a variety of trees including silver maples and junipers. The silver maples and junipers were presenting with dieback. The trees had produced new growth this spring, but the tips died back, or the entire tree died.

The dieback and death of trees was not uniform along the rows. The symptoms appeared in patches of seedlings – five or six dead with the next two or three still alive. The other pattern was the silver maples and junipers suffered the most mortality while the hackberries and honeylocust rows showed fewer dead trees and almost none in the row of *Prunus*.

This pattern fits several abiotic disorders, but one is herbicide carry-over. It was a new belt on land that was in corn last year. A check of the spray records from last year showed that Harness Max and Atrazine were applied last summer (2022).

Atrazine and the mesotrione in Harness Max have potential carry-over injury for newly planted trees. The carry-over risk extends for two years from the application. This means that the first year for planting should be 2024, not 2023.

The two active ingredients are absorbed by the roots and are phloem-mobile, so they are carried up to the newest growth. Newly planted junipers will have the new shoot tips bleach out and dieback. Deciduous tree seedlings may only have the newest leaves wilt and die so the base of the tree still has leaves.

We also do not see uniform seedling death from carry-over. You might see many trees in a row presenting symptoms but spots where the trees are fine. The break-down of these herbicides is influenced by soil texture, pH, and organic matter. Slight changes in any of these soil characteristics can affect the microbial population which is responsible for breaking down the herbicide.

Not all tree species are equally affected. Cherries and plums (Prunus) tolerate these herbicides. They are sometimes the only trees not affected. Junipers and maples are the most sensitive.

Fall River County, Hail damage on plums

Hailstorms are common in the Black Hills. You can tell which cars in the SDSU parking lots are owned by West River students from the dimples in the hoods from hail.

A small orchard near Hot Springs was struck by hail several times this summer. The trees lost some leaves, but the real problem was injury caused by the bark being shredded from the branches and trunks of the plum trees.

The bark loss opens the tree up to infection by canker diseases. The same hail struck trees were presenting gummosis, small amber-color resin globs along the trunks. This is also a reaction to the mechanical stress of hail and the presence of canker diseases.

If the hail injury is early in the season, before bud break, a copper fungicide can be applied right after the storm – within a day – to protect the exposed wood from infection. Do not paint the wounds.

Copper cannot be used on plums once the growing season begins. The only treatment for summer hailstorms is to remove any torn bark from the branches and wait to see if the branches survive.

Pennington County, Fireblight on Spring Snow crabapple

Fireblight is a bacterial disease (*Erwinia amylovora*) affecting many members of the Roseaceae family. It is often a lethal threat to apples (including crabapples) and pears. The only treatment for infected trees is to prune out the systemic infection and treat the tree with copper in the spring just prior to bud-break.

There is another treatment available for crabapples. This is an injection of oxytetracycline sold as Arbor-OTC or Bacastat. The treatment is applied at bud-break. When combined with sanitation pruning, the injection of oxytetracycline can manage the disease in most instances.

While Spring Snow crabapple is moderately susceptible to fireblight, these two trees have limited the infection to small branches and spurs. They have effectively walled off the infection from entering the large branches and limbs. They are a suitable candidate for treatment.

The injections of the products named earlier are restricted to non-crop trees. This fits Spring Snow crabapple as it is a sterile crabapple. It does not produce fruit, just flowers.