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 remained cool last week with day temperatures in the 60s. The nights are now in the high 30s or 40s. We will not need a jacket to leave the house in the morning.

This is our current growing degree day (GDD-base 50) accumulation for communities around the state. We are ahead of last year and 2023 by about 50 to 100 GDD.

Aberdeen	195
Beresford	310
Chamberlain	316
Rapid City	246
Sioux Falls	272

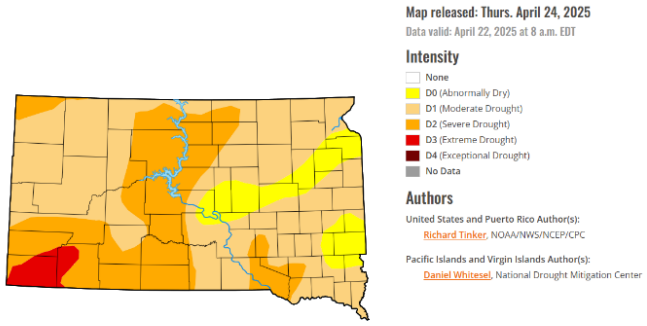
The American plum (*Prunus americana)* thickets are in bloom across the state. The bright white flowers in the thickets that line fencerows are a contrast to the bare field. The flowers are also fragrant.

Drought monitor

We had a nice soaking rain last week with many areas receiving an inch or more. But the drought map has not changed much from the past two weeks. We need rain!

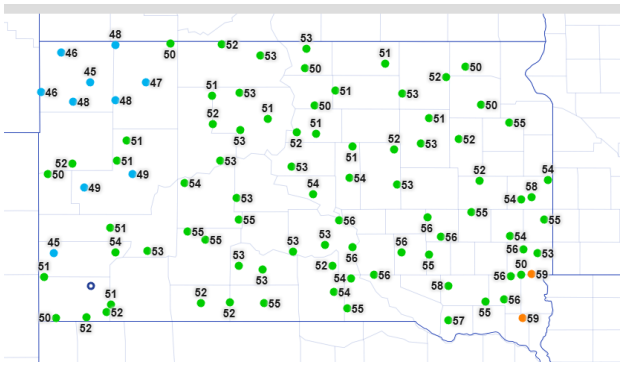
We have streaks throughout the state classified as “Abnormally Dry.” About half the state is still classified as “Moderate Drought” with the southwestern counties as “Extreme Drought.”

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



Soil temperatures are now in the 50s across the state

The soil temperatures are at about 50ºF at the 4-inch depth in bare soil. We are now at the start of the bare-root tree planting season, but it is just the beginning. Root growth on 2-year-old established tree seedlings has barely started. While we need warm soil temperatures to promote fine root growth, we also need moisture and that is lacking.



Treatments to Begin Now

Diplodia tip blight

Diplodia tip blight (*Diplodia*) is a disfiguring fungal disease of 2- and 3-needled pines in South Dakota. It is a common disease of Austrian (*Pinus nigra*) and ponderosa (*P. ponderosa*) pines. We rarely see it on Scotch pine (*P. sylvestris*).

The disease is managing with fungicides. The treatment is 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 happening across 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 application that provides most of the protection. A second application is made about two weeks later.

Apple scab

If the trees have leafed out and no foliage fungicides applications yet made – it is too late. Our fungicides are protectants. They leave a protective film on the foliage which kills the germinating spore. Once the fungus begins to grow in the leaf, our fungicides are no longer effective.

Emerald ash borer

The injection season starts as the ash tree begins to leaf out. Ash creates a new plumbing system each spring. The water pipes need to be built and working before the leaves can begin to expand.

Ash leaves are beginning to open in the southeastern part of the state. The optimum period for injection is between leaf out and early June. The pesticide will be carried throughout the tree. It will be in the leaves when the adults emerge. Since mom needs to feed on leaves for a week or so before laying eggs, having the insecticide in the foliage will reduce the number of eggs.

The insecticide will also be throughout the vascular tissue of the tree. Any larvae that do hatch from eggs will be killed before they do any damage.

Timely Topics

Emerald ash borer update

Emerald ash borer pupae are beginning to form in ash trees south of Sioux Falls. During the last few weeks, the J-shaped overwinter larva shrunk and straightened to become pre-pupae. These are now forming into pupae.

The pupal stage can take three weeks or so to develop. They will gradually develop recognizable features and eye spots. They will also darken and harden to become adults.

If the development trend continues at the current rate, adults may begin flying before Memorial Day from Sioux Falls to Dakota Dunes. Development is a little farther behind in Brookings. Adults will begin emerging in Brookings just after Memorial Day.

Arbor Day in South Dakota

The last Friday in April is Arbor Day in South Dakota. Arbor Day was started by J. Sterling Morton in 1872 with the celebration in Nebraska City. Arbor Day is celebrated in all 50 states with many countries also setting aside a day for tree planting.

South Dakota State University was the first Tree Campus USA in South Dakota. The school received that distinction in 2009. Now we have five universities in the state as part of the Tree Campus USA network.

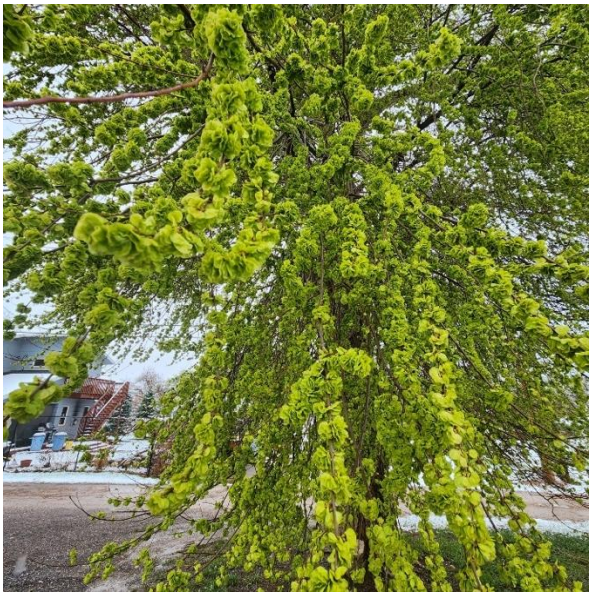
One requirement for a Tree Campus USA school is to have a tree planting ceremony. This was done during a damp, cloudy – perfect for planting bare-root trees – Friday. Fifteen new trees were added to our campus.

E-samples

Abundant elm seed crop

Elms are covered with seeds across the state. The seed crop is so heavy, the trees appear in leaf. The elm species common to our state – American elm (*Ulmus americana*) and Siberian elm (*U. pumila*) - seed in the spring, as do most other bottomland species. This places the seeds on a fresh seed bed after the flood waters have retreated.

Some years have a heavier seed crop than others. Elms will produce an abundant seed crop in response to drought stress. Since the entire state has been in drought for more than a year, the state-wide appearance of a heavy seed crop is no surprise.



It will also be no surprise when gardeners notice small elm seedlings popping up in any bare spot in their gardens. Most of the winged seeds fall within 300 feet of their parent. The seed germinates within a week or two after falling to the ground. There will be lots of little elms coming up this May.

Horntails in dying spruce tops

Spruces are not known for their drought resistance. They prefer cool, moist climates. These conditions have been absent in South Dakota during the past few years. Drought stressed spruce are vulnerable to two insect pests, spruce engraver beetles and horntails.

Spruce engraver beetles (Ips borealis) are not very aggressive and tend to attack down trees and dying tops. The beetles were just taking advantage of the situation. Spruce engraver beetles create a network of galleries just beneath the bark and leave small – bb size – holes as the adults emerge.

Horntails are woodborers that look like wasps as adults. The long, rigid “stinger” (which is used to lay eggs) on the adults is responsible for the common name.

Horntails are also secondary insects. Many, such as the pigeon tremex (Tremex columba) are found in deciduous trees. Others, such as Urocerus are found in conifers, including spruce. Horntails, regardless of host, do not attack healthy trees. When we find them in a declining spruce, they are merely taking advantage of a stressed tree. They are not the cause of the decline and dieback. Horntails create tunnels that burrow deep into the wood. The adults emerge from pencil-size holes.

We are finding spruce with dying branches and tops due to bark beetles, cytospora canker and horntails. The underlying cause is overmature urban spruce trees (those more than 30 years old) that are stressed by the continuing drought.

Winter desiccation injury appearing on evergreens

The previous year’s drought is manifesting in yellowing and browning needles this spring. The twigs holding these discolored needles are still green and pliable. The buds are also soft and plump.

These are classic symptoms of winter desiccation injury. Nor is this injury unexpected. The warning has been in the Pest Alert since last September to expect this injury due to the drought which continued throughout the winter and into this spring.

If only the needles are affected on a tree, watering this spring may save the trees. These trees still might be some needle loss so will look a little more open. Bbarring other stresses, the tree will survive. If the desiccation has included the twigs, so they are brittle and snap easily, the tree is either dead or will die this spring.

Samples received/Site visits

Brookings County, Black knot on chokecherry

These were young – about fifteen feet tall – common chokecherry (*Prunus virginiana*) covered with blackened galls encircling shoots. These are the galls formed by black knot (*Apriosporina morbosa*), a fungal disease. The disease is common on chokecherry. Management was covered in April 9, 2025, *Pest Alert*.

Brookings County, Declining young spruce with a “minor” problem

If you want to kill a Colorado spruce (*Picea pungens*), plant one in an opening within a row of mature spruce. Colorado spruce is not shade tolerant and, like many Norwegians, does not like to be close to others. They want their own space.

When a younger spruce is placed where a mature one was removed, the limited light and root space results in slow growth. These stressed trees begin to lose their lower branches at a younger age than more open-grown spruce. There is no chemical solution for this problem, either pesticides or fertilizer will help.

But one stressor can be managed at this time of year with a bath. The tree has many of the newer needles detached and bundled around the twig. These are the homes of the spruce needleminer (*Endothenia albolineana*). The larvae started last summer living inside the needles – hence the name needleminer

As they become larger, they leave the needles and live in a nest of detached needles. The small caterpillars are just beginning to leave these nests to resume feeding. A high-pressure stream of water through the canopy will dislodge them. Just rake up the falling needles and caterpillars and dispose of them.

Codington County, Pine wilt disease with a twist

A submitted sample showed nothing other than the shoot and needles were dead. There were no signs of any pathogen or pest. A site visit was needed.

Once at the site, the problem was apparent. The Scotch pine was dying of pine wilt disease. This disease is caused by the pine wilt nematode (*Bursaphelenchus xylophius*) and its associates. They are carried to their host by sawyer beetles (*Monochamus*).

The preferred host for pine wilt disease is Scotch pine but Austrian pines (*P. nigra*) and even tall (more than 10 feet) mugo pines (*P. mugo*) are killed. Our native ponderosa pine (*P. ponderosa*) is not affected by the disease.

The disease is characterized by a sudden needle color change – from bluish green to tan – in late summer. The entire tree is usually dead three weeks to a month or two later. The needles have dried and begun to fall. The twigs are so dry they are easily snapped.

But some trees can have a few branches live until the following season. That is the case here. It is a phenomenon I am seeing more on Scotch pine now that the disease is throughout the state.

The treatment is the same. Remove infested trees and destroy the wood early in the spring before the sawyer beetles emerge. The landowner had already removed a Scotch pine that died suddenly last fall. The stump of this tree showed the bands of blue-stain fungus that is introduced into the trees along with the nematode.

While the tree was removed and burned, the stump was cut too high. Sawyer beetles can still emerge from this wood. Stumps of infected trees must be cut flush to the ground.

Lawrence County, Fall cankerworm

The continuing survey of the oak stands between Whitewood and Spearfish has not yielded many live egg masses of the fall cankerworm (*Alsophila pometaria*). This area has been impacted by two years of oak defoliation by this insect.

Fall cankerworm adults lay the eggs in the fall. The eggs are laid in clusters on small twigs and branches. The egg hatch begins at about 150-220 GDD. We have not seen any young larvae during our survey. All the egg masses collected have been from previous years.

Most defoliators are at high populations for only a year or two. Usually, a disease or natural enemy drops the number. I do not expect to see significant defoliation this year based on the survey.

Yankton County, Desiccation injury to juniper

This was another stop to look at some evergreens that turned brown this spring. I expect I will be making many stops like this over the next few weeks.

The foliage from last year was brown and dry. The injury was concentrated on the northwester sides of the plants – the direction of the prevailing winter winds. The twigs were still soft and flexible.

These are the common symptoms of winter desiccation injury. The junipers should be watered if we do not receive adequate rain, about an inch a week. Even if the plants survive, I expect to see many of the small scale-like needles lost. The best that can be done is water as needed and evaluate the plant again in June to decide whether to remove or keep.