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 started out cool this past week but gradually warmed with day temperatures in the 70s. The nights are still in the 20s so do not put away the ice scraper in the car just yet.

This is our current growing degree day (GDD-base 50) accumulation for communities around the state. We are in triple digits everywhere in the state.

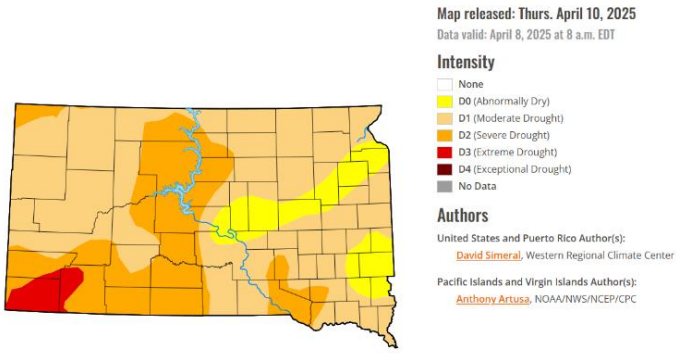
| | |
|---|---|
| Aberdeen | 101 |
| Beresford | 189 |
| Chamberlain | 207 |
| Rapid City | 159 |
| Sioux Falls | 161 |

The forsythias (*Forsythia*) are in bloom in Brookings. This is one of our most common spring flowering shrubs. They flower just slightly later than Corneliancherry (*Cornus mas*). Both produce bright yellow flowers, the perfect pick-me-up from the gray late winter weather.

### *Drought monitor*

The precipitation we received last week has helped diminish the drought across the state. Now we have a few streaks through the state classified as “Abnormally Dry.” About half the state is still classified as “Moderate Drought” with the southwestern counties as “Extreme Drought.”

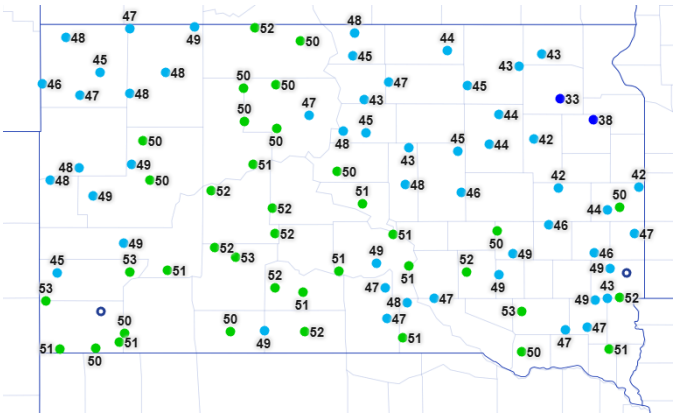
Here is the current map from the National Drought Mitigation Center at the University of Nebraska-Lincoln.




### *Soil temperatures are now in the 40s across the state*

The soil temperature has increased across the state. The entire state is in the 40s at 4-inch depth in bare-soil. Some West River sites are just above 50ºF. We need at least 45ºF to start bare-root tree planting and 50ºF is preferred. We are closer to the start of the tree planting season.

A key to successful establishment of newly planted bare-root seedlings is warm soils so the roots will grow and begin absorbing water. Cool air temperatures are also necessary to delay bud break until after the roots are functional.



The soil temperatures are warming faster than we typically see. We are now where we were at the beginning of May last year.

## Treatments to Begin Soon

### *Check your fruit trees and crabapples for tent caterpillar egg masses*

We have three species of tent caterpillar in the state. The western tent caterpillar found mostly West River, the eastern tent caterpillar found East River and the forest tent caterpillars found in the northeastern part of the state. These insects are responsible for early season defoliation on our fruit trees, chokecherries, and crabapples.

A simple means of managing these insects in small trees is to check the branch tips for egg masses. These will look like rings of molten glass encircling the twigs. The masses are less than an inch long and may contain more than 200 eggs (too bad they are not chickens).

The eggs are covered in a varnish-like material. They are easy to spot on the shoots. Just snip off the masses, crush the eggs, then dispose of the trash. If you find gray masses with tiny holes in them, these are last year egg masses so there is no need to remove them.

### *Apple scab*

Apple and crabapple buds are swelling, so now is the time to begin fungicide treatments. The first application of fungicide is applied as the buds begin to open.

The most common fungicides used for preventative treatments of apple scab have Captan or Myclobutanil listed as the active ingredient. If the apple scab treatment is for an ornamental crabapple - one in which the fruit will not be harvested – Chlorothalonil may also be used.

Fungicide applications are made about 7 to 10 days apart from the green tip stage until after petal fall. The weather usually turns a little drier by then and a 10-to-14-day interval can be used until the end of June when applications stop.

### *Spruce needleminer*

The larvae will soon begin moving from their webbed nest to resume their feeding of the needles. A spray of high-pressure water right now may knock them off the tree though be sure to rake up the fallen needles and larvae after the water spray. The other approach is pesticide treatments to kill the larvae as they begin moving out onto the foliage. The most common insecticides for this purpose contain Carbaryl or Permethrin as the active ingredient and are labelled for control of this insect.

Remember to spray inside the canopy, not just the exterior. Actually “power washing” the lower canopy of the spruce is an effective way of cleaning off all the dead and dying needles as well as some insects. However, be aware the tree will appear a little more open afterwards!

### *Zimmerman pine moth*

The larvae begin moving from the winter webbing around 100 GDD so activity has started in the southern half of the state. Now is the time to begin treatments in these areas.

The most common treatment is an application of an insecticide containing permethrin and labelled for control of this insect. The application must coat the trunk, not just fog the needles. This will kill the overwinter larvae crawling on the bark before they burrow into the tree.

## Timely Topics

### *Emerald ash borer update*

Most emerald ash borers are larvae still curled in its overwinter chamber within the sapwood. But in the southern part of the state, Dakota Dunes to Beresford, there are some that have started to shrink and straighten as pre-pupae, but this should begin within the next few weeks. The pupal stage is formed in April and May. We are on track for the adults to begin flying around Memorial Day.

### *Ginkgo seed*

We do not usually see ginkgo (*Ginkgo biloba*) seeds. The species is dioecious, and the fruit-producing trees are either banned from planting in many communities or at least discouraged. Nurseries do not sell these trees, only their male counterparts.

When the seeds drop in the fall, they are very stinky. The fleshy covering is the smelly part. Once it degrades, the seeds do not have an odor. The seeds can be collected in the spring without having to hold your nose. They should not be stored dry but planted in pots with about a ½-inch of potting mix covering the seeds.

Use a very porous potting mix so water drains easily. Keep the seeds moist, not wet. It may take several weeks to two months for germination, so patience is required. Stay tune.

## E-samples

### *Carpenterworms in ash*

Carpenterworm (*Prionoxystus robiniae*) are often found in the wood of declining ash trees. When people spot the large holes in the interior of the tree – and they are hard to miss – they immediately think of emerald ash borer.

Carpenterworms can be found in declining or recently dead ash and elms in windbreaks and communities across the state. The tunnels they make go deep inside the trunk. They are oval shaped, about 3/8 inches wide and clear of frass (fine, powdery insect poop). Emerald ash borer tunnels are just beneath the bark, almost elliptical, about 1/8 inch wide and are packed with frass.

Carpenterworm are in the larval stage at this time of year. The larvae are about 1 to 3 inches long, greenish white with a shiny, dark brown head. The larvae can take several years to develop so they can be found in the trees at any season. The adult moths begin flying in June. They have a wingspan of about three inches and are dark gray. They look like any number of moths out in early summer, so they are easily missed.

They lay eggs on tree bark but prefer to lay the eggs near any wound that removes the bark. Once the eggs hatch, the larvae burrow deep into the wood where they remain for this entire stage. The larvae swept their frass out of the tunnels, so they maintain opening through the bark.

We do not typically treat carpenterworm. They go after dying trees, so an infestation is more an indicator of a dying tree than the cause of its decline. The larvae also take years to develop so any treatment to kill the adult moth will not quickly result in control. There are only a few pesticides that are even labelled for control of these insects and results are mixed in effectiveness.

### *Woody galls on cedars*

The woody galls seen on cedars (*Juniperus*) are from a fungal infection of cedar-apple rust (*Gymnosporangium juniperi-virginianae*). The disease – which alternates between apples (and crabapples) and junipers – is a major pest of apples and a minor problem to the cedars.

The disease causes leaf blotches and premature defoliation of the apple hosts. Occasionally the fruit can also become infected. The primary juniper host is eastern redcedar (*Juniperus virgininana).* The disease results in these woody galls.

The galls first appear in the spring following an infection the previous summer. The new galls begin with small green discolorations on the cedar shoots. They quickly grow to become almost two inches in diameter. The lumpy, dark brown galls have dimples on the surface.

These galls form long, fleshy, reddish orange horns in late spring. These horns produce spores that infect the apples. After a few weeks, the horns shrivel and fall away but the wood galls remain. The galls soon die but since they are woody, they can remain attached to the tree for several years. Occasionally they will girdle a shoot so it dies become the gall but the galls are not a serious threat to the cedar.

### *Woodpecker cavities in trees*

Woodpecker drills (pecks) and blonding are a common indicator of an emerald ash borer infestation in ash trees. These are very large oval holes carved from a tree in western South Dakota. While it is a woodpecker, it is not looking for emerald ash borers.

A favorite food of woodpeckers are carpenter ants that inhabit dead and dying trees. The large cavities are also a nesting site.

## Samples received/Site visits

### *Bon Homme County, Squirrels gone wild*

We are seeing more squirrel damage on trees this spring. The calls are coming from throughout the eastern half of the state. They are stripping the bark from elms, hackberries, and maples. The damage is found in towns and windbreak. The bark is not stripped from every tree in a windbreak, just one or two in a row. Some apparently taste better than others.

I have some tree owners wonder if porcupines did the bark striping. It is hard to believe squirrels could do this much damage, but they do. An easy way to check is to look at the size of the tooth marks on the debarked wood.

Squirrel tooth marks are much smaller. They will appear as parallel, short, and narrow scratches on the wood. The tooth marks left by porcupines are parallel but are longer and wider groove in the wood. Squirrel tooth marks can be seen in the picture.

### *Lincoln County, Cedar "flowers"*

Eastern redcedar turn a little rusty in the spring. This slight color changes from sage to bluish green to reddish brown occurs in April and disappears in May as the trees begin to grow. Once people notice the color change, they might notice small mustard yellow, gall-like bumps on the tips.

The bumps are the male cones forming. Eastern redcedar is dioecious, some trees produce male cone, while others produce the female cones. The female cones are the small, bluish "berries" that appear in late summer. While they may look like berries, they are cones made by fleshy, compressed scales.

The male cones produce the pollen. A few weeks from now, shaking a branch will release fine pollen dust. Some people are allergic to dust. It is called cedar fever.

### *McCook County, Spruce decline*

Some folks in Bridgewater were concerned about the appearance of their evergreens in town and wondered if there was a disease. The evergreens are mostly large Colorado spruce (*Picea pungens*) and the disease is old age.

Colorado spruce is an attractive, fast-growing evergreen. Unfortunately, it has a relatively short shelf life as a nice-looking tree. They often begin declining in their third decade. The lower branches die from canker disease. Needlecast diseases can thin out the needles on other branches.

While the tree is drought tolerant, the continual drought of the past two years has also taken its toll on this spruce. The combination of age and drought has left many of the mature spruce in Bridgewater looking poor.

The best solution is to begin planting young evergreens to replace these declining trees in the coming decades. While Colorado spruce can be part of the new planting, other trees such as white spruce (*Picea glauca*), ponderosa pine (*Pinus ponderosa*) and eastern white pine (*Pinus strobus*) should be included.

While waiting for the new planting to achieve sufficient height to become landscape plants, the old trees should be watered to prolong their lives. Pruning declining branches should also be part of the management to extend the life of the older trees.

## *Minnehaha County, Diplodia tip blight*

This was a stop that shows why samples, while helpful, sometimes require site visits to confirm a problem. The sample sent in showed no signs of insects, mites, or pathogens. The sample was a plastic bag filled with healthy shoots and needles.

The tree is an Austrian pine (*Pinus nigra*), one of several in a row. There was also a stump next to the tree of an Austrian pine that was removed. The Austrian pine of concern had much of the canopy filled with declining branches with stunted shoot tips and hanging dead branches. The only portion of the tree left unaffected was the upper canopy.

These are classic symptoms of diplodia tip blight (*Diplodia sapinea*). This is the most common shoot disease of two-needled pines. Austrian pines of cone-bearing age (20 years or more) are very susceptible to this disease.

Management of this disease is two-fold, improve tree health and treat the disease. The best means of improving tree health is with a garden hose. The trees need to be watered this summer if the drought continues. Healthy trees can survive an infection.

Managing the disease is also an important strategy. This is through fungicide applications applied to the new shoots as they are forming in the spring. The most common fungicides used for management of diplodia tip blight contain chlorothalonil, propiconazole or thiophanate-methyl or a combination of these active ingredients. The specific product used must be labeled for control of this disease.

The first application is made as the buds swell in the spring but before the bud sheaths have broken. Two more applications are made at 10- to 14-day intervals. These applications slow the infection, not eliminate the disease.