

Pest Update (September 25, 2019)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insects from other states. If you live outside of South Dakota and have a question, instead please send a digital picture of the pest or problem.

Available on the net at:

<http://sdda.sd.gov/conservation-forestry/forest-health/tree-pest-alerts/>

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 and the label is the final authority for a product's use on a particular 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.

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Plant development for the growing season



The weather remains wet and warmer than normal. While there are some areas of the state that are dry, many are too wet. This continual wet weather is not a plus for trees or most other plants. It is still “fooling” plants into thinking it is spring. Many spring-flowering shrubs such as this forsythia are in full bloom.

Timely Topics



We have just entered the autumn color period so just a couple of items relating to this seasonal phenomenon. First, the color changes begin in response to the shortening days and cooler temperatures. Leaves stop producing chlorophyll (the green color) and some trees species begin producing anthocyanin (the red-purple colors). Yellows (carotene and xanthophylls pigments) also begin to appear, but not because the tree is

beginning to produce them – in fact they are always present – but because as chlorophyll disintegrates these pigments are unmasked.

Trees noted for their brilliant red fall color include red and sugar/black maples (pictured above) as well as the freeman maples, serviceberry, sumac, and red oaks. Trees that have bright yellow fall color include ginkgo, quaking aspen and pear (pictured to right) as well as ‘Harvest gold’ linden. Catalpa, sycamore and black locust have little color change and their leaves drop as a dirty brown.



Fall color is best when we have combination of dry, sunny and cool weather during autumn and we have a long period of this weather. Our first frost often comes too early and many trees have not colored yet. Rainy, cloudy weather will reduce the intensity of fall color as well as an early hard frost. Unfortunately, this autumn is beginning as warm and wet, so unless we see a change soon, we may not have much fall color to notice.

And a related color change....

There have been lots of calls, emails, and samples of pines losing needles in the last week.



This is the normal shedding of the older needles that occurs every year at about this time. Most pines shed their three-year old needles in September and early October. This is usually not a concern as the needles fall over an extended time period and often goes unnoticed by the tree owner. This autumn the pines are shedding their needles very quickly and it is common to see mature pines with a thick layer of fallen needles beneath them. Regardless this is usually not a cause for concern or alarm. If the needles are falling from the interior, it is just the normal shedding and a normal process of preparing for winter.

Trees uprooted by the Sioux Falls tornado

The narrow rooting volume available to street trees leaves them vulnerable to failure. Trees stand not because they are like carrots and have a single deep root, tap roots are a rare phenomenon in trees and then only in a few tropic species, but because they have a shallow and wide spreading roots system that anchors itself to the soil. When the spread of the roots is restricted, tree failure become a likely possibility.



Staking leaning trees



Some young trees were also left leaning because of the combination of high winds and small root systems. Young trees that were leaning after the storm can be righted, though the long-term survival is depended on the number of roots injured, an unknown.

This is an excellent example of an attempt to straighten a young street tree. The tree is being supported by two guys anchored towards the windward side of the tree – opposite the direction of lean. The guys are attached to the tree in wide bands to reduce the stress at a single point on the trunk and they are placed at less than $\frac{2}{3}$ s the height.



Trees should be righted at once, rather than gradually pulled into a vertical position. Trees that are righted

should be assumed to have suffered root injury and watered the following year (if dried that this year) and mulched to reduce grass competition.

Carry-over concerns with clopyralid herbicides

I received an email last week asking about burning down Round-up Ready alfalfa so a new windbreak could be planted next spring. The question was on the risk of using a herbicide containing clopyralid this fall. I like this type of question. Better to ask in advance rather risk a producer calling me about dead seedlings next year.

The short answer is no. First, clopyralid herbicides can be deadly on all legumes, so planting next year with peashrub and honeylocust, among others, is out as the toxic concentrations of the herbicide can last through the entire growing season. Conifers are also sensitive and may be injured. And second, while other trees are not specifically listed on the label as cautions, I have seen other hardwood seedlings, such as hackberry, suffer significant mortality when planted the spring following an application. Best not to risk the use of this herbicide.

The old solution would have been glyphosate, but the widespread use of Round-Up ready plants eliminates that as an option. 2,4-D and Dicamba is an option but only if applied earlier in the season as dicamba also has carry-over problems. The ester form of 2,4-D at the highest allowed rate may be the best option at this point in the season.

E-samples



Cottonwoods are shedding twigs along with the leaves this autumn. This is not a fungal or bacterial infection or an insect or mite infestation but a normal process from some species including cottonwood. Cladoptosis is the shedding of branches by abscission and occurs through a well-defined abscission zone that was clearly visible at the base of the branches, almost a ball and socket arrangement. Cladoptosis occurs in response to stress, saturated soils this year,

and aging – both a factor in this instance – and typically occurs in autumn or spring. It is most common on cottonwoods, poplars, and willows.

Dogwood sawfly (*Macremphytus tarsatus*) is still defoliating dogwoods in eastern South Dakota. Generally, the shrub is almost completely defoliated before the owners notice the problem and by then the sawflies are gone. Rick, one of the urban and community foresters with the South Dakota Department of Agriculture, took the picture (page 5) of larvae he collected from a shrub in Sioux Falls last week.



The larvae are about an inch long and most are a creamy white with mottled black marks along the body. They go through a series of color changes during their development so you can even find some darker ones.

The larvae will soon be dropping to the ground to find a place to pupate for the winter. Unfortunately, they like to create a

pupa chamber in logs or landscape timbers so they may bore a little into the wood. If you have a lot of larvae, they can degrade any landscape timbers near dogwoods.

Since the larvae are almost finished feeding there is not much value in spraying. However, next year if the larvae are noticed on the plants (and they do not always appear on the same plant from year to year) in August, spraying with an insecticide containing Carbaryl or Malathion as the active ingredient and labelled for this use will eliminate most of the insects before they do much damage.



An **eastern tiger swallowtail** (*Papilio glaucus*) larva was photographed on a chokecherry last week. The female butterfly lays a single green egg on the leaves of a woody plant, cherry seems to be a favorite. The eggs soon hatch, and the caterpillar emerges. The young caterpillar is brown and white, but the colors change as it matures. The older caterpillars are green with orange and black false eyespots. The spots are a

deceptive coloration that fools predators (birds) into thinking the caterpillar is a larger animal and not worth attacking.



Oak lace bug (*Corythucha arcuata*) is causing leaf discoloration of bur oaks. I received a picture from Rick of oak leaves with stippling injury caused by this insect as well as some of the insects. Lace bugs, both the nymphs and adults, feed by sucking sap from the foliage leaving small stipples in the leaf surface. The lower surface of these discolored leaves will often be covered with small powdered-like dust, the frass or excrement from the insects. At this time of year most of the

damage is done and treatments are probably not warranted. Insecticides containing Carbaryl or Malathion may be used next year. These should be applied in late spring, about the middle of May, just after the oak leaves have opened. The lace bug eggs begin hatching at that time and the nymphs will begin feeding on the leaves. We can have two generations per year. The first adults were out feeding in June and July and the adults seen now are the second for the season.

Samples received/site visits

Bon Homme County

Why is this spruce dying?



I can only go by what was in the sample, but the branches submitted had cytospora canker, a branch and trunk disease that often is associated with the decline and death of the lower branches and sometimes the entire tree. If you investigate the interior of the tree, you might notice small patches of bluish-white resin, almost looks like bird droppings, on the branches. This is a sign of the disease. Unfortunately, there are no effective controls for the disease, particularly for mature trees.

The only options are to remove dead and dying branches to help slow the spread of the disease within the tree. Cambistat, applied as a growth-regulator, has also been shown to slow the decline of a mature spruce that is not yet presenting symptoms. This chemical is available through commercial pesticide applicators and must be applied every few years.

Miner County

What are these insects on the needles?



These turned out to be the spotted pine aphid (*Eulachnus agilis*). This is a small green aphid with black spots on their body. They feed only on pine needles and live by sucking the sap from the foliage. This results in the needles prematurely turning yellow and being shed. The population is only on a few branches, so no treatment is necessary. The natural enemies, and they have plenty, will regulate the population better than a spray.

What is wrong with these pines?



This is an eastern white pine (*Pinus strobus*) and the white, fuzzy, material on the trunk between whorls is the pine bark adelgid (*Pineus strobi*). This is a sucking insect that is found on white pines (a five-needled pine) throughout eastern South Dakota. The white filament covering the insects can be found on trunks, sometimes covering the entire trunk except at the whorls!

The overwintering females can be treated before they lay eggs with an early April spray of horticultural oils or insecticidal soap. Even a high-pressure stream of water may be enough to reduce the population, and this may be the best option as the insect rarely reaches a population size to injury trees in our state. However, this is a very heavy infestation and oils may be necessary.

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