South Dakota State University Extension

Tree Pest Alert

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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

Our temperatures are average for the season with daytime temperatures in the 50s and 60s and nights dropping to around freezing. Many folks had to start scrapping their car windshields in the morning. We will have a few chilly days ahead with snow, but periods of warm weather are also coming.

The mild temperatures slowed the accumulated growing degree days (GDD base-50). We only accumulated another 60 to 90 GDD during the past two weeks. Here is the current GDD accumulation for communities across the state.

Aberdeen	3038
Beresford	3630
Chamberlain	3662
Rapid City	2990
Sioux Falls	3591

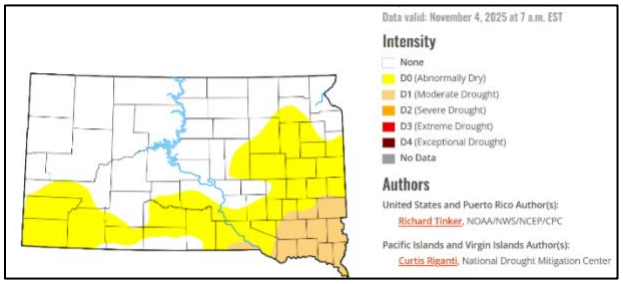
While October started out with temperatures in the 80s and even a few 90s, it gradually dropped to cooler days and cold nights. This slow decline in temperatures allowed trees and shrubs to begin the acclimation process to survive the winter.

This is quite different from October of 1991 – the famous Halloween Freeze. The October weather was warm with highs in the 50s to 80s, but on Halloween the night temperatures plummeted to below zero. This was hard on Trick-or-Treaters and our trees. The abrupt change from mild to subzero temperatures resulted in "winter" kill across the state.

Drought monitoring

We are still sliding back into drought. Slightly less than 60 percent of the state is now drought free. Another 30 percent of the state is classified as “Abnormally Dry.” The southeastern corner of the state has been classified as “Moderate Drought.”

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



Treatments to Begin in a few weeks

We will soon be putting up the Christmas tree

It is time to start thinking of Christmas trees! The traditional time to put the tree up is around Thanksgiving. Black Friday is also Green Friday as it is typically the day with the highest sales of natural Christmas trees.

Since that day is still a few weeks away we will cover our traditional update on selection and caring for a real Christmas tree in the next issue of the *Pest Alert*.

There is a Christmas tree that has already been harvested – the Capitol Christmas tree. The Colorado blue spruce was harvested from Florence last Monday. The tree was planted 21 years ago – the owner still had receipt. While the tree was perfect for many years, it was now a little too big for its location.

The tree is now in Pierre and being prepared for its seasonal display. I hope everyone will come over to the Capitol to see it!

Timely Topics

Emerald ash borer update

We continue to monitor larval development of emerald ash borer (EAB) from Dakota Dunes to Milbank. The majority are in their overwinter J-shaped form, curled in their protective chamber within the outer sapwood. They will spend the winter in this resting state. They can survive the cold by increase the glycerol – an alcohol – to prevent the cells from freezing.

The larvae will spend the winter napping in their chamber and filled with spiked eggnog. We will need temperatures -30^{o}F or colder for several days this coming winter to kill many of them. This is not likely to happen.

A reminder about buying firewood

Many homeowners are stocking up for firewood for the winter. Rather than going through their local newspaper for sources, the internet has made firewood only a click away. You can even buy firewood from Amazon, where 1.5 cubic feet of seasoned, split aromatic juniper firewood sells for $68, the equivalent of $5,800 per cord!

Most of us would rather pay far less for a cord so we look on Craigslist or other internet source. These sources have users selling firewood in eastern South Dakota for about $70 to $150 per pick-up load. A pickup box holds about 1/3 to 2/3 of a cord depending how high it is stacked. Some sellers are offering a “heaping” pickup box of wood but what does heaping mean – nothing, as it has no legal meeting.

It is better to buy firewood wood as cords. A cord is a wood volume 4 feet tall, 4 feet wide and 8 feet long. The online firewood offerings are for about $200 to $300 a cord of ash. Kiln-dried firewood, which has the water driven out of the wood, is selling for about $700 a cord.

The concern is where this wood is coming from. Some sellers are in South Dakota and Minnesota Counties that are under EAB quarantine. No hardwood firewood can be moved out of those counties unless it is Minnesota Department of Agriculture, South Dakota Department of Agriculture and Natural Resource or USDA certified.

Rake or not rake?

The argument in many neighborhoods is whether to leave the leaves on the lawns or rake them up. If there are only small, scattered patches of dried leaves on the lawn these can just be mowed. The lawn mower will break these down into small particles that will quickly decompose. This returns elements to the soil and improves soil health.

If leaves are covering more than about a fifth of the lawn, or all the lawn, it is best to rake them up. The thick layer of leaves can block sunlight and air, resulting in yellow, molding turf come spring. This is especially a problem with leaves that mat such as maples. Leaves that dry out quickly and break into smaller pieces such as oaks, it is less of a concern.

E-samples

Arborvitae turning color

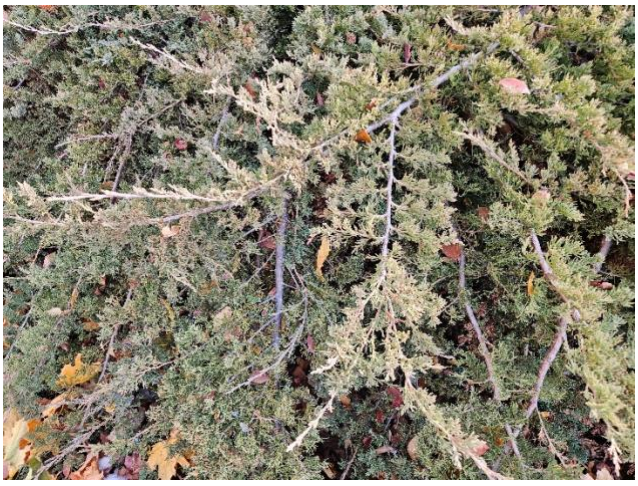
Evergreens are not forever green. They shed their older foliage in the fall. Years with dry, sunny weather, such as this year, the foliage will turn yellow before shedding. The ribbons of yellow among all the green fan-like foliage in arborvitae (*Thuja occidentalis*) are a cause of concern to the owners. The change in color is normal, just a little brighter this year.

Junipers are also turning color

I had a couple of calls and pictures of junipers turning color. This color change is not associated with shedding foliage as described for arborvitae. Many junipers have a color change as they enter the winter.

Eastern redcedars (*Juniperus virginiana*), Chinese junipers (*J. chinesis* syn *J.* x *media*) and Savin (*J. sabina*) (picture below) all may turn yellowish brown once the weather turns cold. It is not attractive, but they will green up again in the spring.

Creeping juniper (*J. horizontalis*) (picture below) and Rocky Mountain juniper (*J. scopulorum*) may turn almost purple during the autumn. This color change can even be described as pretty.

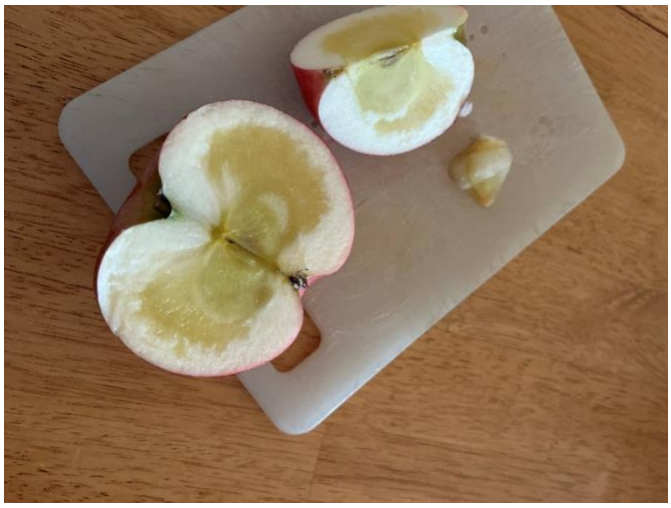


Watercore in apples

If you cut into an apple with a translucent, water-soaked center, it is due to a disorder called watercore This is caused by the accumulation of fluid filled with sorbitol, a sugar alcohol. This soaks up water and gives a glassy appearance to the interior of the apple. There is no outward appearance of the disorder.

The sugar-alcohol content leads to browning of interior flesh. It also results in fermentation of the core. Not appetizing to people but hornets like the sweet, rotting fruit.

The reasons for watercore are not entirely clear. It is more common in later ripening fruit cultivars. It is also most common in over-ripe fruit. Another reason to pick apples when they are ripe.



Samples received/Site visits

Codington County, Ganoderma conks on trees

The tree owner noticed their declining tree had some “growths” on the lower trunk. These were about 1-foot wide, shelf-like, with a shiny reddish-brown appearance. These are the fruiting bodies to Ganoderma rot, also known as Ganoderma butt rot.

This is a heartwood decay fungus. Once the fruiting bodies appear, the decay is already present. Infected trees slowly decline. They may die within a decade of the conks appearing, but they often fall over first.

There is no control or treatment for the decay in the tree. Removing the conks does not control the disease. These are only the fruiting bodies that produce spores. The thread-like body of the fungus is lacing through the interior of the tree. There are no means of killing the fungus.

Lincoln County, Eastern tent caterpillar

This was a stop to look at an American plum (*Prunus americana*) thicket. The thicket was defoliated by small worms this past spring. They wondered if the worms would appear again this coming spring.

The insects were the eastern tent caterpillar (*Malacosoma americanum*). The remnants of last spring’s tents are still visible in the branches. This insect forms colonies of caterpillars. These larvae are black with a white stripe down the spine and yellow and brown lines along the sides. They are also covered with fine hair.

The adult moths fly in the fall so the eggs that will hatch next spring are already on the hosts. The insects seek out trees in the Rose family so apples, cherries and plums are usually the trees defoliated.

The egg masses on these hosts are easily found at this time of year. They appear as shiny, glass-like masses near the shoot tips. There will be small dimples in the mass that are the individual eggs. If these egg masses are pruned off the trees and destroyed (not just thrown on the ground), the spring defoliation can be prevented.

The old egg masses – the ones that the caterpillars hatched out this past spring – are also on the hosts. These are much darker and lack the shine of the new masses. These old egg masses do not need to be removed.

Minnehaha County, Weir’s cushion rust

The last issue of the *Pest Alert* included an e-sample on Weir’s cushion rust (*Ceropsora weirii* (formerly *Chrysomyxa weirii*). This fungal disease results in spotting along spruce needles. The yellow spots and bands along the needles are appearing on infected trees this fall.

The disease infects the new foliage in the spring. The infected needles develop yellow spots and bands by fall. They turn even brighter gold in the spring when small pustules appear which release the spores. The infected needles fall that summer. Trees that are infected every year will appear thin and open.

Management is by fungicide applications to protect the new foliage from becoming infected. The first application is made when the buds begin to open with two more applications applied about 10 days apart. Use a chlorothalonil fungicide that is labelled for this use.