

Pest Update (December 14-21, 2016)

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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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Timely Topics

Selecting firewood

This is the time of the year where many people enjoy sitting around a fire. A roaring fire provides a cheery way to spend a cold winter evening. However if you choose the wrong firewood, it could become a smoky evening with little heat but lots of sparks flying from wood that has a musky odor. You have to star with the right wood.

Firewood differ in heat value as well as the color of their flame, fragrance, and sparking depending on the species. Crabapple and apple have the most colorful flames, walnut is one of the most fragrant and bur oak produces few sparks.

The most important characteristic for many homeowners is not the color or fragrance, but the heat value. Here is the ranking of some of the most common South Dakota firewood species by heat value (in million BTUs per cord of seasoned wood) along with smoke and sparks.

Species	BTUs ¹ (million per cord)	smoke	sparks
Bur oak	25	Low	Few
Mulberry	25	Moderate	Many
Honeylocust	24	Low	Few
Sugar maple	24	Heavy	None to few
Black walnut	22	Low	None
Apple and Crabapple	21	Low	Few
Birch	21	Moderate	Few
Redcedar/Rocky Mt Juniper	21	Moderate	Many
Green ash	20	Low	Few
Hackberry	20	Low	Few
American elm	19	Moderate	Few
Boxelder	17	Moderate	Few
Willow	17	Low	Few
Spruce	16	Low	Many
Ponderosa pine	15	Moderate	Moderate
Aspen	14	Moderate	None to few
Cottonwood	14	Moderate	Few
Basswood	13	Moderate	Few

¹ BTU stands for British thermal unit, the unit of energy required to increase the temperature of one pound of water from 60 to 61°F. A gallon of propane is the equivalent of 100,000 BTU's so a cord of green ash has the heat equivalent of about 200 gallons of propane.

As you can see from the list, oak will generate almost twice the heat as basswood or cottonwood. Sales of 'mixed hardwood' often contain a high proportion of cottonwood mixed with a little ash and elm. This is going to burn fairly quickly without generating a lot of heat.



Cottonwoods are best for kindling as they burn readily but to keep the fire going oaks and honeylocust are among the best.

Firewood should always be purchased by the cord or as a fraction of a cord. A cord is a stack of wood 4 feet wide, 4 feet high and 8 feet long, or similar dimensions, that containing 128 cubic feet of space. This will

usually mean about 70 to 80 cubic feet of solid wood once the air space between pieces is subtracted. If you buy firewood by the cord you are purchasing a known quantity of wood. If you buy by the pick-up load, you getting a range of possibilities. Most pick-ups with a 6-foot bed hold about a fourth of a cord while an 8-foot bed may hold a third of a cord. You can find pick-up loads of wood being advertised for around \$60 to \$90 this fall and winter while a cord may cost \$240 or even more depending upon the species. A pick-up load may sound like the better bargain since it is cheaper but remember you are getting about three to four times the amount of wood with a cord.

These are prices for the eastern side of the state. There are numerous firewood sellers in the Black Hills selling pine for about \$150 to \$200 a cord. Pine is not the best firewood. It does not generate much heat compared to other species. It does generate a lot of sparks so a fireplace screen is essential.



Also, regardless of species, be sure to buy seasoned firewood. This is wood that has been split, stored off the ground and protected from the elements for at least nine months. After this time period, the wood has a moisture content of less than 28 percent so it should burn long and hot rather than steam and smoke in the fireplace. A quick way to check if the wood is dry is to examine pieces and see if they

have cracks and splits. As wood dries, it shrinks so cracks will appear in the end of the split pieces.

Finally buy any firewood from local sources. The most likely potential source of emerald ash borer, an invasive insect already responsible for the loss of more than 50 million ash trees across the Midwest, is from out-of-state firewood. Purchasing firewood that has been harvested within the state is one of the best means of preventing the introduction of this insect to our state's communities and forests.

E-samples



Just one and it looks like a picture of **pine wilt disease**. This disease is caused by a nematode *Bursaphelenchus xylophilus*, which colonizes the sapwood of conifers though can also survive in dead trees and even logs. The nematodes are introduced into a tree by longhorned beetles. The beetles can carry thousands of nemtodes from a infected tree or log and these small roundworms leave through host while it is feeding on the needles or laying eggs in the bark. Once in the tree, the nematode population quickly grows as they feed in the resin ducts and

xylem. The nematodes, and their associated bacteria, also introduce a toxin which hasten the death of cells. The infested trees foliage yellows by mid to late summer and then wilts but remains attached to the shoots. The disease causes symptoms only in exotic pines so we see it mostly on Scots pine (*Pinus sylvestris*) as well as Austrian pine (*P. nigra*) and occasionally even mugo pine (*P. mugo*). While there are preventative treatments, once the tree begins to present symptoms the only option is removal and destroy the wood before the longhorned beetles emerge the following spring.

Samples received/site visits

Yankton County

Are these termites in the wood?



Not likely, the destructive subterranean termites feed in the spring wood rather than the summer wood for a growth ring so there is usually a layer appearance to the boring. The drywood termite will feed in both the spring and summer wood but their boring usually is filled with small 6-side fecal pellets.

Powerpost beetles, a general name given to several different wood borer insects, make small holes and these tunnels are filled with a dry, almost talc-like powder. The powder is easy to knock out of the wood. The holes in this wood sample appear to be made by a powerpost beetle and it looks like an old infestation as much of the powder has disappeared from the holes. Powerpost beetles are not a threat to finished wood but can invade untreated wood.

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