

Pest Update (Oct 16-23, 2013)

Vol. 11, no. 31

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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. **Walnut samples may not be sent from any location – please provide a picture!**

Available on the net at:

<http://sdda.sd.gov/conservation-forestry/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 product identified in this publication.

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Timely Topics

The increase in home heating cost has renewed interest in the use of wood as a fuel. You can find advertisements offering firewood anywhere from \$100 to \$400

or more a load but the species of wood, whether it is seasoned and how the load is measured all determines the true value.



The value of different tree species as firewood. Tree species differ in the heat value of their wood as well as the color of the flame, fragrance and amount of sparks. Crabapple and apple have one of the prettiest flames and maple one of the smokiest, while cottonwood goes to ash fairly quickly. Pine and spruce produce a lot of sparks. Apple has a nice fragrance and some woods, such as catalpa, can even have a bad odor. The most

important factor for many homeowners is not the color or fragrance but the heat so here is the ranking of fuel woods in million BTUs per cord of seasoned wood.

| 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 is going to generate almost twice the heat as basswood or cottonwood so you can expect to pay much more for oak. Sales of 'mixed hardwood' often contain mostly cottonwood with a little ash – it's mostly go'fer wood meaning you are always "going for" more as it burns quickly! Cottonwoods are best for kindling as they burn readily but to keep the fire going oaks and honeylocust are among the best.

You should always buy firewood 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 containing 128 cubic feet of space and about 70 to 80 cubic feet of solid wood. If you buy firewood by the cord you are purchasing a known quantity of wood. If you buy by the pick-up load or face cord, you are getting a range of possibilities and it will be difficult to make comparisons among seller. Most pick-ups with a 6-foot bed hold about a fourth or fifth of a cord while an 8-foot bed may hold a third of a cord. A face cord usually contains about one-fourth to one-third a cord but this can vary among sellers. You can find pick-up loads of wood being advertised for around \$100 while a true cord may cost \$300 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 five times the amount of wood with a cord.

Be sure to buy seasoned firewood. This is wood that has been split and stored off the ground and protected from the elements for about nine months. After this time it will have moisture content of less than 28 percent so it should burn long and hot rather than steam and smoke in the fireplace.

E-samples



Another “What is this plant?” This is chokeberry, *Aronia melanocarpa*, a commonly planted shrub that is noted for its spring white flowers and deep red autumn foliage color. While the autumn color can be very attractive, it also tends to color late so sometimes an early frost browns the leaves before the color change. The plant is also known for its very sour fruit – hence the name chokeberry – that remains hanging on the shrub late into the year as even the birds do not seem to like them much (at least until the fruit goes through a number of freezes and thaws). However the fruit does make a nice jam and even juice.



I got in a couple of oak galls pictures, including this one sent in a couple of weeks ago. There are more than 200 different galls that form on oaks. These galls, sometimes mistaken for acorns that never fall, are generally due to the activity of one of the many oak gall wasps. Growth regulator chemicals secreted by the insect react with chemicals produced by the tree to form these galls. The galls are rich in protein and provide food (and shelter) for the larvae of the wasp as it develops. The galls are rarely harmful to the tree and most control measures are ineffective, as the life cycles

are poorly known for these insects. The most effective control, though often impractical, is to prune out the galls in the winter and destroy them, but the pruning may be more damaging to the tree than the galls!



I received a great picture of pine needle scale. This is a small white scale insect that removes the sap from the needles on pines and spruce. When the populations are high it almost appears as if the tree was “flocked.” Best management is either a horticultural (summer) oil or insecticidal soap about one week after Tartarian honeysuckle blooms and another application later in the year when hydrangea are in full bloom. The objective of these treatments is to kill the newly hatched crawlers before they settle and form the hard shell which protects them from pesticides. While there are many insecticides that can be used to kill the crawlers, however most (except for the ones mentioned above) tend to kill the natural enemies of the scale more than the scales so provide minimal control.

Samples received

Davison County



What is wrong with this spruce? The lower branches are dead.

There was nothing on the sample to indicate the problem. The tree may be losing the needles due to shading – it is normal for spruce to lose their lower interior needles due to low light levels. The other possibility is cytospora canker on these branches. Look for white resin blisters on the affected branches, if you see these it is probably canker.

Marshall County
leaves?



What is wrong with these apple

This is frog-eye leaf spot and one of the most common symptoms for this disease are concentric patterns of light brown to tan irregular circles appearing on the upper leaf surface. There will be tiny black dots in the center of these circles and these are the fruiting structures. The disease alone is not a threat to the tree; just discoloration of the leaves, but this is often associated with black rot, a serious canker disease that can result in branch dieback. Apple trees with leaves exhibiting these symptoms should be examined for small dark cankers on branches and if found, these infected branches should be removed.

McCook County

What is wrong with this apple tree? It produced lots of apples last year and none this year.

The problem may have been the late frost we experienced last spring (and snow!) that killed the flowers on many apple trees as they opened. The other possibility is that this particular apple tree is alternate-bearing. Some apple varieties such as 'Haralson' and 'Haralred' are known for producing a large crop of apples one year and almost none the next. While thinning out the young fruit during the "on" year helps damp this oscillation, it cannot entirely cure it. If the tree has regularly borne fruit each year until this year I would suspect the frost as a cause, otherwise it is probably just a tree that bears a big crop every other year.