

Pest Update (February 3-10, 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. **Walnut samples may not be sent from any location – please provide a picture!**

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

Rapid City may see 70°F this week and much of the rest of the state might see temperatures in the 40's and 50's during the day. Whether this is a sign that winter is behind us or just Mother Nature playing with us, time will tell.

Regardless, we are seeing maple sap flow starting a little earlier. I noticed yesterday that some broken maple branches were producing "sap sickles."

It is maple syrup time!

The syrup season may be starting a little early this year! Sap really begins to run when the day temperatures are about 45°F, the nights between 15 and 25°F and the soils are moist (better still if snow covered). It looks like we will have these conditions for the entire state for the next week. The sap flow will probably stop as the weather cools but start again with warmer weather in March. However, you probably will have to drill new holes, the ones done in February may seal.



The best candidates for tapping are sugar maples but these are few and far between in South Dakota. Sugar maple, as the name implies, produce the sweetest sap and this sap may contain anywhere from 2 to 6 percent sugar. The general rule for boiling down to a syrup for sugar maple is a ratio of 30 to 35 to 1, meaning 30 to 35 gallons of sap will boil down to 1 gallon of syrup. Sugar maples have dark brown bark with vertical grooves and flat plates.



Other maple species often produce sap not as sweet and it will take more sap to produce the same quantity of syrup. Silver maples, for example, sap has about 2 to 4 percent sugar and it may require 35 to 50 gallons of sap to make 1 gallon of syrup (though there are silver maples in our state with as sweet of sap as sugar maples) and the sap may be cloudy (though the one at my house produced clear sap). Silver maple bark breaks into long narrow scales giving the trunk a shaggy appearance.

Boxelder, another maple species found in the region, has a ratio anywhere from 40 to 80 gallons of sap to a gallon of syrup as the sap sugar content is often about 2 to 4 percent. There are some "sweet" boxelders (5% sugar) out there, sweet enough that the Lakota tapped these trees, but there are also a lot that have sorghum-like flavor.

Regardless of species, the best tree to tap are large, healthy, open-grown trees. The tree needs to be at least 10 inches in diameter (measured at 4.5 feet above the ground) and larger is even better. It should be in a sunny location so the tree had the opportunity to make plenty of sugar the previous season. The tree must also be free of large dead limbs and trunk decay. Trees with large dead limbs attached to the trunk and other signs of rot such as cavities and hollow branch stubs should not be used as drilling holes in these trees may increase decay.



Commercial spouts, called spiles, can be purchased on-line or you can make your own. Copper and plastic are common homemade material but keep in mind that any material must be food-grade and copper can be toxic if left in the tree longer than the sap season. The homemade tap can be made by cutting 5/16 to 7/16-inch tubing into a 3 inch length. Drill a hole of equal diameter about 2 inches into the tree,

slanted slightly upward as you drill in for better flow. The wood coming out of the hole should be cream or white color indicating it is in the sapwood, not dark which means the hole went too deep and entered discolored wood. Tap the tubing about 1 ½ inch into the hole. A ship auger bit on a carpenter brace is the best drill to use but any electric drill with a wood bit will work. The hole should be placed about 3 to 5 feet above the ground and the number of taps that can be placed into a tree is based upon the tree's diameter. A 10-inch diameter tree can have a single tap; a 15-to 20-inch diameter tree 2 taps. While commercial producers may put 3 taps into tree more than 20-inches, you probably do not need to produce that much. Do not place taps closer than about 10 inches from another tap. Also do not tap within 6 inches to the side of where you tapped the year before and never place a tap above or below a previous tap. Tapping too close to the previous year's tap or above or below may lead to tree decay. Also if you are only doing one tap, place it on the sunny side of tree.



Place a food-grade bucket (plastic or metal) beneath the tap. You'll probably have to hang the bucket from a nail and put a cover over most of the bucket to reduce debris from collecting in the sap (but be sure the sap can drip into the bucket). The sap flow may be over several hours during a day and it should be removed daily or more frequently as the sap can spoil if left in the warm sun. Once the sap begins to flow it may continue for anywhere from two to six weeks. The early season's sap is light and mild. As the season progresses the sap becomes darker and stronger flavored. The season ends when the buds are beginning to expand, the sap become cloudy and develops a "butterscotch" off-flavor. Once the season is finished, remove the spout from the tree. Do not place anything into

the hole and do not use the same hole or drill one directly above or below it the following year.

During the sap run a tap may produce anywhere from a quart to a gallon or more of sap per day, though on cool day none may run and on a sunny day you might get even more. A single tap may produce from five to twenty gallons of sap during the season. Most trees are not going to produce enough sap to make much maple syrup and boiling it down is not an easy task. The best use for the sap may be for your coffee or cooking. The raw sap can be kept for a day or two in the refrigerator. I like to use it for my coffee water in the morning. The raw sap, run through a cheesecloth, adds just enough sweetness for my taste and even gives a slight maple flavor to the coffee (and it's another excuse to drink a quart or more of coffee a day).



Tent caterpillars. Now is the time to check that small fruit tree in your yard for tent caterpillar egg masses. Small crabapples, plums and cherries are often defoliated by these insects in late spring. But a little time spent now pruning away egg masses can avoid the need to spray later. The adults laid the eggs late last summer and these can be easily seen on the small twigs. Look for small, about $\frac{1}{4}$ -inch long, masses of eggs around the

small twigs near the tips of branches. The egg masses often appear as molten glass completely encircling the twigs. The small twigs holding the egg masses should be pruned off and the egg masses destroyed. You can throw them in the trash or crush them, just don't throw the twigs on the ground as the larvae may still hatch and crawl back up the tree this spring. It is important to distinguish between new egg masses, those with viable eggs, and the older egg masses. The older egg masses, those that hatched years ago, will appear gray and have many small holes in them. These can be left on the tree. Most small fruit trees only have a few eggs masses on them so this is not a difficult chore but if you let it go, you'll remember when the webs have formed and it's too late!



Pollination

Lots of gardeners are going through their catalog searching for fruits trees. However, pollination requirement must be consider when selecting a specific

fruit. Pollination involves the transfer of pollen from the stamens, the male part of a flower, to the pistil, the female part of the flower. The transfer of pollen for most fruit trees is accomplished by bees while for many nut trees wind serves this function.



Some fruit and nut trees are self-fruitful meaning that the pollen from the flowers can pollinate flowers on the same tree. These trees are called self-fruitful. Other species are self-unfruitful meaning they will not accept pollen from flowers on the same tree. It's not that the trees are different gender – I use to get shopper coming in to the garden center asking for a “boy” or “girl” tree – it's that they have mechanisms to prevent them from

accepting their own pollen.

If a tree is self-unfruitful it means you have to have two different trees of the same species for fruit to develop; two different apples or pears for example. This can become a little complicated as we plant cultivars, clones with known characteristics. No one plants apple trees grown from seed but instead named cultivars such as ‘Sweet Sixteen’ or ‘Haralson’ so we know the fruiting characteristics. Every tree of the same cultivar is genetically identical meaning they are the same tree. If you plant two trees that are the same cultivar they will not pollinate one another. You need two different cultivars.

If the trees require bees for pollinator the two trees should be within 200 feet of one another and ideally within 50 feet, Trees that wind pollinated should be within 50 feet of one another.

Fruit trees

Self-fruitful

Apricot (note: the cultivars ‘Moongold’ and ‘Sungold’ are self-unfruitful)

European plum

Nectarine

Peach

Sour cherry

Self-unfruitful

Apple

Crabapples (apples and crabapples can serve as pollinators for one another)

Hybrid plums (including Japanese)

Nanking cherry

Pear

Sweet cherry

Nut trees

All nut trees are *self-unfruitful* requiring two different cultivars or trees for nut production.

Filbert

Hazelnut

Hickory

Walnut



Forcing flowers to bloom indoors.

Frequent readers of the *Update* may remember I started forcing a forsythia into bloom a little more than two weeks ago. It worked. The canes were in full bloom about four days ago. I did not get a picture of the display but managed to take one today of the fading flowers. Forsythias are some of the easiest flower shrubs to force and if someone starts one this late into the season, the flowers should be beginning to bloom in about 10 days or so. This is a great way to get the jump on spring!

E-samples



Bagworms (*Thyridopteryx ephemeraeformis*) are not a common sight in South Dakota, certainly not to the extent that I saw when I worked from Michigan to Maine. Actually seeing a few makes me a little homesick. So I was delighted to get a cell phone picture of bags hanging from a blue spruce down in Yankton with the question "What are these?" This is where I expect to get an occasional picture or sample as this is our "banana belt" an area that is part of the USDA Plant Hardiness Zone 5. Bagworms are named from the bags of silk, twigs and foliage that the larvae construct during late summer. This is not a house, as much as a mobile home that the larvae carries with them as they feed about the tree. Eventually they settle down to one twig, the bag become stationary and inside the insect pupates and become adults. The unusual fact to the bags is you will find the adult insects within them. "Mom" doesn't fly, she is even wingless, living her entire life within this small home (without the benefit of Wi-Fi even). The eggs are the overwintering stage and these typically hatch in May. The insects are more a curiosity but they can occasionally completely defoliate arborvitae and junipers. I rarely see more than a few bags on a spruce. The easiest management at this time of year is simply to remove and destroy the bags

Samples received

Brookings County

we cut down. Is this decay?

I noticed this staining inside this boxelder

This discoloration of the sapwood is known as red stain. The red staining was once thought to be due to a fungus but further work has shown that it may be due to the host response to an infection. The red stained wood is highly prized by wood workers for vases and bowls. The infection and staining does not appear to harm the tree.

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