Pest Update (April 24, 2013)

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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/

Timely Topics – winter continues!

Our cold and snowy April is coming to an end and let's all hope we have at least a little spring before moving on to summer. If you want to see how this year compares to the past 10 years, look at crabapple development and, just to show everyone is enduring a late spring, corn planting trends in neighboring Minnesota.

Year	Crabapples[1]	Corn planted[2]
2004	Buds still tight	20%
2005	Leaves expanding	40%
2006	Beginning to flower	50%
2007	Buds just swelling	30%
2008	Beginning to flower	20%
2009	Leaves expanding	40%
2010	Full bloom	90%
2011	Buds still tight	10%
2012	Full bloom	50%
2013	Buds still tight	10%

[1] as seen in the majority of crabapples in Brookings, SD

[2] as reported by the *Star Tribute* 4/28/13 from Department of Agriculture statistics

Treatments now (and the cooler weather has bought you a little more time)…

Apple scab control first application should be on fairly soon to avoid discolored leaves and fruit and premature foliage drop later in the season. I usually begin receiving calls about apple scab in mid-July when it is far too late to do much about it. The young leaves are most susceptible within the first five days of unfolding so the most effective control is *early* control. Captan is the most common fungicide homeowners can use and can be used on crabapples and apples. Chlorothalonil and propriconazole can be used but *only* on ornamental crabapples, not trees in which the fruit will be harvested. First application is very soon, when the foliage buds are swelling followed by 2 or 3 more spaced 10 days to two weeks apart.

Update on pine bark beetles

The month long cold and snowy weather that persisted throughout much of the Black Hills during April has delayed the flight of the pine engraver beetle. The adults spend the winter beneath the bark of standing or down trees or in the litter beneath the tree. When we start having consistent warm weather (temperatures in the 60^{o}F) the adults begin flying. *This flight usually coincides with the leaves of apple trees beginning to open*. These adults actually prefer fresh slash (the branches and limbs left on the ground from recently felled trees). If the needles attached to these branches are still green, most likely the beetles will attack the slash and not the standing trees. However, during periods of drought, or if the slash is not available or has dried out, the beetles will attack trees. Treatment for the pine engraver beetle is the

same as the mountain pine beetle, a spray of an insecticide specifically labeled for bark beetle control. The only difference is the entire trees from the top of the canopy to the base of the trunk must be treated when treating for the engraver beetles. The mountain pine beetle only attacks the trunk and only from the base of the trunk to a height with the diameter is about 4 or 5 inches in diameter so less coverage is needed. Another difference is the spray to control pine engraver beetle must be applied now while treatments for just the mountain pine beetle can be delayed until sometime in May. A single treatment made now with coverage over the entire tree is sufficient to control both insects.

Problems with spraying trees for bark beetles

However the spray only works if done properly. This past week I inspected a legacy tree – a pine more than 200 years old (as determined by coring the tree and counting the rings) – that was attacked by mountain pine beetle last August. The trunk is covered with small, reddish pitch tubes and the canopy is just beginning to show browning needles. It is a shame to lose one of these monarchs, it is even more a shame when the tree owner paid a company to spray the tree last year to protect it from this fate. While situations such as this are rare in the Black Hills, as more people elect to have their trees protected by hiring a commercial company to spray them, these instances are becoming more common. The company in this particular situation treated the tree last April with a chemical labeled for bark beetle control, according to the bill sent to the tree owner, but obviously it did not work. While there is the possibility it was not even sprayed (the tree owner was not home at the time the application was made), more likely it was not sprayed thoroughly enough. Trees should be sprayed at the highest recommended rate, not the lowest, and the application must saturate the bark, not merely a light mist. Insufficient coverage or rate are the two biggest problems I have seen that result in lost trees.

Most tree owners are going to trust the commercial companies to do it right so a few reminders. If the price is low, be suspicious. I have seen prices at $4 to $10 a tree or less and since the cost of the pesticide to treat a tree sufficiently to protect it from bark beetles may be $5 to $7 it is hard to see how a company can charge rates this low without cutting corners. Depending upon the size of your trees, and the number of trees being treating, the cost is going to generally be between $12 and $28 a tree. Also check with friends and neighbors who may have had trees treated past year; did any of their sprayed trees become infested this past August or September?

E-samples

I have been getting many, many calls and emails about evergreens, particularly pine and spruce, turning brown or even red (as with this picture from Grant County). Most people mention the color change occurred over the past couple of weeks. Everyone is looking for something to spray but this is typically winter-burn, winter desiccation injury, and there is nothing that can be done to treat at this time. The majority of calls, emails and samples are coming from the southeast and central part of the state, areas that were hard hit by last summer's drought, and this resulted in trees being poorly prepared to survive the winter. I can see a big difference in foliage color in adjacent tree owner's trees. If the trees were watered last summer and autumn, they generally look good, if they were not watered, the trees are browning and even turning red. These same discolored trees often have stunted needles from last summer, another indication that they were water-stressed last year.

Spruces are not the only trees impacted by winter-burn. I have also received pictures and samples of pines (Jackson County above), again mostly from the southern and central part of the state, that also have discolored needles. The combination of the drought and long winter are taking their toll and I expect to receive more calls as the weather warms and people notice their evergreens are turning color.

Samples received

McPherson County **Noticed this spring that the spruce had needles with brown tips to them. This is the second tree to have these symptoms. They were transplanted about two years ago.**

Browning tips to the needles, particularly when there is an abrupt transition from green to brown, often is an indicator of an abiotic (non-living) stress. Winter injury on spruce often appears as browning needle tips that come dry and hard and if the injury was first noticed this spring, and then I suspect this is the cause for the discoloration. The injury may be limited to the top of the tree, one side or the entire tree. The relatively recent transplanting may have increased moisture stress that can intensify winter injury. I suggest mulching around the tree, a 2 to 3-inch layer of shredded pine bark is ideal, and water the tree during the coming summer. Winter injury can continue to intensify as the season progresses and it would not be too unusual for the tree to lose needles yet this summer from the injury.