Pest Update (June 20, 2012)

Vol. 10, no. 16

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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 in from any location – please provide a picture!**

Available on the net at:
http://sdda.sd.gov/Forestry/Educational-Information/PestAlert-Archives.aspx

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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Plant development

We are still ahead of plant development this year due to the mild winter and early spring however it seems like we are accelerating plant development! This week the Amur maackias are in bloom in Brookings, about three weeks ahead of schedule. They are just finished blooming in Yankton. .

Current concerns

Dutch elm disease is beginning to showing up across the state. The symptoms of Dutch elm disease are wilting and browning leaves, often throughout the canopy but sometimes restricted to an individual branch or limb. They trees expressing symptoms now were probably infected last year or even several years ago, sometimes by root grafts with near-by DED-infested trees that were not promptly removed. These early expression of symptoms are not usually due to new infections carried in by beetles. The symptoms of new infections started by beetle-carried spores generally occurs beginning in July and are often limited, at least initially to the leaves at the tips of branches turning yellow and wilting. Bark beetles and root grafts are the primary means by which the fungus spreads from host to host. The most effective community-wide effort is to quickly identify and remove DED-infested trees. The sooner infested trees are removed, the less likely the surrounding healthy elms will become infected. Individual, healthy trees can be protected from the disease by root-flare injections of either Arbortect or Alamo though these must be repeated every two to three years.

Mountain pine beetles are not flying yet

The mountain pine beetle is now mostly adults beneath the bark of the tree. This is the normal stage of development for the end of June. Since the beetles remain as adults beneath the bark for a few weeks, emergence is expected to begin in early to mid-July with the peak around the first week of August.

Pine engraver beetles are flying

The mountain pine beetle is not the only beetle that attacks pines in the Black Hills. The turpentine beetle (discussed in a previous *Update*, June 6) attacks near the base of the trunk, produces large reddish pitch masses, and is rarely a

serious threat to the tree. The other beetle is the pine engraver beetle, a smaller "cousin" to the mountain pine beetle and generally an insect that confines its attacks to slash – the green cut branches left on the ground during logging – or the tops of pines stressed by drought, fire, hail or lightning or attacked by the mountain pine beetle. The pine engraver, also known as Ips since the scientific name is *Ips pini*, populations appear to be on the increase after several years of low numbers. During the last drought the Ips populations were so high that the insect became a tree-killer. The populations once again are becoming high enough for the insect to kill pines. Many of the faders – pines with yellowing needles – in the southern Hills are colonized by pine engraver beetle, not mountain pine beetle. Once common means of separating the two are mountain pine beetle attacks usually results in pitch tubes occurring on the trunk while pine engraver beetle attack often generates just boring dust. It is possible to find just boring dust with mountain pine beetle and small pitch tubes with pine engraver so the best means to identify is removing the bark and looking for the galleries. Mountain pine beetle galleries are one large, usually vertical tunnel with numerous small tunnels coming perpendicular off it while pine engraver tunnels are 'Y' shaped with between 2 and 4 large tunnels coming from a common center.

Tasks to complete this week

Spruce bud scale crawlers are hatching. The scale resembles a small round, reddish bud and they can be found on near the tips of the branches where the side branches attach to the shoot. They, and their mobile young called crawlers, suck the sap from the shoots resulting in dieback and decline of the lower branches. Since these are soft scales they produce honeydew that results in a black, sooty appearance to the needles and twigs. The scales have one generation per year and the crawlers' hatch about the time littleleaf lindens are in bloom – meaning now. The time to control them is during the crawler stage. The best treatments are insecticides containing acephate or carbaryl as the active ingredient and applied on the foliage and shoots near the tips. Products containing imidapcloprid can be effective as a soil drench but need to be applied in the fall for control the following year.

We are also coming up to the time to treat for spruce needleminer. The needleminer (*Endothenia albolineana*) gets its name from it's the fact that the young larvae are so tiny they can live inside the needle, mining it as they feed. They eventually outgrow their home and then create a nest of webbed, detached

needles to live in. The larvae usually feed on the lower, exterior needles, almost stripping the tips of needles but they can also be found in the interior of the tree and even the tops of young trees. The adults are small moths that will begin flying soon and depositing eggs on the needles. Control is now generally acephate though carbaryl, is very effective. The trees should be treated this week as the adults begin to take flight.

E-samples

A foliage disease appearing a little early is tar spot (*Rhytisma*) on maples, particularly silver maple. The disease begins as small reddish spots that become raised, blacken and tarlike by midsummer. Treatments are not recommended as the disease does not show up every year and I doubt this year will be a bad one considering how dry the weather has become. The fungicide control for the disease is an application of a copper fungicide at bud-break then two more treatments spaced about three weeks apart.

We are also seeing some ash anthracnose appearing in the southeastern part of the state. This is a common fungal disease of ash during years with wet springs but this year – with our dry weather – I have seen very little of the disease. However a few calls and pictures are beginning to come in with the concerned tree owner wondering what to do. The disease rarely is a serious problem for the tree, just becomes a little uglier, and the only control is applying a fungicide in the spring as the buds open, a time long since passed.

And finally chlorosis is really beginning to show up around the state! I have seen numerous trees that have now turned a bright yellow. Usually if you look close at these trees you notice that while the leaves are yellowish-green or even yellow, the veins in the leaves are still green. Typically the youngest foliage, the leaves on the tips, are showing the most severe symptoms as can be seen in this picture (next page) send in by Dave, a forester with the South Dakota Department of Agriculture in Hot Springs. The most common reason for chlorosis is the lack of iron in the leaves. It is not that there isn't iron present in the soil, generally there is an adequate supply, and it is just that the alkaline soils have rendered the iron insoluble and not available to the plant. The trees that

are most sensitive to this deficiency are maples, particularly Amur, red and silver maples, as well as pin and swamp white oaks. During stressful years, either too dry or too wet, where root growth is limited we can also see chlorosis occurring on apples, crabapples, catalpas, plums and a number of other trees. There is little that can be done to permanently solve this problem. Adding iron to the soil will not usually help as this added iron also becomes unavailable due to the alkalinity (though adding a chelated form of iron may show some benefit). Iron can be directly injected in the trunk, a means of bypassing the roots, but this needs to be done annually or at least biannually. Mild symptoms may lessen this year if the tree owners just are sure to water during the hot summer but the real problem is the tree is in the wrong spot.

And one insect sample and it's not the emerald ash borer! Each summer the South Dakota Department of Agriculture receives several insect samples that have been sent in for confirmation that its emerald ash borer. Fortunately all the samples to-date have NOT been emerald ash borer and there are no known infestations of this insect in the state. The two most common "look-a-like" are the golden buprestid (*Buprestis*) and the eastern poplar borer (*Poecilonota*). The Department received this insect last week and it's the golden buprestid, a common borer in pines.

Samples received

Douglas County **Numerous plants in this sample!**

The symptoms on the mulberry, leaf distortion and discoloration, as well as the locust may be related to herbicide drift but the sample is too small to be certain. The tip dieback on the arborvitae is most likely due to the dry winter – there are lots of arborvitae in the state that look similar to this one. The green ash has ash anthracnose, not the rust, but regardless the disease will not kill the tree just result in some leaf discoloration and premature drop. The Black Hills spruce does have some symptoms of spider mites but I believe the problem is more related to transplanting than pests. The reduced growth and stunted needles are more commonly associated with planting too deep – she should

check to see if the upper most root is within an inch or two from the top of the soil; if not than planting is the problem.

Faulk County **Discolored pear foliage and an apple identification question**

The blackening of the pear leaves is due to the disease pear scab, a close relative of apple scab. This disease can result in the discoloration of the foliage and also blemishes on the fruit. The easiest control is Captan, a common fungicide, applied as the buds begin to open and then repeated every 10-14 days for three applications.

As to the apple identification, wait until the fruit fully forms then mail in a couple of apples and the foliage, I might be able to identify the fruit then.

Faulk County **Juniper identification**

The question was whether the plants were eastern redcedar (*Juniperus virginiana*) or Rocky Mountain juniper (*Juniperus scopulorum*). There are a few ways to tell these two species apart.

The foliage of eastern redcedar is usually a sage-green while Rocky Mountain juniper is a bluish green.

The foliage of eastern redcedar is awl-like and scale-like so some of the foliage will appear as short needles, while the foliage of Rocky Mountain juniper is only scale-like.

The cones (the small bluish “berries”) of eastern redcedar develop in 1 year so you’ll only find the cones in mid to late summer and fall. The cones of Rocky Mountain juniper take 2 years to develop so you usually can find the cones on them year-around (if they are old enough to produce fruit).

Both the samples submitted were eastern redcedars.

Gregory County **Discolored junipers**

The samples of junipers did not have any signs of the more common diseases associated with junipers (cedars) such as phomopsis or Kabatina. The symptoms were more a light green; almost a tan discoloration of the foliage and this may be related to phomopsis twig blight but in the early stages of the disease. If this is twig blight expect the light green tips to turn yellow to red then gray this summer. The control of the disease is copper fungicides applied in the spring as the new growth expands; it is far too late to begin any control measures now so just monitor the symptoms for now. If the symptoms continue to progress then treatments will be necessary next spring to arrest the development of the disease.