

Pest Update (June 29, 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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Plant development

The smooth hydrangeas are in full bloom now, a little earlier than most years. Sometimes it has been the middle of July before these summer-blooming shrubs are flowering.

Tasks to start now

Apple maggot (*Rhagoletis pomonella*) is the most serious apple pest in our state and treatments start now.



Symptoms of a maggot infestation are dimpled, lumpy appearance to the surface of the apple and the flesh often turning mushy and containing the brown trails of the larvae, hence the other common name “railroad worm.” A sure sign of the pest – an unpleasant one if you happen to find one, or *half* of one, while eating the apple – is a small (1/4”), creamy white and legless larva in the fruit. The adults, resembling houseflies with banded wings, should

be flying and placing eggs on the developing apples in another week or two and will continue egg-laying for another month. Once the eggs hatch the larvae burrow into the apple. The apple maggot pupates in the soil and probably will be emerging as an adult beginning in late June this year. However, egg laying does not really begin until a week or so later so there is still time plenty of time to begin treatments (even if any eggs are laid now, the egg is either crushed by the expanding fruit or the larvae cannot survive in the high-acid of the newly developing apple). Treatment is either carbaryl (Sevin) or Malathion applied starting now with subsequent applications every 7 to 10 days for three or four applications. Apple maggots tend to emerge from the soil after a 1/2-inch rains so some growers time applications with rainfall but this is not necessary for the home production.



Another means of management is to place 3-inch diameter bright red balls in the tree, about 2 in semi dwarf trees (about 10-15 feet tall) and 5 in standard size trees (about 20-30 feet tall) that are covered with a sticky material called Tanglefoot[®]. The female apple maggot always flies to the biggest, brightest

apple to lay her eggs and these will be the biggest, brightest “apples” in the tree. You cannot eliminate the pest by using this control but the population can be significantly reduced. The “apples” can be made from material found in almost any garden store – even can find Tanglefoot[®] at most hardware stores or you can buy the completed “apples” from the Internet, try www.GardensAlive.com.

Still another possible control measure is to spray Kaolin clay on the fruit. The clay is not a true pesticide but it irritates the adult apple maggot and they tend to fly to other fruit. The clay must be reapplied if we have some heavy rains so expect to make several applications during a season. It often takes at least three applications to work. The clay is sold as Surround At Home[®] and can also be obtained from www.GardensAlive.com.

Timely topics



A subject that needs to be addressed from time to time is what to do about suspected herbicide drift injury on windbreak and ornamental trees. I

received numerous calls from tree owners that believe the curled or distorted leaves on their trees were injured by a neighbor spraying a field. The tough calls are the one where the suspected application was made the previous year but now the

trees are dying and they want someone to come out to identify the chemical, give them an appraised value to the loses and fine the applicator.

Unfortunately, it is not all the easy and the longer the tree owner waits to report the damage, the tougher the task becomes. I often talk with owners of damaged trees that say “Well, we decided to wait a year and see how the plants do. Now they are dead.” Any suspected herbicide drift tree injury must be reported to the South Dakota Department of Agriculture, Ag Services, Pesticide Complaint Investigation and Enforcement within 30 days of the suspected application or seeing symptoms (call 605.773.4432 or use their online reporting form). Do not wait for months or years to initiate a pesticide complaint. Many herbicides will degrade to undetectable levels months (sometimes weeks) after an application. The other problem is that other injury can occur, for example winter injury, and that will mask any symptoms of herbicide. It can be very difficult, depending on the herbicide, to associated plant injury with a herbicide application made months or years before.



The tree owner also needs to know who applied the herbicide. There is no ‘CSI’ lab that can identify the herbicide and the applicator just from a sample. The task

is much simpler if the tree owner knows who sprayed. This way the testing need only be for the herbicide applied, not all the possible herbicides that cause the particular symptoms. The herbicide drift must also be on the land of the person who files the complaint. You cannot make a complaint for a neighbor.

Also Ag Services does not seek damages for the tree owner. This is a separate action and if herbicide drift is determined to be the causal agent then the tree owner may have to contact a tree appraiser to provide them with a value to their losses.



Yes, almost everyone's hackberry looks bad now. I have looked at lots of sad looking hackberry trees across the state this past week. Many of the calls came in from tree owners that were mistaking their hackberry for an ash tree and thought their tree had emerald ash borer. The hackberries are either partially defoliated, only a portion of the canopy, or almost completely defoliated. The reason is the late May frost we experienced this year (and discussed in the May 18th and 25th issues of the *Update*). The frost caught the hackberries just as the leaves were beginning to open. Trees, such as lindens and maples which already had their leaves hardened off were not affected nor were oaks which had not even opened their buds yet. If you look closely at these

defoliated hackberries you can see buds that are just beginning to open (or have already opened) and in a few more weeks these trees should releaf. The "should" is if we have adequate moisture to support this new flush of growth. Much of the state is either entering or has been in a moisture deficient. Tree owners might want to begin watering their defoliated hackberries to help reduce moisture stress during this period of new foliage production.



Wilting tree leaves are appearing in the western part of the state. The rainfall this spring was not uniform across the state and there are many locations that are extremely dry. Add heat to dry, stir with a little wind, and you have wilting foliage since the plant cannot absorb water fast enough to replace the loss out of the leaves or there is not enough water to absorb. If trees are wilting or even the leaves drooping a little, water, water,

water. Remember trees need about 1-inch of precipitation a week during the summer.



Woolly aphids, both the woolly apple aphid (*Eriosoma lanigerum*) and the woolly elm aphid (*E. americanum*), are causing deformed leaves on elm now. These insects, not true aphids, produce a waxy secretion. This waxy filaments gives the insect a fluffy, almost cottony, appearance and provides protection from predators (so apparently not like cotton candy). Woolly aphids usually alternate their feeding between two hosts, a

primary host where they spend the winter as eggs and a secondary host where they spend the summer feeding. The primary host for these insects overwinter on elms, usually in the deep bark crevices. In the spring the young feed on elm leaves before becoming winged adults and moving on to the secondary host, apples (and crabapples) *Malus*, hawthorn (*Crataegus*) or serviceberry (*Amelanchier*). They move back to the elm for the winter, even the apple woolly aphid which will overwinter on elms if apple is not available. The damage is mostly aesthetic so treatments are not generally warranted in South Dakota. There is nothing that will uncurl a deformed leaf so at this point just let the natural enemies of these insects do their job. A soil injection or drench of an insecticide containing imidacloprid can be applied to elms in the spring to kill these aphids as they begin to feed on the leaves. This systemic should not be used on apples or crabapples as it can enter the flowers and kill pollinators.



E-samples



Plum curculio (*Conotrachelus nenuphar*) is a common, but often overlooked, pest of fruit trees in South Dakota. Stone fruits, including apricots, cherries, peaches and plums, are easily damaged by this weevil. The most noticeable damage on the fruit is the slit (often shaped like a half-moon) cut into the fruit from the egg laying activity of the

adult female. Often there is a drop or two of fluid weeping from the cut. Once hatched, the larvae burrow through the soft stone fruit feeding on the flesh and completely ruining it.

Apple injury is minimal, generally the slit is the extent of damage to the fruit. The larvae have a difficult time developing in the harder flesh of apples so you rarely cut open an apple and find one. The fruit is still edible, just the skin will have a blemish.

If plum curculio is found in fruit this year, it's too late for treatments. At next year's petal fall apply Malathion and repeat the application about 10 days later. Do not use a spray containing carbaryl, as an application of insecticides containing this active ingredient can result in fruit drop if made within 30 days of full bloom.



Clearwing ash borer pupa skins. I received this picture of the pupa skins of the clearwing ash borer. As mentioned in previous *Pest Update*, these skins are frequently shed at the borer exit holes along the trunk of the tree. The adults emerged about a month ago now so finding these skins is common. This is the

native clearwing ash borer, an insect we see every year infested stressed and dying ash trees, not the exotic borer, the emerald ash borer, which has not yet been detected in our state.



Blister beetles are beginning to appear. I received this picture of them from Josh, one of the foresters with the South Dakota Department of Agriculture. Blister beetles are about 1/2 to 1 inch long with a slender body and long antennae. The ash grey blister beetle (*Epicauta fabricii*) is completely gray. The larvae of blister beetles are beneficial to

us as they eat grasshopper eggs. Many of the adult blister beetles feed on flowers and pollen but some, such as the ash gray blister beetles, also feed on leaves. They generally feed on legumes, so Siberian peashrub and honeylocust are their favorite woody plant food. I have seen them completely strip a peashrub hedge of leaves in three days. The other problem is blister beetles are capable of spraying out a caustic substance called cantharidin which can cause skin to blister (hence the name blister beetle). The adults are fairly slow moving and you can even pick them up but I wouldn't suggest it (you don't pick up skunks either). A more serious problem is the beetles can be a contaminant in baled alfalfa and if a horse or cow feeds on this hay and either eat the beetles or the fluid from crushed beetles, they can suffer excessive salivation, sweating, cramps and even death.

Samples received/site visits

Butte County

What is wrong with this lilac?

Bacterial blight is caused by the bacterium *Pseudomonas*, so the symptoms, brown spots on the leaves, wilting leaves and curl blackened shoot tips looks similar to that of fireblight, another disease caused by a bacterium. However,

fireblight affects Rosaceae plants, apples (and crabapples), cotoneaster, mountainash and pear to name some of the most common hosts. Bacterial blight



is generally found on common lilac (*Syringa vulgaris*) (and oddly mostly the white flowered cultivars) and Japanese lilacs (*S. reticulata*). The disease is best managed by keeping the plant healthy, watering during dry summers is a big help. The infection can also be pruned out by cutting at least a foot below where the symptoms, blackened and browning, occurs on the stems or branches. The pruning should only be done during dry weather and the pruners or hand saw must be disinfected

between cuts (use Lysol Disinfectant, Pine-sol or a weak water-bleach solution). A fungicide containing copper may be sprayed on the plant just before bud break but this has only minimal benefits. The best approach is often to just rejuvenate the shrub (for common lilac, not the tree lilacs) by cutting the entire plant to about 3 inches tall in March. The new shoots that come up are usually free of the disease.

Minnehaha County FL1600031

What is wrong with my crabapple leaves?

This is apple scab, a very common foliage disease of apple and crabapple this year. The wet spring provided the perfect environment for the disease to develop. Treatments for the disease begin when the buds are just beginning to expand so it's too late for this year. Treat with an application of a fungicide containing propiconazole, myclobutanil, chlorothalonil or captan (and labelled for this use) every 7 to 10 days beginning as the flower buds swell and continuing until three weeks after the petals fall or we have dry weather – now.

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