

# Pest Update (March 29-April 5, 2017)

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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 for the growing season

We are ahead of most years in plant develop though not as far as last year. The flowers are just beginning to open on the forsythias in Brookings, a display that



normally appears the third week of April. However, the flowering this year is sometimes only near the base of the plant, not on the tips. The tips died during the March cold snap following the warm February weather. As mentioned earlier in the *Update*, we are likely to see a number of shrubs and trees with dead tips this spring due to the winter temperature fluctuations.

The warm weather we are seeing now in early April is pushing the development of our plants...and their problems. Many of our early spring treatments, the first apple scab spray for example, that typically start in mid-April may be sooner.

## Treatments to do soon

**There are probably two major foliage and fruit diseases of apples in our area, apple scab and cedar-apple rust.** These diseases result in leaf discoloration, olive-drab blotches for apple scab and orange spots for cedar-apple rust.



Apple scab infected leaves begin become discolored by midsummer and if the infection is severe may fall by August. The fruit may also develop scabby lesions. The late winter-early spring control for scab begins with raking up and burning or otherwise destroying all the fallen apple leaves within a few hundred feet of the trees. Apple scab overwinters on the fallen leaves and during the wet spring weather spores are released from these fallen leaves to

infect the newly developing leaves. This raking and burning has limited value, and is not a substitute for fungicide applications, but can help with management, particularly for isolated trees. Even mowing right now to break down the fallen leaves can help with the deterioration of the tissue.



Cedar-apple rust control begins with the removal of infected “cedars”, more properly referred to as junipers, near the apple trees. This disease needs to alternate between two hosts, the apple (or crabapple) and junipers. Removing one of the hosts is a means of breaking the disease cycle. Rocky Mountain junipers and eastern redcedars with the small hard “apples” surrounding twigs (these are the fruiting bodies to the fungus) should be

removed before spring. However, as with leaf raking for apple scab, removing the cedars may have limited value as all the infected trees within several hundred feet need to be removed and this will still not prevent infection from more distance trees, up to a mile away, so fungicide applications will still be needed.

Fungicide treatments for apple cultivars susceptible to apple scab, start with the first application applied as the buds are *just* beginning to expand, less than a 1/2-inch of leaf showing. Cedar-apple rust fungicide applications start when the new leaves are about one week old, though treating the expanding leaf can also be beneficial. **These first applications are critical to the successful management of these diseases and if missed cannot be made up with applications later in the spring and summer.**

The most common fungicides used for preventative treatments of apple scab have Captan or Myclobutanil listed as the active ingredient. If the apple scab treatment is for an ornamental crabapple, one in which the fruit will not be harvested, Chlorothalonil, commonly sold as Daconil may be used. Captan is also the most common fungicide included in multi-purpose fruit tree sprays such as Gordon's Liquid Fruit Tree Spray. Captan is effective on apple scab, but not cedar-apple rust. Myclobutanil, sold as Spectracide Immunox Multi-Purpose Fungicide Spray is probably the most commonly available fungicide that is effective on both these diseases. However, an important note is the Spectracide Immunox plus is not listed for apples as it contains an insecticide, Lambda-cyhalothrin, so be sure to buy the correct product.

Applications of the fungicide are made about 7 to 10 days apart from the green tip stage until after petal fall, the weather usually turns a little drier then and a 10-14 day interval can be used until the end of June when applications generally stop.



**Tent caterpillars** can be treated right now by pruning. Tent caterpillars (there are three different species, eastern, forest and western), are common defoliators of mountainash, cherry, crabapples, apple, and plums. If you look at one of these trees right now you might find these globs of what appears to be molten glass around the twigs. These are the egg mass to the tent caterpillar (see picture). If these egg masses are pruned off and destroyed (don't just

throw them on the ground, unless the mice eat them the eggs will still hatch) you'll save the tree from defoliation. The new egg masses do look like molten glass, very smooth and shiny. If the egg masses are a gray to white and have lots of holes in them, they are last year's egg masses and not a threat to your tree.

## Timely Topics

**What to do with a stump.** Spring is the time of year when people get around to removing trees in their yard. Removing trees and disposing of the brush is a hazardous undertaking and is best performed by professionals who have the training and equipment to safely remove trees. However, whether a professional tree service removes the tree or the homeowner, there is usually the question what to do about the stump.



The most effective means of dealing with a stump is to hire a service to come out and grind it. This usually involves grinding out the entire stump to a depth of 8 to 12 inches and grinding any surface roots that flare out from the stump. Most stump grinding services charge by the inch, measuring the length of the stump in its longest dimension. Grinding the stump usually does not include removing the grounded chips or filling the hole with soil. Some services will perform these functions but usually at an additional charge.

The slower approach is to let the stump decay naturally but this can take a decade or more. The decay process can be accelerated by cutting the stump level to the ground, drilling 1-inch diameter holes into the wood, and pouring about 4 oz. of a slow-release fertilizer in each hole to help “feed” the decay organisms. After adding the fertilizer the holes can be filled with topsoil. The holes should be about 10 inches deep and spaced one foot apart. There are commercial stump removal products that can be poured in the holes but these are just fertilizers, either potassium nitrate or sodium nitrate and you can save money by just buying almost any high nitrogen fertilizer. This accelerated process usually takes one to three years. You’ll still have to use a sharp spade to break up the stump, but it usually come apart fairly easy.

Some commercial product recommend pouring kerosene down the holes after six weeks and lighting it. This might be entertaining but the fire can smothering for a time period as it consume the larger roots. I don’t recommend this practice.



If you just want to keep the stump from sprouting, there are a number of ‘stump killer’ products on the market. The majority of these just have glyphosate as the active ingredient, same chemical as in Roundup. The difference is the concentration is about 20 to 30 times greater so be very careful not to spray the stump killer over anything but the stump! Also you need to treat the stump within an hour of cutting the tree down. The longer you wait, the less effective the

treatment. The spray also needs to be applied around the edge of the stump, not in the center. The living tissue is generally within a few inches of the margin so be certain to cover this area with the spray.

## E-samples



I received a picture last week from West River showing the fungal disease called **black knot** (*Apodosporina morbosum*), also known as dead man's finger, a very common disease of cherry and plums. These black, coal-like galls can often be found lining the branches and trunks of plums, chokecherries and Mayday trees. A common recommendation is to prune out these galls during the winter months, but this activity has very limited value. First, these blackened galls are the *second* year of

infection. The shoots infected last year show only a slight greenish swelling of the tissue. If these shoots are not removed they will grow to form the blacked masses the following year. It is hard to get ahead of the disease by pruning. The other challenge is only some trees are very susceptible to black knot and once they get the disease you can probably expect the tree to become infected again regardless of your pruning efforts. Basal pruning (cutting the tree down) is probably the best approach if you have one that is covered with the knots.



I also received pictures of a Scotch pine I suspect was killed by **pine wilt**. The diagnosis requires extracting the pine wood nematode, the reason I always like a wood sample, but the symptoms – pine was fine till last summer then the foliage turned brown and wilted before fall – is highly characteristic of the disease. I also received a picture of the bark and if you look close it appears that someone punched the tree with a Philips screwdriver head. These are the egg niches chewed by sawyer beetles (*Monochamus*), the insect responsible for transporting the nematode from a dead to a



healthy tree. The nematodes enter the new host through these niches as well as when the sawyer beetles feed on the foliage. The sawyer adults will be emerging from their dead hosts within a week or two so it's important to cut down and destroy (either by burning or chipping) any pine killed by pine wilt last fall.

## Samples received/site visits

Davison County **What is wrong with this blue spruce? It started turning brown last summer.**

There are probably agents in the decline of this tree that could not be identified from the sample. I noticed that the last year's shoot growth was much less than the previous year's and there was excessive shredding of the two-year old needles. At about 20 years in the landscape, many Colorado spruces begin to decline particularly when planted on tight spacing so the trees are now touching. This reduces airflow and provides a better environment for diseases and mites to flourish.

I was also able to find spruce spider mite eggs clustered on base of the needles and twig. You may want to consider treating the trees with an oil spray in about another week or two as the eggs hatch (about the time silver maple trees are leafing out). This will require two applications about ten days apart and will reduce, but not cure, the problem. The other issue is oil can remove the blue coating from a Colorado spruce. This does not harm the tree but can turn a 'blue' spruce to a 'green' spruce. Sometimes even a high-pressure stream of water is sufficient to dislodge and kill the mites after they hatch and this might be the simplest treatment to try.



Hutchinson County – follow up from last week's sample. The last issue of the *Update* mentioned a spruce sample with SNEED Sudden Needle Drop, which is associated with the pathogen *Setomelanomman holmii*. Nathan, the forester that provided the sample, also send some pictures of the trees. There are two underlying stresses for these trees, poorly drained soils and tight spacing. Spruce, particularly Colorado spruce, do not perform well in wet soils. Also spruces do best when the trees are spaced far enough apart that they are not touching. As mention in the Davison County sample above, crowded planting reduces air movement and provides a better environment for many pests to flourish. Too often spruce are planted on 8- or 12-foot spacing and this leads to problems within a decade or two.

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