UNIVERSITY OF ILLINOIS EXTENSION
HOME, YARD & GARDEN PEST NEWSLETTER
College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana-Champaign
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PLANT DISEASES

Plant Clinic Seasonal Closing

It is almost time for the Plant Clinic to close its doors for the season. Wednesday, September 15, is the last day of operation for this year. We will open once again on May 2, 2005. Any samples that arrive by September 15 will be processed as usual. This is a firm deadline. There is no one to process samples after that date.

If you have a plant problem after the closing date, contact your local Extension office. Extension offices also have access to a digital distance-diagnosis system. If further help is needed from a specialist, Extension personnel can help direct you. The following University of Illinois specialists may be available for telephone questions, but **do not** send samples to these specialists unless requested to do so by the specialist. There is no lab service after September 15.

Insect problems: Phil Nixon, 333-6650; Raymond Cloyd, 244-7218; Kelly Cook, 333-4424
Disease problems: Nancy Pataky, 333-2478; Bruce Paulsrud, 244-9646
Tree/shrub problems: David Williams, 333-2126
Turf problems: Tom Voigt, 333-7847
Herbaceous plant problems: Jim Schmidt, 244-5153

The Plant Clinic staff would welcome your comments concerning our lab. This might include suggestions for future services, problems that need to be fixed, questions, or any other helpful comments. Some assays cannot be done because of staff limitations or funding, but we would like to hear from you so we can try to meet some of your needs. Comments can be directed to Nancy Pataky, N533 Turner Hall, 1102 S. Goodwin, Urbana, IL 61802, or npataky@uiuc.edu. Please make a note on any such communications that contents are suggestions for the Plant Clinic. *(Nancy Pataky)*

Disease Problems in 2004

Weather conditions have been a bit abnormal this summer. We can't be certain there is a direct connection, but woody plant disease problems have also been a bit strange. At this writing, the Plant Clinic has processed 628 woody plant samples. The samples received at the Plant Clinic are certainly not a true survey of problems in the state. In fact, many problems are diagnosed on site and never reach our doors. As an example, we rarely see a case of apple scab although that disease was severe this year on crabapples. Still, the trends we see seem to reflect many concerns we hear about by telephone, e-mail, other newsletters, and "coffee talk." The following comments refer to the woody plant disease problems at the Plant Clinic in 2004.

The wet weather early in the season produced some problems with root rots, including Pythium and Phytophthora root rots. Azaleas and rhododendrons infected with Phytophthora root rot were apparent early in the season. This early-season moisture and humidity also revealed two cases of downy mildew on rose in retail and wholesale locations. Rhizosphaera needle cast of spruce infects in wet weather and is manifested 12 to 18 months later. We saw 11 cases of this disease at the Plant Clinic in 2004.

I would have expected the cases of Verticillium wilt to be few this summer. That disease tends to be worse on trees under stress; and 2004 did not appear to be a stressful year for trees. Regardless, the Plant Clinic staff isolated the *Verticillium* fungus from ash, lilac, magnolia, maple, redbud, and sumac this year. Watch viburnums for Verticillium wilt, too. Although we have not seen a positive case on this host at the clinic in 2004, we have had reports of growth problems that seem typical of Verticillium wilt infection on viburnum.

Cytospora is a fungus that is known as a stress pathogen. Stress can be caused by environmental extremes, as well as by factors other than environment. Cytospora canker was found in Illinois this year on aspen, cherry, fir, pine, and spruce. White pine decline is another stress situation, and 10 cases were recorded at the Plant Clinic this summer.

A few diseases that are usually common at the Plant Clinic were down in numbers in 2004. We saw chlorosis only on birch, lilac, and oak. Sphaeropsis

blight of pine was found on only seven samples. Pinewood nematode was confirmed on only one pine.

The fungal wilt diseases were plentiful in 2004. This is unfortunate because these diseases tend to kill the host. In addition to Verticillium wilt described above, we found 21 cases of Dutch elm disease and 14 cases of oak wilt. Hopefully, early detection was useful in saving nearby trees.

Bacterial leaf scorch is a disease that we have discussed with concern over the past 3 years. We currently have 27 samples (mostly oaks) in process for BLS testing at Agdia, Inc., in Indiana. Watch for test results in the next issue of this newsletter. We will also keep you posted on sudden oak death reports and findings as information unfolds. *(Nancy Pataky)*

More on Rose Rosette Disease

This disease problem was discussed in issue no. 7 of this newsletter. Some follow-up questions and responses concerning rose rosette follow.

Is there a test that can determine the presence of rose rosette disease? The exact cause of rose rosette disease has not yet been determined. A viruslike pathogen is suspected but has not yet been characterized. Once a pathogen is identified and characterized, tests can be developed to prove its presence. If a virus is found, an ELISA test could be developed based on the virus protein coat. If the pathogen is a viroid, it does not have protein, and a hybridization test with an RNA probe may be necessary to detect the pathogen. That test is more time-consuming and more costly. At this point, there is no laboratory test to confirm the rose rosette disease.

In addition to infected plants, should surrounding soil be removed/replaced? The soil itself is not infected, but roots and stems in the soil could be infected. The infected plants should be burned or bagged and removed from the site. This includes roots that might host the rose rosette pathogen. It should not be necessary to remove the soil.

Are any specific rose cultivars more resistant to rose rosette disease? As far as we know, there are no rose hybrids with rose rosette resistance. It would be best to assume that all are susceptible until information on resistance is available.

This disease is spread by grafting or by eriophyid mites. The question that followed is: **Are there any beneficial insects or insecticides/miticides that target the eriophyid mites?** It is known that not all miticides are effective against eriophyid mites. I spoke with University of Illinois entomologist Raymond Cloyd about this question. He said that there are no beneficials that would be sufficiently effective against the eriophyid mites. In terms of miticides, there are two that are available and might control this pest. One possibility is Thiodan (endosulfan), which Dr. Cloyd has seen work on a similar eriophyid mite and may still be available for purchase. The other possibility is Avid (abamectin).

Are there any environmental conditions that eriophyid mites seem to favor? Again, I defer to Dr. Cloyd. He said this depends on the species, and he is not familiar with specific preferences by this eriophyid mite. The mite is deep down in the meristem of the plant, so it is likely that environment has minimal impact. Always use the miticides only in conjunction with cultural suggestions provided.

We will keep you posted as more information about rose rosette disease is available. *(Nancy Pataky)*

INSECTS

White Grubs

We are well into this year's white grub damage season, and we are hearing reports of spotty damage but no indications of widespread heavy damage except for northwestern Illinois. As reported earlier, the Dixon to Monmouth to Moline area of Illinois and frequently the Peoria area commonly have grub damage regardless of the weather.

Most of Illinois had timely rains from late June through mid July that resulted in most turf being attractive to adult beetles for egg-laying, whether or not it was irrigated. That, combined with a moderate number of adult Japanese beetles and low number of masked chafer adults, resulted in relatively few eggs being spread over large areas, with most areas having low grub numbers.

As an example of the spotty damage that is likely, an infestation of about 15 grubs per square foot was found on the turf research farm at the University of Illinois Urbana campus. These grubs consisted of about 75% Japanese beetle and 25% masked chafer (annual white grub). There were a few areas of wilted turf, but most areas looked fine. With 10 to 12 grubs per square foot being the damage threshold, this relatively small number of grubs, combined with timely irrigation, resulted in very light damage to the turf.

We recommend that trichlorfon (Dylox, Proxol) be applied at this time of year to control damaging grub populations. It should be watered in with at least 1/2 inch of rainfall or irrigation. Trichlorfon should provide over 90% kill of the grubs within 3 days but will be gone in 5 days. With the short longevity of this insecticide, dry soil should be irrigated a day or two before applying the insecticide to bring the grubs up

close to the surface, where they will contact the insecticide application. *(Phil Nixon)*

Magnolia Scale

Now is the time to take action against the crawler stages of magnolia scale, *Neolecanium cornuparvum*, which are actively moving around before settling down to feed on twigs. The crawlers are usually located on the undersides of 1-to2-year-old twig growth. They eventually produce a powdery, waxy, white covering over their bodies. Magnolia scale overwinters as a first-instar crawler. There is only one generation per year in Illinois.

Magnolia scale females are 1/2-inch long and red–brown in color. They are initially covered with a white, waxy powder. In August and September—depending on the temperature—females produce eggs, which hatch into crawlers that are gray to red in color. The crawler stage is most susceptible to insecticides applied during September. Insecticides recommended for managing magnolia scale include acephate (Orthene), insecticidal soap, and summer oil. It is essential to cover all plant parts thoroughly. Although insecticides are effective in dealing with magnolia scale, the primary way to minimize problems is by promoting plant health through proper irrigation, fertility, mulching, and pruning practices. This may reduce susceptibility or limit injury when plants are infested with low to moderate populations of magnolia scale.

Although there are a number of natural enemies such as ladybird beetles that feed on magnolia scales, they are usually not abundant enough to provide sufficient control. *(Raymond A. Cloyd)*

Spruce Gall Adelgids

Eggs of Cooley spruce gall adelgid and eastern spruce gall adelgid hatch in late September in central Illinois. In southern Illinois, they hatch in mid September; in northern Illinois, in October or early November. Once they hatch, they are vulnerable to sprays of carbaryl (Sevin), imidacloprid (Merit), insecticide soap, summer spray oil, and other insecticides for several weeks as they overwinter as young nymphs.

In the spring, their feeding causes the host to form a gall around the insects that protects them from insecticidal control. At the end of a twig, a Cooley spruce gall adelgid causes a gall to form that looks like a spruce cone about one-inch long, with needles protruding from it. The eastern spruce gall adelgid causes a similar gall to form, but it is typically only about 1/2 inch long and occurs at the base of a twig. The eastern spruce gall girdles and kills the twig protruding from the gall. The galls of both species are initially green but turn brown by late spring. Holes open next to the needles, allowing the adult aphidlike adelgids to fly away to lay eggs.

Spruces commonly have low numbers of these galls that typically do not warrant treatment. However, heavy numbers greatly restrict tip growth, causing limited tree growth, warranting treatment. *(Phil Nixon)*

All Miticides Are Not Created Equal

When it comes to selecting a miticide to control spider mites or “mites” in landscapes and nurseries, there is sometimes confusion that all miticides are similar in terms of their use and the range of mites that they control. However, miticides are not all created equal because they may vary in where they can be used and the target mites on the label. Following are detailed descriptions of five miticides that are generally recommended for controlling mites both indoors and/or outdoors. This is the conclusion of a two-part article, with the first part published in issue no. 15 of this newsletter (August 18, 2004).

Avid, which contains abamectin as the active ingredient, is an effective insecticide/miticide for many different mite species and is typically recommended for control of mites both indoors and outdoors. The active ingredient, which occurs naturally, is derived from the soil microorganism, *Streptomyces avermitilis*. Avid is labeled for control of twospotted spider mite, European red mite, carmine spider mite, Southern red mite, spruce spider mite, cyclamen mite, broad mite, and rust and bud mite. The product can be used to control mites in greenhouses, shadehouses, on field-grown ornamentals, Christmas tree plantations, and woody ornamentals. Avid is a contact and translaminar miticide. *Translaminar* is a term that refers to insecticides/miticides that penetrate the leaf tissue and form a reservoir of active ingredient within the leaf. Avid generally provides up to 28 days of residual activity. The label rate for all mite species is 4 fl oz per 100 gal. Avid is active on the mobile life stages of mites, with no activity on eggs. Although the insecticide/miticide is slow acting, treated mites are immobilized after exposure.

Floramite, which contains the active ingredient bifenazate is labeled for control of a wide range of mites, including twospotted spider mite, Pacific mite, strawberry mite, European red mite, citrus red mite, clover mite, southern red mite, spruce spider mite, and bamboo spider mite. It is not active on rust, broad, or flat mite. Floramite is labeled for use in greenhouses, shadehouses, nurseries, Christmas tree plantations,

landscapes, and interiorscapes. This is a contact miticide, so thorough coverage of all plant parts is essential. This miticide is active on all mite life stages, including eggs. Floramite is fast acting and provides up to 28 days of residual activity. The label rate is 4 to 8 fl oz per 100 gal.

TetraSan contains the active ingredient etoxazole and is actually a growth regulator for mites, inhibiting the molting process. TetraSan is labeled for control of the following mites: twospotted spider mite, citrus red mite, European red mite, lewis spider mite, Pacific spider mite, Southern red mite, and spruce spider mite. TetraSan can be used to control mites in greenhouses, lathhouses, shadehouses, and interiorscapes and on outdoor ornamentals. Similar to abamectin (Avid) (described previously), TetraSan is a contact and translaminar miticide providing up to 28 days of residual activity from a single application. The label rate for controlling mites is 8 to 16 oz per 100 gal. The product is active on the egg, larvae, and nymphal stages. It has minimal effect on adult mites. However, adult female mites that are treated do not produce viable eggs.

Pylon is a miticide that is can be used only in greenhouses. It contains the active ingredient chlorfenapyr. Pylon is labeled for control of various mites, including twospotted spider mite, broad mite, cyclamen mite, citrus bud mite, and rust mite. Pylon is a contact and translaminar miticide. In addition, it works as a stomach poison when ingested. Pylon is only active on the mobile life stages, including larvae, nymphs, and adults. It has no activity on mite eggs. The product can provide up to 28 days of residual activity. The label rate is 2.6 to 5.2 fl oz per 100 gal.

Vendex is one of the older miticides and contains the active ingredient fenbutatin-oxide. The miticide is labeled for control of twospotted spider mite, clover mite, Southern red mite, and spruce spider mite. Vendex can be used in greenhouses, on outdoor ornamentals, and on established landscape ornamentals and nurseries. This is a contact miticide, so it is important to thoroughly spray all plant parts during application. Vendex is slower acting than most miticides, taking 7 to 10 days to eventually kill mites. However, it provides long-lasting control—about 30 days of residual activity. The label rate is 8 to 16 oz per 100 gal. Vendex is a warm-weather miticide providing better control when the ambient air temperature is above 70°F. This product is a restricted-use pesticide.

For more information on the products mentioned, be sure to consult the label or the manufacturer. *(Raymond A. Cloyd)*

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