



No. 7 • June 7, 2000

Our Mistake

The following credit should have been given to the "Plum Pox of Stone Fruits" article in issue no. 6: Adapted from *Illinois Fruit and Vegetable News* (March 3, 2000, Vol. 6, No. 3; and May 24, 2000, Vol. 6, No. 10) written by Dr. Mohammad Babadoost (217)333-1523; babadoos@uiuc.edu.

INSECTS

Dursban

On June 8, USEPA is scheduled to release the final risk assessment on the insecticide chlorpyrifos, the active ingredient in Dursban, Lorsban, and several other trade names. Newspaper reports are suggesting that an agreement with the manufacturer, Dow, may eliminate over-the-counter sales of the product and severely restrict its labeled uses. Apparently, the accepted residue will be below the effective rate of the insecticide in at least some uses.

In all likelihood, any loss of labeling will result in a halt in the production of new product at a stated time in the future, with the allowed sale of stock that is in the avenues of trade. In other words, over-the-counter Dursban will likely be available for at least several months. USEPA typically only issues a stop-sale requirement if new, unusual, and severely hazardous properties are discovered about a pesticide, and there are no indications of that being the case.

One of the more important uses that commercial horticulturists have for chlorpyrifos is in the protection of trees and shrubs from borer attack. It typically lasts as an effective residue on shaded, furrowed bark for about a month and correspondingly shorter lengths of time on smooth, more exposed bark. Other insecticides provide borer protection but it would be shorter lived, resulting in more frequent applications. Other uses for chlorpyrifos in the landscape for turf grub control and chewing insect control on leaves are met as well or better by other insecticides.

In the control of structural pests, chlorpyrifos is the favorite in the Midwest for conventional termite

control. There are, however, effective alternatives available. Chlorpyrifos is also formulated in a varnish base as Killmaster II. Being in a varnish base, it is very useful in commercial kitchen applications along baseboards where it is not washed away by daily mopping. In recent years, very effective baits have been developed to fill this need, at least in cockroach control. The release of the risk assessment on June 8 should answer many questions about the severity of use restrictions. (*Phil Nixon*)

Spiny Elm Caterpillar

The spiny elm caterpillar, *Nymphalis antiopa*, is present throughout northern Illinois. The adult stage is commonly referred to as the mourningcloak butterfly. The larvae (caterpillar) feed on a wide variety of trees including elm, poplar, willow, hackberry, birch, and linden. However, elm and willow are the preferred hosts.

Adult females, which are known as mourningcloak butterflies, emerge from hibernation in spring and lay eggs in masses of 300 to 450 on tree branches or twigs. The eggs are yellow, then turn black prior to larval emergence. The eggs hatch into larvae that are blue-black in color. They are over 2 inches long when full grown. In addition, older larvae possess spines that protrude from the body. These spines are harmless. The insect also possesses red abdominal legs, a row of red spots on the back, and tiny white dots on the body.

The larvae are gregarious (feed as a group), usually feeding on one branch at a time before moving to another. They usually consume all parts of the leaf except the main vein. The larvae eventually form a chrysalis (cocoon), which hangs from trees. The adult butterfly that emerges from the chrysalis has purplish brown wings, with blue dots near the wing tips that are bordered by a yellow band. There are two generations per year.

When the spiny elm caterpillar occurs in abundant numbers, it can be a serious pest. The larvae can be controlled with sprays of the bacterium *Bacillus thuringiensis* var. *kurstaki* (Dipel, Thuricide, Javelin). Control is best obtained when the larvae are young

and before they form a chrysalis. Larvae killed by the bacterium will hang upside down from tree branches. Spiny elm caterpillar is highly susceptible to free-living natural enemies such as parasitoids (stingless wasps) and birds. (*Raymond Cloyd*)

Mimosa Webworm

The mimosa webworm, *Homadaula anisocentra*, will be showing up in the southern portion of Illinois during this time of year. This pest came into the United States from China in 1940. Heavy infestations of mimosa webworm can destroy the aesthetic value of landscape trees. The larvae (caterpillars) feed on honeylocust, *Gleditsia triacanthos*, and mimosa, *Albizia julibrissin*. There are two generations per year in Illinois.

The adult is a silvery-gray moth, with black stippling or dots on the forewings. The females appear in mid-June and lay pearly-gray eggs on tree leaves. The eggs hatch into larvae that are pale lime green in color, with white stripes on their backs. The larvae are about 1/2 inch long when full grown. They rapidly move backward when disturbed. Larvae web leaves together on the ends of branches. The webbing usually starts at the tops of trees and serves as protection from natural enemies. Heavily infested trees appear brown or scorched as the larvae skeletonize the leaf tissue. The larvae eventually drop from trees on a silken strand just before pupating. Mimosa webworm pupates in bark crevices or the pupae can be found glued onto structures. The pupae resemble kernels of puffed rice. It generally takes 3 weeks to go from larvae to pupae. In July, adults emerge and start laying eggs on leaves. The eggs hatch into larvae in early August. This is the start of the second generation.

Second-generation larvae are more numerous and hatch over a more extended time period than the first generation. As a result, their feeding injury can be very noticeable. In addition, second-generation injury may result in plant death, particularly on newly planted trees that have suffered drought stress. In late fall, the larvae pupate in the cracks and crevices of trees or in plant debris. Mimosa webworm overwinters in the pupa stage.

Management of mimosa webworm involves either pruning out early infestations, especially on small trees, and/or using pest control materials. Pest control materials recommended for controlling mimosa webworm include acephate (Orthene), *Bacillus thuringiensis* var. *kurstaki* (Dipel, Thuricide, Javelin),

carbaryl (Sevin), and chlorpyrifos (Dursban). Sprays of any of these materials should be made in early June when hills-of-snow hydrangea is in bloom or when webs first appear. For second-generation larvae, apply materials in early August, when panicked hydrangea blooms are turning white. Target applications toward the most vulnerable stage, which is the newly hatched and actively feeding young larvae.

Honeylocust cultivars exhibit various degrees of susceptibility to mimosa webworm. The cultivar 'Sunburst' is highly susceptible, whereas the cultivars 'Moraine,' 'Shademaster,' and 'Imperial' are less susceptible to attack by mimosa webworm. (*Raymond Cloyd*)

Flea Beetle

A flea beetle, probably *Altica litigata*, has started attacking evening primrose this year. It was reported at the end of May on Missouri primrose in Grundy County by Deb Favaro. The adult insect is about 1/8 inch long and is metallic blue to bronze in color. It is a roundish beetle that jumps when it is disturbed. These adults eat small holes in foliage, but most of the damage comes from the larvae, which do extensive window feeding. They eat one leaf surface and interior mesophyll, leaving one leaf surface or epidermis intact. This surface is whitish at first but soon dries and turns brown. The larvae grow to about 3/8 inch long and are slender and blackish with short spines all over their bodies. Carbaryl (Sevin) provides control of this insect. (*Phil Nixon*)

PLANT DISEASES _____

Disease Ahead of Schedule

The entomologists have been telling us all spring that insects are active far earlier than normal this year. As you might guess, that has been the case with a few diseases as well. An example of an early disease occurrence is corn rust. Unlike cedar-apple rust, which overwinters in Illinois, the corn rust fungus must move in from the south each year. It literally blows here on the wind. In most years (the past 15) rust occurs on sweet corn in mid-June. The literature from the 1970s reports rust spores arriving from the South in early July.

If you know something about plant pathology, you may recall that plant diseases have a latent period. This is the time from infection to symptom development. The latent period for corn rust is 7 days. We

saw uredinia rust spores on sweet corn plants in Champaign County on May 30. This indicates that spores were here to cause infection on May 23. Certainly this is much earlier than occurs in most years.

Why is rust moving into our area so early? In the case of corn rust, it is in part due to the warmer weather in the South. Corn is planted earlier in the South, and the rust fungus can build spore populations earlier. A few good rain storms with high winds transport these spores to us in Illinois. (*Nancy Pataky*)

Juniper Blight

We try to discuss plant diseases before they occur to help you prepare for disease management. With the early occurrence of many diseases in Illinois this year, we may be a bit late from some areas of the state. Juniper blight may be caused by two closely related fungi, *Phomopsis* or *Kabatina*. It is important to understand the difference because the former can be managed quite well, but we have fewer choices with the latter.

Juniper tip blight, also known as *Phomopsis* blight, is caused by a *Phomopsis* fungal species. It is the most common disease of junipers in the Midwest. Most damage occurs on eastern red cedar and on creeping, Rocky Mountain, and savin junipers, but we have seen the fungus on arborvitae, Douglas fir, fir, yew, and larch, as well as junipers. The newest growth is susceptible to infection and becomes resistant once needles become a normal, dark green. The growth that is now emerging is susceptible to this fungus.

Plant growth is ahead of schedule this year, so some areas of the state may have already passed through the susceptible growth stage. *Phomopsis* infection occurs on the youngest needles, starting as yellow spots. Shoot tips then turn light green before becoming brown. Homeowners usually dismiss early symptoms as winter burn and do not become concerned until the appearance of brown shoot tips. One diagnostic feature to help identify this disease and distinguish it from weather scorch is the presence of a grayish band at the base of the dead shoot. In this band are pinhead-sized black fruiting bodies (pycnidia) of the fungus. The pycnidia are visible with the naked eye or with the aid of a hand lens. If the tissue is very dry, place it in a plastic bag with wet paper towels overnight. The fruiting bodies will be easy to see the next day.

Infection by *Phomopsis* can occur when succulent new growth is present in wet weather. The fungus is also very persistent. Spores germinate under moderate temperatures (60°F to 82°F) and high humidity within 7 hours after coming into contact with the new foliage. If the foliage dries before infection occurs, the spores are not killed; they begin growth again with wet weather. Pycnidia form 3 to 4 weeks after infection. Spores are dispersed by splashing rain. Watch for this disease soon.

Phomopsis blight may be controlled by pruning and removing infected foliage when the plant is dry and by using preventive fungicides. If you are willing to start your planting over from scratch, use resistant varieties for the easiest long-term control. If replanting is not an option, then pruning is important because the most common source of the fungus is infection from the previous year. Prune only dry foliage to avoid spreading spores and to lessen the risk of infection by other fungi. Fungicide recommendations are provided in the *Illinois Commercial Landscape and Turfgrass Pest Management Handbook 2000*, as well as the *Illinois Homeowners' Guide to Pest Management. Report on Plant Diseases No. 622* contains more details about *Phomopsis* blight. This report is available on the Extension Web site at <http://www.ag.uiuc.edu/~vista/horticul.htm>.

Kabatina blight is the other juniper blight. It is caused by a fungus that will appear very similar to *Phomopsis* unless you have the capability to look at fruiting bodies with a microscope. The significant difference in these diseases is the time of symptom development. *Phomopsis* blight will occur on new growth, with infection occurring this spring. *Kabatina* blight occurs on last year's needles. You might see it on your junipers in March or April on what you believe is the new growth. That is actually last year's growth. This year's growth is much lighter in color and emerges in May and June.

The other significant difference in these diseases is management. *Kabatina* blight is not clearly understood, and fungicide timing has not been effective in disease control. It is important to remove and destroy infected twigs in dry weather. Infection is thought to occur through wounds the previous season. Reports indicate that disease-resistant varieties are in development, so ask for these at your nursery. Some information about *Kabatina* blight can be found in Sinclair, Lyon, and Johnson's book, *Diseases of Trees and Shrubs*. A very good Web reference put together by the University of Nebraska can be found at <http://>

www.ianr.unl.edu/PUBS/plantdisease. Both of these juniper blights are discussed and pictures provided. (Nancy Pataky)

Oak Leaf Skeletonizing Note

We continue to receive oak samples that have a condition we described in issue no. 5 of this newsletter called oak skeletonizing or oak tatters. Donna Danielson of The Morton Arboretum brought to our attention a related article by the U.S. Department of Agriculture Forest Service. They have a pest alert on oak tatters that is located at the Web site http://willow.ncfes.umn.edu/pubs/pest_al/oaktatters/oaktatters.htm. The site has some photos for those of you who are not certain what oak tatters does to oaks. (Nancy Pataky)

Home, Yard, and Garden Pest Newsletter is prepared by Extension specialists from the University of Illinois at Urbana-Champaign and the Illinois Natural History Survey. Information for this newsletter is gathered with the help of staff members, Extension field staff, and others. Karel Jacobs and Donna Danielson of The Morton Arboretum also provide information and articles.

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