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PLANT PEST Newsletter

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ALFALFA

POTATO LEAFHOPPER—Counts continue to be very high (>10/sweep) in south-central Minnesota. MDA—Pest survey counts indicate much lower infestations in western Minnesota.

With recent declines in hay prices, and apparent “full-supplies” of hay in storage on some farms, some growers continue to be hesitant to spray for PLH and/or plant bugs. *Preliminary research results* this year indicate that our current action thresholds are reasonable for PLH to maintain maximum yield and quality for this year’s cuttings. If max. yield and quality is not the primary goal this year then not spraying is ok. However, as recently indicated by Dr. John Wedberg, University of Wisconsin Madison, any field

(especially new seedings) is subjected to continued hopper burn (yellowing), long-term damage may very well occur to the stand—e.g., reduced winter hardiness, reduced stand in '92 and reduced yield in '92.

A new graduate and I have initiated several PLH/threshold studies this year. Of current interest is the PLH/spring-seeding experiment at Rosemount. We now have a nice range of PLH-induced yield effects created by different spray-timings since the field was seeded May 13th. Data from these studies will hopefully help us “fine-tune” our PLH thresholds.

*Bill Hutchison
Extension Entomologist*

**For more information regarding the Plant Pest Newsletter
contact Extension Plant Pathology at 612-625-6290**

BARLEY

BARLEY YIELDS LESS THAN EXPECTED BUT STEM RUST NOT TO BLAME—Early accounts of the 1991 barley harvest in Minnesota have growers reporting below average yields. Several factors contributed to this situation but stem rust was not among them. In the spring, great concern was expressed about the potential for losses caused by a new race (Pgt-QCC) of the stem rust fungus. Despite early reports of QCC in Texas and Kansas, very little stem rust developed in this year's crop. Other cereal rusts, including crown rust of oats, caused major losses in the state. Hard red spring wheat, in particular the University of Minnesota variety 'Marshall', also experienced late season leaf rust in Northwest Minnesota that was unusually severe and probably reduced yields in some fields.

Yield loss that could be attributed to stem rust was less than 1% in most barley fields. A few fields were detected in Clay and East Polk counties that had average stem rust ratings of 10S to 15S (Modified Cobb Scale) at the soft dough stage (Feekes 11.2). These fields will likely experience losses of about 5% in yield and plump also may be affected. Of the commercial varieties surveyed, Robust appeared to experience the least stem rust. But incidence on all varieties was so low that valid comparisons are difficult.

The 1991 barley crop in Minnesota was affected by several other important diseases including powdery mil-

dew, common root rot, and a fairly high incidence of net blotch. These diseases, in particular the powdery mildew, caused significant losses in barley fields in East Polk, Red Lake, Pennington, and Roseau counties. Some barley yellow dwarf and trace amounts of leaf rust were also present. Bacterial blight and bacterial leaf streak were also widespread in this year's crop. These bacterial diseases not only attacked leaves but have also caused a dark staining on the hulls of much of the barley now being harvested.

Although we cannot explain why stem rust was so slight in this year's crop, we can all be fairly certain that this race of the stem rust fungus is now well established in the "Puccinia Pathway". This is the third year in a row that the fungus has been detected throughout the Great Plains. We may have benefitted from early planting this year and if so, educational efforts directed towards this cultural management strategy would have been well worth it. Research continues towards the identification of a new source of resistance that will be effective against Pgt-QCC but for the immediate future none appears likely. Given the current market price situation in barley (\$1.40 to \$1.60 per bushel) cultural practices, such as early planting, remain the only cost effective control measure for Minnesota barley growers.

Roger K. Jones
Extension Plant Pathologist

MISCELLANEOUS

SNAP BEANS—I have still not heard about the Sec. 18 request for permethrin (Pounce/Ambush) for European Corn Borer control on snap beans. I hope to get an answer

this week or early next week. All late-planted snap beans will be under severe 2nd generation pressure this year.

Bill Hutchison
Extension Entomologist

PLANT DISEASE CLINIC'S TOP THREE (JULY 15-24)

Field Crops

- Soybeans:** Pythium, Rhizoctonia and Fusarium root rots, Bacterial leafspot, Phyllosticta leafspot
Potato: Verticillium wilt
Oats: Crown rust, red leaf (barley yellow dwarf virus)
Wheat: Black chaff, head scab

Fruits

- Blueberry:** Fusarium root rot, Phomopsis canker
Raspberry: Fireblight, Anthracnose
Strawberry: Rhizoctonia root rot, Leafspot and leaf scorch

Floriculture

- Geranium:** Pythium, Rhizoctonia root rots, Bacterial wilt
Pothos: Tomato spotted wilt virus

Jill D. Pokorny
Director, Plant Disease Clinic

County Agents: Please Alert
Master Gardeners of the Following Items

Poison Ivy Correction—Last week's *Plant Pest Newsletter* suggested using glyphosate (Kleenup or Roundup) on poison ivy; Dr. Beverly Durgan suggests that broad-leaf weed-killers containing the active ingredient triclopyr are a better choice for the landscape. Triclopyr is quite effective on poison ivy, but it won't injure grass. (Ortho sells it as Poison Ivy Killer.)

Reminder—Submit all homeowner insect and plant samples directly to the Dial•U Clinic—not to individual specialists. Samples accumulate in mail boxes while specialists are out. You may still direct samples to specialists but through the clinic.

Fleas—Flea questions are increasing. Vacuum floors thoroughly. Although few eggs and fleas are picked up, flea feces are removed which comprise a major part of immature fleas' diet. Spray flea infested areas with a residual insecticide, such as chlorpyrifos, propoxur (Baygon), or permethrin. Methoprene (Precor) or fenoxycarb are insect growth regulators which cause larval fleas to develop into sterile, nonbiting adults. Insect growth regulators, however, have no effect on adults and should be used with one of the residual insecticides (aerosol spray cans may combine a residual insecticide with an insect growth regulator).

Concentrate efforts where pets spend a lot of time. If it is not obvious where the fleas are, use the 'white socks test'. Walk through rooms wearing white socks; as fleas are attracted to the person, the dark-colored fleas are easily seen against the light colored background. This indicates not only where the fleas are located but also their relative numbers. Persistence is needed as fleas can be difficult to eradicate. If the job is too difficult for an individual, a professional exterminator may be needed. See *Fleas* AG-FS-1016 (be sure you have the revised 1991 version).

Weeds in the Lawn—The combination of ample heat and moisture has resulted in a bumper crop of weeds this year. We're still getting calls about white clover in the lawn (wait till early autumn to spray with clover and chickweed killer, if you really must get rid of it). Our most common weed call, however, is about crabgrass, which is showing up quite obviously now as lighter green patches in the lawn.

The best time to control crabgrass is in early May, when a pre-emergent herbicide should be watered thoroughly into the lawn. Garden centers do sell post-emergent prod-

ucts called "crabicides", but we don't recommend their use. They are most effective when crabgrass is still young and tender... and practically unnoticeable in the lawn. It's too big and tough now, and the weed-killer is as likely to brown out desirable grasses as do any significant damage to the weeds.

Foxtail is also growing well; it's an annual with a similar growth cycle to crabgrass, and it should be handled the same way.

Leaf Spots Abound—Specimens of every type of tree, shrub and herbaceous plant have been reported to have "spots". These spots are caused by insect feeding, fungi, bacteria, pesticides, mechanical damage and adverse environmental conditions. Nothing can be done once the spots are present. In most cases the spots do not indicate a serious condition. If in doubt, check a reference or give the clinic a call. Potentially serious leaf spot problems which come to mind include Septoria leaf spot of tomato and rose black spot.

Solitary Wasps—Large (1 to 1-1/2 inch long) black or dark violet colored wasps are sphecid wasps (more specifically Chlorion sp.). These solitary wasps feed crickets to their young in ground nests. Although they look menacing, stings are unlikely. If control is desired, carbaryl (Sevin) or diazinon can be applied to the nest. People have previously reported that these insects are hard to kill.

Scorch on Young Trees—Samples are coming in with scorch symptoms on the leaves of young trees. They usually have rusty brown margins, sometimes with mottled brown areas throughout the leaf blade. This happens when the root system is unable to supply enough moisture to meet the demands of the leaves that are losing it rapidly due to high temps and windy conditions. All you can do is water these trees well every 5 to 7 days we go without good rainfall during hot weather.

Some of the same symptoms are occurring on older trees, but then it usually signifies some sort of root injury or damage to the vascular (conductive) tissue of the trunk and/or branches, rather than a small, immature root system. We are still seeing trees suffering from drought stress a couple years ago.

Probable Root Problem—This diagnosis is common to many trees and shrubs and even a few perennials. Poor growth, dying branches, unexplained defoliation and yellow or wilting leaves may signal a root problem. The diagnosis is complicated because we cannot dig up the tree

DIAL U/Continued

to see what's happening below ground, ie., get to the root of the problem. The roots are the "heart" of the tree. Excess moisture, drought, compaction, soil temperature extremes, mechanical damage, chemicals, insects and diseases all affect root health. Don't forget to consider these possibilities next time you ponder a tree or shrub problem.

Other common calls include carpenter ants, wasps, russetting on Haralson apples (no cure, no known preven-

tative measures), blossom end rot on tomatoes (providing an even water supply should help), vines in the cucurbit family failing to produce fruit (poor insect pollination; try hand pollinating), fireblight, apple scab, turf patch disease, Verticillium wilt of shade trees, and lots of wild berry ID with regards to their edibility.

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