

MN 2000 PPN 1987-13



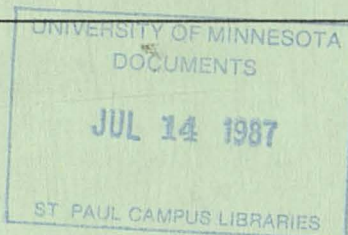
PLANT PEST Newsletter

MINNESOTA EXTENSION SERVICE

UNIVERSITY OF MINNESOTA

PPST13

July 10, 1987



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ALFALFA

PLANT BUGS -- Another generation of plant bugs is being reported from alfalfa in the southeast (they are also common on many other crops) with young nymphs quite abundant, especially in fields that are blooming. Under some circumstances 3 plant bugs per sweep can be damaging (especially if a high proportion are large nymphs), and 5 or more per sweep usually cause economic losses. Numbers of plant bugs in a field may change rapidly, however. See AG-BU-0500 for chemical advice.

POTATO LEAFHOPPER (PLH) -- Reports are coming in of PLH damage symptoms on seedling alfalfa fields in southeast Minnesota, including those planted with a cover-crop of oats, which makes it difficult to sample the alfalfa. Seedling alfalfa is particularly prone to infestation with PLH due to the longer period before it is cut than the between-cut interval of established alfalfa. The longer interval enables nymphs that hatch from eggs laid in the alfalfa to mature, becoming increasingly damaging as they age. If they reach the adult stage before it is cut, then they too will start laying eggs in the alfalfa, so that the population increases to high levels. When the hay is cut they will not be killed, but will be able to fly elsewhere.

This year much of the seedling alfalfa planted with an oat cover-crop was not cut for oatlage, but left to mature for harvest -- giving the maximum interval for PLH population build-up. When this is harvested it's important that the levels of PLH in the alfalfa are checked and a spray applied if necessary. Seedling alfalfa that has been shaded under a cover-crop has very little carbohydrate reserve in the crown, and so may be even more seriously affected by PLH damage than established alfalfa. Any PLH damage will have further inhibited accumulation of carbohydrate stores, so that if the damage is severe enough -- even after the PLH are controlled -- some plants may not have the reserves to put out new growth and recover. Clear-seeded alfalfa may have been equally or more heavily attacked by PLH, but there, at least, it is easier to monitor the numbers so that earlier treatment may be possible if required. Hence, it is most important that seedling alfalfa fields be checked for PLH, especially new regrowth after cutting.

As few as 3 PLH/10 sweeps (0.3/sweep) can cause economic losses in alfalfa that is 3" or shorter. See AG-BU-0500 for chemical options.

SPOTTED ALFALFA APHID (SAA) -- High numbers of SAA were reported from a field in western Olmsted County. These tiny, pale yellow aphids with dark spots are favored by hot dry weather, and usually do not become abundant in Minnesota alfalfa. They produce a lot of sticky honey dew and high numbers can be very damaging, especially to seedling alfalfa. Because more leaf material remains when seedling alfalfa is cut, this provides more refuge for small insects such as SAA, PLH, etc., so the cut will not kill such a high proportion of them. SAA may be controlled with the same chemicals as pea aphid. See AG-F0-2986 for more information or AG-BU-0500 for chemical options.

-- Penny Ives, Extension Entomologist

COLE CROPS

ALTERNARIA -- Several different species of Alternaria can cause disease problems on cole crops. The disease known as black leaf spot can affect cabbage, cauliflower, kohlrabi, Brussels sprouts, collard, kale and Chinese cabbage, turnips, rutabaga, and horseradish. Plants infected with the Alternaria fungus show symptoms of dark brown-to-black circular, zonate leaf spots from 1/4 to 1/2 inch in diameter. Black or brown velvety spores usually cover the larger spots and are easily rubbed off by running fingers over the spot. Often, leaves that have fallen off the plant are completely covered with spots and black spore masses.

Spores spread rapidly during moist and windy weather conditions from one field to another and to new plantings throughout the growing season. The pathogen can survive in old, infected plant debris which can be the source of spores for infection the next year. Once the spores are deposited on leaves of cole crops germination is favored by warm temperatures (80° to 90°F), although spore germination can occur at temperatures as low as 40°F.

To control Alternaria leaf spot, plant top-quality seed or disease-free transplants and avoid excessive irrigation and use of fungicides (see AG-FO-1883).

-- Frank L. Pflieger, Extension Plant Pathologist

CORN

CORN ROOTWORM (CRW) -- Damage has peaked with the majority of corn rootworms either pupating or emerging as adults. Emerging adults are lighter in color and their colors intensify as they mature. Both northern and western CRW adults can be found in southern Minnesota corn fields. Adult beetles readily congregate and feed on silks. Fields or plants within fields that silk either earlier or later than their neighbors suffer the most severe silk pruning. Usually this is not a problem, but severe silk pruning during pollination can reduce kernel set and yields. Insecticide treatment normally is justified only if CRW beetles keep silks pruned to within 1/2 inch of the ear tip before 50% pollen shed. Farmers in drought areas should be especially careful, because drought-related pollination problems are enhanced by CRW silk pruning. Insecticides recommended for adult control include: Sevin, Lorsban, Diazinon, Pydrin, Malathion, Methylparathion, Pounce, and Ambush.

Soil-insecticide performance problems seem more prevalent this year than in the last four years. We've received reports of abundant larvae or lodging. Don't assume lodging is caused by corn rootworms. Check apparent failures by examining roots for CRW feeding. A root rating of at least 3.0 (Iowa 1-to-6 Scale) is needed before yield and lodging problems are detected. No rescue treatments are possible at this late date. Drought effects on insecticide activation, persistence, and above-normal CRW pressure are contributing to the problem.

Extended diapause problems are surfacing again. Paul Miller, Consultant near Waseca, reports that several fields that had problems in 1985 are again showing signs of the same problem in 1987. Please report fields with suspected extended diapause problems to me at (612) 624-9272.

-- Kenneth R. Ostlie, Extension Entomologist

EUROPEAN CORN BORER -- Adult activity and egg-laying continue in northern Minnesota. Infestations are climbing steadily with scattered fields exceeding 50% infestation. Larval survival is excellent, with most fields averaging 3 to 4 larvae per shotholed plant. In the Crookston area, we detected egg masses on up to 8% of the plants on July 8. Larval development varies from first to early fourth instars with the majority second instars. Tunneling in midribs is just starting. Successful insecticide treatments should be possible yet this week.

-- Kenneth R. Ostlie, Extension Entomologist

POTATO

COLORADO POTATO BEETLE (CPB) -- Second-generation adults and larvae are present in most growing areas of Minnesota. Second-stage larvae are present in the Twin Cities area. Generally the second (and third) generation population of CPB are very low and do not warrant insecticidal control. Likewise, adult control is especially unwise with the insecticide selection pressure usually applied against the first generation. Potato insect control programs at this point should be directed toward control of Potato leafhopper (PLH) and green peach aphid in seed production. The action levels for PLH are 1 adult per sweep or 10 nymphs per 100 leaves. Green peach aphid action levels are 30 per 100 leaves.

There is no practical way at this time to control aster leafhopper, the vector of purple top (aster yellow mycoplasma) in potato. This leafhopper should not be counted in pest management schemes for leafhopper control. Leafhopper action levels apply to potato leafhopper only.

-- David M. Noetzel, Extension Entomologist

SMALL GRAINS

WHEAT STEM MAGGOT (WHITE HEADS) -- Infestations in rod row yield trials at the West Central Experiment Station in Morris approach 40% in some plots. 10% infestations in commercial fields are not uncommon this year. It is not clear that the 10% field infestations are detrimental to yield, but 40% infestations are. This is the greatest wheat stem maggot infestation level I have seen. There are no controls and no predictable pattern of infestation from season to season.

-- David M. Noetzel, Extension Entomologist

WHEAT UPDATE -- The yellowing of flag leaves in wheat appears to be a result of Barley Yellow Dwarf Virus (BYDV). Samples were sent to North Dakota and Indiana for analysis and tested strongly positive for BYDV. In addition, electron microscopy and greenhouse inoculation tests were conducted in St. Paul to determine if Wheat Streak Mosaic Virus (WSMV) or Aster Yellows were also present. Test results were negative for WSMV and Aster Yellows.

Growers and scouts should continue to be on the alert for the occurrence of WSMV in Minnesota. It is currently in the southern and southeastern portions of North Dakota and logically could progress into western Minnesota.

-- Jill D. Pokorny, Director, Plant Disease Clinic

SOYBEANS

SOYBEAN CYST NEMATODES (SCN) -- SCN present in Minnesota since 1978 have been expanding into several new areas. Iowa in 1986 added several new counties just south of the Minnesota line: Osceola, Dickinson, and Emmet. In Wisconsin, Buffalo County was confirmed in 1986. While no new counties were added in Minnesota in 1986, Kenyon Township in Goodhue County was confirmed by the Minnesota Plant Pest Survey and detection program this year. Now is a good time to check soybean fields. The plants may appear stunted and chlorotic, usually in a circular pattern in the field. When plants are dug and the soil is gently removed, the cyst -- white at first, then yellow or tan and finally dark brown, can be seen. Since the known distribution of SCN in Minnesota is changing and a realistic idea of the actual distribution is needed to evaluate losses, your help is requested. Encourage farmers to be on the lookout for SCN in soybean-growing areas.

Counties presently known to have Soybean Cyst Nematodes and the year they were found present:

- 1978 - Faribault
- 1979 - Martin, Cottonwood, Brown, Kandiyohi, Waseca, Freeborn
- 1980 - Blue Earth
- 1985 - Dodge, Mower, Watonwan, Nicollet
- 1987 - Goodhue

BROWN SPOT DISEASE -- Rain in the last week or two has increased the frequency of Brown Spot Disease in some soybean fields. This fungus disease (Septoria glycines) is most common where beans were planted on 1986 bean land. It is not limited to this, as some fields are showing Brown Spot even when planted to corn or wheat in 1986. The disease can also be spread on seed as well as crop debris. Symptoms of Brown Spot are small, 1/4-inch dark angular spots on the lower leaves. Older and lower leaves turn yellow and drop early. Early season control is not recommended and the disease symptoms look worse on young plants than they really are. Late-season symptoms can be controlled with fungicide applications.

The use of foliar fungicides on soybeans may not increase yield or improve seed quality if diseases are not present. Another soybean disease, Phomopsis, can infect pods and then the seed. In 1986 some early maturity soybeans were infected early and the harvest was delayed by fall rains. These seeds usually do not germinate well and at times did not make certification. The use of foliar fungicides can predict the level of pod infection at R5 or R6 and a single application of fungicide will provide some protection against delayed-harvest induced quality loss.

-- Ward C. Stienstra, Extension Plant Pathologist

SUGAR BEETS

SUGAR BEET ROOT MAGGOT -- Simply enormous numbers of adults were observed early in the season. Under such pressure we should expect some slight failures of insecticides applied at planting time. It's likely that at lifting time damage roots will be more evident than has been the case in past seasons.

-- David M. Noetzel, Extension Entomologist

SUNFLOWER

BANDED SUNFLOWER MOTH -- Adults have been observed but activity appears to be less than in 1986.

SUNFLOWER BEETLE -- Minor injury is appearing with 3rd- and 4th- stage larvae. Numbers per plant have not exceeded 5 in any fields we have examined.

-- David M. Noetzel, Extension Entomologist

TURF

GOLF TURF -- As of 6/16/87, EPA accepted the registration of Ciba Geigy fungicide Banner. This material provides broad spectrum systemic disease control for golf courses. Dollar spot, brown patch, anthracnose, red thread, rust, powdery mildew and stripe smut are controlled by this new product. Several years of testing of Banner at Minnesota revealed it to be very effective in my Dollar spot testing. At times the turf became darker green in color but seldom at label rates was this objectionable.

-- Ward C. Stienstra, Extension Plant Pathologist

MISCELLANEOUS

BLACKLIGHT TRAP CAPTURES -- The following table summarizes light-trap captures of important moth pests from July 1 - 7, 1987.

District	Location	Armyworm		European corn borer	
		Average	High	Average	High
NW	Crookston	1	2	1	3
NW	Roseau	5	8	3	4
WC	Fergus Falls	13	17	9	13
WC	Morris	3	8	1	2
C	Glencoe	4	6	21	25
C	Olivia	8	14	6	12
C	Pierz	0	0	12	16
SW	Lamberton Expt. Stn.	6	14	12	16
SW	Lamberton	3	8	15	30
SW	Worthington	17	21	27	36
SC	Blue Earth	20	38	3	8
SC	LeSueur	21	31	0	0
SC	Sleepy Eye	5	6	trace	1
SC	Waseca	5	9	3	7
SC	Blooming Prairie	5	9	trace	2
SE	Hastings - Molitar Farm	4	9	1	1
SE	Hastings - Selton Farm	4	8	1	2
SE	Burnsville	11	17	trace	1
SE	Clarks Grove	10	18	0	0
EC	Scandia	7	10	3	7

Data are obtained through the cooperative efforts of the Minnesota Department of Agriculture, the University of Minnesota and its Agricultural Experiment Station, and commercial and private cooperators.

-- Kenneth R. Ostlie, Extension Entomologist

SECTION 18 APPROVED FOR POAST HERBICIDES ON GREEN BEANS -- The EPA has officially granted Minnesota a Section 18 to use Poast herbicide for postemergence control of wild proso millet in green beans. Poast can be applied at 0.5 pints plus one quart of crop-oil concentrate per acre. Remember, Poast will control only grass weeds. Read the label carefully and apply according to label directions.

-- Leonard Hertz, Horticulture Department

PLANT DISEASE CLINIC'S TOP THREE

Phytophthora/Soybeans -- Race ID is available through the Clinic. Call (612) 625-1275 for details.

Barley Yellow Dwarf/Wheat -- No recommended controls. See update on page 104.

Septoria leaf spot/Wheat -- Disease incidence within the fields was low.
-- Jill D. Pokorny, Director, Plant Disease Clinic

DIAL U WEEKLY HIGHLIGHTS -- For the week of June 28-July 4, 1987

Yellowjackets -- Yellowjackets are expected to be very numerous this year. Nests in or around homes should become more apparent as the number of workers increase. Active nests should be treated soon. Use an insecticide labelled for yellowjackets (wasps and hornets) in the evening (when the yellowjackets are less active). It could be more difficult to treat the nest later in the summer. (See AG-FS-1017, "Nuisance Wasps and Bees.")

Pruning -- Pruning trees and shrubs seems to be the most prevalent horticultural concern at Dial U now. Evergreens and other shrubs shouldn't be pruned much beyond mid-July because pruning encourages new growth at a time the plants ought to start slowing down.

Most shade trees can be pruned now, but wait until late next winter to prune fruit trees.

Rose Black Spot -- This disease is caused by the fungus Diplocarpon rosae and can cause almost complete defoliation of rose bushes by early fall. A fungicide program should start in the summer just before the leaves become spotted. (See AG-FS-1163, "Rose Diseases.")

Ash Flower Galls -- We are receiving questions about green masses of flower-like growth on male ash trees. Ash flower galls will not kill the tree but can make it unsightly. It is too late for control now. People wishing to treat for the appearance should spray in the spring at bud break with Kelthane (if available) or malathion. (See AG-FS-1009, "Plant Galls.")

Berries -- Chokecherries are all edible, even the Canada Red chokecherry. They'll be astringent-tasting, though, and will require sugar in making syrup or jelly.

Neither honeysuckle nor dogwood berries are poisonous, but they are not tasty enough to warrant doing anything with.

Watch out for the grape-like berries of Virginia creeper. They are NOT EDIBLE.

Wilt Diseases -- Oak wilt, Dutch elm disease, and Verticillium wilt continue to be our most common plant disease calls.

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