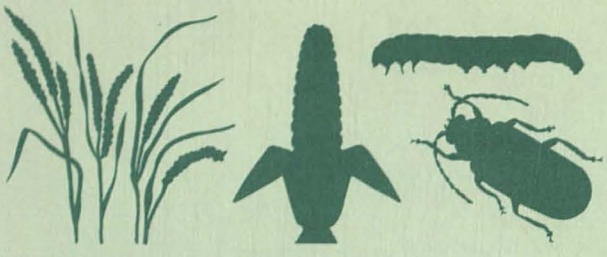

PLANT PEST Newsletter

MINNESOTA EXTENSION SERVICE UNIVERSITY OF MINNESOTA

PPST15 July 24, 1992

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ALFALFA

POTATO LEAFHOPPER—Leafhopper counts continue to be very high in many southeastern and southcentral counties. We have as many as 6 adults and 25 nymphs ***per sweep*** in untreated spring-seeded alfalfa at the Rosemount Experiment Station. As with last years' studies, we have some good treatment differences between different leafhopper timings. Minn. Dept. of Agric. reports up to 35/sweep in one southeastern Minn. field. In each of these situations, the yellow hopperburn is quite obvious with the plants being severely stunted. New seeded fields that have severe hopperburn should be treated with one of the recommended insecticides as soon as possible. Although, several days to maturity have already been lost, the crop will recover quickly once the leafhopper (and/or plant bug) feeding pressure is removed. Depending on the age and overall health of an established stand, older plants will also respond quickly after insecticide application. However, if the crop is within 7 days of cutting and only moderate hopperburn is evident, these fields should be cut as soon as possible, then waiting to check again for leafhoppers when you have at least 2" of regrowth.

Note that the cool weather will not kill PLH, but has

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

UNIVERSITY OF MINNESOTA, U.S. DEPARTMENT OF AGRICULTURE, AND COUNTIES COOPERATING

ALFALFA/*Continued*

definitely slowed down the hatching of nymphs. However, as indicated, we have had nymphs present now for about 3-4 weeks. Per capita feeding by a first-stage nymph will not be as much as an adult, but because the "colonies" build up rapidly on alfalfa, the nymphs as a group are just as damaging as the adults. Nymphs are the same shape as adults, with young, 1st instars being more yellow in color, and gradually turning green as they molt to late instars. They move in a rapid "sideways" motion on the undersides of leaves. Nymphal numbers can also be guestimated with a sweep net, but will be more variable than adult counts (because they'll stick to the sides and top of the sweep net). In general, the presence of nymphs in a field indicates a high probability of significant feeding damage on the horizon. The thresholds we have include both the numbers of adults and nymphs (e.g., 0.5 to 2.0 PLH/sweep, depending on the hgt. of the alfalfa).

I continue to get several requests for insecticide recommendations, so I am providing some summary data in the following table, that reflects the residual activity of most of our recommended materials. In summary, all of the recommended products (low to high rates) provide good initial knockdown of adults and nymphs. However, as noted in the table, some of the products (rates) provide more long-term control than others. The long-term control provided by one application is necessary for established stands, but even more important with spring-seeded alfalfa. Our research this year, with high leafhopper numbers, indicates that 2 applications may often be needed for spring-seeded alfalfa, to facilitate proper stand establishment and growth prior to the first cutting.

Insecticide	Rate (product/acre)	PLHs/10 sweeps 14 days after treatment	PHI
Cygon 4E	1 pt	7.4	10-day
Lorsban 4E	1 pt	12	14-day
Penncap 2FM	3 pt	12	15-day
Lorsban	1.5 pt	22	21-day
Ambush 2E	9.6 oz	21	14-day
Imidan 50WP	2.0 lb	26	7-day
Penncap 2FM	2 pt	33	15-day
Cygon 4E	0.5 pt	35	10-day
Ambush 2E	6.4 oz	48	0 (low rate)
Malathion 5E	2 pt	156	0
Untreated CK	----	297	---

Note that other factors such as pre-harvest interval (PHI shown in table), cost, safety, restricted use status will also influence the choice of material to use. In addition many materials can only be used once per cutting (eg. Cygon, Lorsban). Also refer to AG-BU-500, *Insecticide Suggestions for Field Crop—1992* for more information.

We have a new trial for PLH, plant bugs and alfalfa weevil in progress. Feel free to contact me (612-624-1767) for questions regarding these data or for information on plant bugs.

Bill Hutchison
Extension Entomologist

CABBAGE/BROCCOLI

We are seeing **very low** numbers of all of our key lepidopteran larval pests this year at Rosemount and in commercial fields in Apple Valley. This is a year where the **B.t.** products should work very well. Despite low populations to date, our 1992 **B.t.**/insecticide trial is in progress at Rosemount.

Bill Hutchison
Extension Entomologist

SWEET CORN

EUROPEAN CORN BORER (ECB)—ECB moth counts remain low at most locations, as we are clearly between generation peaks. Larvae at Rosemount are now 4th and 5th (last) stage. Sweet corn that is now tasseling or silking should be relatively free of ECB at harvest. We also do not have significant numbers of Corn earworm (CEW) right now. Therefore, sprays should be held to a minimum during the next 7-10 days.

Aphids—There have been some questions on aphids in sweetcorn. Most varieties can tolerate very heavy aphid populations without affecting quality or yield. By heavy, I mean 75% of the plants infested with 100+ aphids/plant. Plant growth stages of concern would be very young, whorl-stage corn, or very high infestations in early-tassel corn On tasselling corn, the concern is that the tassels will get "gummed up" with the honeydew produced by the aphids, and thereby affect pollination. However, there are usually several tassels producing pollen under these circumstances that its not going to be a problem. I would welcome any feedback by those who may be seeing aphid infestations.

Bill Hutchison
Extension Entomologist

MISCELLANEOUS

CONFERENCE ON PESTICIDE HEALTH EFFECTS FROM WORK EXPOSURES IN THE UPPER MIDWEST—Health effects from occupational exposure of pesticides with a focus on agricultural products will be held Thursday and Friday September 24-25, 1992 at the Earl Brown Center on the University of Minnesota St. Paul campus. The conference is for physicians and other health providers in primary care but is also designed for anyone working in agriculture including people from industry, retailers, educators, farmers, farm workers, insurance agents, federal, state, and local government staff, migrant health program staff, legislators, and anyone applying agricultural pesticides. The conference is sponsored by the Midwest Center for Occupational Health and Safety Program in Continuing Education, University of Minnesota.

Discussions of specific short term and long heath effects from pesticide exposure will be led by medical experts and researchers from the Upper Midwest. The conference will also include overviews of pesticide use and use practices, risk assessment, management, and communication, available support resources and prevention strategies. Through funding from the Environmental Protection Agency and other support the conference registration fee has been substantially reduce from the normal registration fee for this type of conference.

For more information look for the conference's brochure in the mail or contact:

Midwest Center for Occupational Health and Safety
Program in Continuing Education
640 Jackson Street
St. Paul, Minnesota 55101
(612) 221-3993

Dean Herzfeld
Assistant Extension Agriculturist

EUROPEAN CORN BORER

District	Location	Aver.	High	Date/Max
NW	CROOKSTON	5.00	9.00	920714
WC	FERGUS FALLS	3.17	4.00	920718 *-2
WC	MORRIS	2.43	9.00	920722
C	GLENCOE	2.29	4.00	920717+
C	BIRD ISLAND	5.83	10.00	920720+
C	GROVE CITY	2.57	5.00	920721
C	GAYLORD	4.86	9.00	920715
C	OLIVIA	0.29	1.00	920716+
C	STAPLES	1.00	1.00	920716+
SW	LAMBERTON	0.00	0.00	*-3
SW	WORTHINGTON	1.40	4.00	920719
SC	BLUE EARTH	0.43	2.00	920718
SC	BLUE EARTH	0.29	1.00	920718
SC	LE SUEUR W	1.43	3.00	920717+
SC	LE SUEUR E	1.57	3.50	920720 *-2
SC	WASECA	23.29	42.00	920717
SC	ST. PETER	18.29	41.00	920719
SC	SLEEPY EYE	4.00	7.00	920718+
SC	SLEEPY EYE	3.40	9.00	920718
SC	WASECA SES	1.29	2.00	920722
SE	RANDOLPH	25.17	53.00	920719
SE	CALEDONIA	0.50	2.00	920721
SE	ROSEMOUNT	0.86	2.00	920720 *-3

**-Number of nights...High derived by average over multiple nights.*
+ More than 1 night with maximum value.

Observation dates: 920714 TO 920722

Bruce Potter
Research Fellow—MDA

DIAL U

County Agents: Please Alert Master Gardeners of the Following Items

Maples, particularly sugar maples,—seem to be in trouble in many parts of the state. Trees are showing premature fall color, sometimes yellowing and dropping leaves. Often these trees are growing in heavy, wet, poorly-drained clay soil. Between our cool temps and the moisture, these soils are cool; it's difficult for trees to take up nutrients under these conditions.

Usually there are other stress factors visible; an abundance of aphids on the underside of leaves, sun-scald scars and cracks on the south or west side of the trunk, or frost cracks.These trees probably weren't hardened off well last fall when we got our early snow storm and cold spell.

It's very hard to know how to help these trees. Bert Swanson, our nursery production specialist feels that a light application of nitrogen and phosphorous now, followed by a normal tree fertilization in late autumn ***might be beneficial in some cases***. But it might not help, either.

Wet weather favors diseases—Cool Minnesota weather along with moisture has favored the develop-

ment of blossom blights, leaf spots, stem cankers and root rots. Most fungicides are preventative and will not cure existing diseases so we can't get rid of what has already happened but perhaps additional disease can be kept to a minimum. Remember these 'mid-summer' disease control methods:

* Water early in the day and only at the base of the plant.
* Avoid overcrowding flowers and vegetables. Thin as necessary to allow good air movement.
* Remove spotted leaves as they occur to prevent spread in the garden.
* Remove spent blossoms including the ovaries.
* Keep pulling weeds as they may harbor diseases.
* Fungicide options are limited but where labeled, can be applied to new growth produced during dry weather. This only protects healthy plant tissue from becoming infected.

Aphids in trees and shrubs—Despite the cool weather and occasional hard rains, aphids are very numerous on many woody ornamentals, including maple, willow, ash, viburnum, and spirea. Honeydew, a shiny, sticky substance excreted by aphids, often is seen on branches, leaves, and objects underneath trees and shrubs. When people describe something 'raining' out of trees, they are referring to honeydew. Aphids rarely injure healthy, mature plants. Once aphids are abundant, predator and parasite populations also increase to help limit aphid numbers. Insecticidal control is usually not necessary, especially when natural enemies are present. Use a hard stream of water from a garden hose to dislodge and kill aphids nonchemically. If insecticides are desired, use a labelled product such as acephate, malathion, or insecticidal soap for control; remember that natural enemies are also killed by insecticides.

Wet soils--are also resulting in problems with lilacs (they need well-drained soil) and we expect to hear reports of azaleas and rhododendrons dying, too, if they're planted in low lying areas where water accumulates. The wet soils are also continuing to encourage the growth of moss and clover in lawns.

Flower problems—Besides the previously mentioned wet weather diseases, flower beds have also been ravaged by aster yellows, powdery mildew and white mold. Refer to the Dial U Briefs on *Aster Yellows* (also July 2, PPN) and *Powdery Mildew on Ornamentals.*

White mold rots any and all parts of many plant species, especially petunias and plants in the compositae family such as zinnia. At first the affected area of the plant is a dark green greasy or water-soaked color. Stems become gray to white. If the humidity is high, a white cottony mold growth appears on infected parts. Black reproductive structures (sclerotia) form in this white mold, both inside and outside the plant. They are irregular in shape and range from pin-head to dime-size, occasionally greater. You can differentiate sclerotia from soil particles as sclerotia are white on the inside.

Infected plants should be gently removed from the garden, roots and all, and destroyed. Rotate vegetable and flower beds to minimize the build up of white mold—the sclerotia can remain in the soil for many years. Avoid crowding plant material.

False Japanese and Japanese beetles—False Japanese beetles are found on a wide variety of flowers and other plants and are common in Minnesota. They can be abundant but usually are not serious pests. They look very similar to Japanese beetles which are very serious pests on a large number of ornamentals. Up until last year Japanese beetles were not found in Minnesota. However in 1991, Japanese beetles were detected in several Twin Cities nurseries.

Both beetles are oval, just under 1/2 inch in length, with brownish bodies and are active in July and August. You can distinguish between them upon close examination. Japanese beetles have metallic emerald green heads and thoraxes, two white patches at the tip of their abdomens, and five more white patches on each side of their abdomens. False Japanese beetles have brownish heads and thoraxes and lack white patches on their abdomens.

Control is usually unnecessary for false Japanese beetles; handpicking small numbers of beetles is sufficient in most cases. If chemical control is needed, treat with malathion or carbaryl (Sevin). Japanese beetles are treated by the same methods.

Extensive trapping by the Minnesota Department of Agriculture has been underway since early July and will continue into early fall to detect and eradicate Japanese beetles. If any suspected Japanese beetles are found, submit them for identification.

Potato flowers and fruits—are developing in home gardens, raising a number of questions. One woman was disturbed because her potatoes weren't blooming, and she really likes the flowers. An agent saw his first potato fruit and correctly likened it to a small tomato; they're closely related, of course.

Potato fruits develop from potato flowers, but are of no practical value to gardeners. They are poisonous, and though they're full of seeds, (like a tomato) those seeds are worthless unless you happen to be a potato breeder who is purposely hybridizing new varieties. It takes two years to get large potatoes from seeds, and quality is usually just so-so.

DIAL U/*Continued*

What to do with the potato fruits? Nothing; you can pick them off or just let them be. They have little or no impact on tuber development. And for that matter, neither do the flowers.

Bumble bees—are familiar robust, hairy, black and yellow insects. They usually nest in the ground, especially in old rodent burrows. Bumble bees are annual insects, meaning that individual nests live only one year. During late summer and fall, newly produced queens leave their nests, mate, then seek sheltered areas to hibernate for the winter. The old queen and workers left in the nest die in autumn with the onset of cold weather. Tolerate bumble bee nests when possible; they are beneficial because they pollinate flowers. Bumble bees are normally not aggressive toward people and usually do not sting unless provoked. If nests are ignored, the bees die in fall with the first couple of hard frosts. If control is necessary now, use a labelled insecticide, such as carbaryl (Sevin) or diazinon. See AG-FO-3732, *Are they wasps or bees?*

Other common calls—trimming trees and shrubs, transplanting woody and herbaceous plants in mid-summer, and carpenter ants.

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