PLANT PEST Newsletter

MINNESOTA EXTENSION SERVICE UNIVERSITY OF MINNESOTA

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IN THIS ISSUE

CARROTS

ASTER LEAFHOPPERS (ALH) -- Last week in the mail I received the University of Wisconsin's latest Aster Yellows Report, sent out on August 24. The authors report that the level of Aster Yellows pathogen inoculum in the leafhoppers has fallen to 2% and will probably either stay at that level or decline from now until the end of the season. Numbers of ALH in Wisconsin carrot fields have also declined, so that in many cases they are now below the higher threshold that results from the lower inoculum level.

The same is probably true for Minnesota carrot fields. Although carrots that still have more than a month to go before harvest are still vulnerable to Aster Yellows (AY), there may be no need to spray them. The 2% level of inoculum now means you would need to find 25 ALH per 100 sweeps in susceptible cultivars, 38 in intermediate, and 50 in resistant cultivars for it to be worth spraying. These numbers, easily exceeded earlier in the season, may no longer be there; it will pay to take sweep samples. I've not yet received the 1987 updated list of cultivars for which the AY Index has been calculated, but the 1986 list was reprinted on pages 94 and 95 of **PPST12** (July 3, 1987).

-- Penny Ives, Extension Entomologist

CEREALS

WHEAT AND BARLEY -- Leaf spot disease control with fungicides has had mixed results this year. Several of our on-farm plots had yield increases of 8 to 12 bushels per acre. A few plots showed no increase in yield, which may be due to late applications.

SCAB -- is still around, and durum wheat appears to have suffered the most. The Plant Disease Clinic ran 170+ seed tests last winter for scab seed problems. If you are concerned about your seed source for next year, you may wish to have your seed tested.
I would like to know about your results from cereal leaf spot fungicide applications; variety, yield (treated and untreated), and comments. Send comments to me at Department of Plant Pathology, 495 Borlaug Hall, University of Minnesota, St. Paul, Minnesota 55108.

-- Howard L. Bissonnette, Extension Plant Pathologist

CORN

CORN ROOTWORM -- Results of the Minnesota Department of Agriculture annual corn rootworm survey confirm what many of us suspected (Table 1). Corn rootworm populations throughout the central and eastern part of the state have increased dramatically. Declines occurred in west central and southwestern Minnesota. As expected after the mild winter, the proportion of western corn rootworms continues to increase in eastern Minnesota. In general, adult counts in southern and western Minnesota substantially exceed treatment thresholds. Given the tremendous adult population (averaging more than 4 per plant) and the predominance of western corn rootworms (greater than 30%), I am concerned about corn rootworm pressure in southeastern Minnesota and possible soil insecticide performance problems in 1988. It's hoped that the intervention of winter mortality will reduce the pressure on soil insecticides, so hope for a cold, open winter if you plan on continuous corn.

Table 1. 1987 Corn rootworm population levels in Minnesota.

District	# of Fields	Adult Corn Rootworms per plant	% change	NCR:WCR ratio
NW	21	.30	NA	78:22
WC	38	2.15	-.52	94:06
C	40	1.70	.36	94:06
EC	09	1.18	.95	77:23
SW	27	3.37	-.14	93:07
SC	33	3.96	.56	94:06
SE	27	4.63	.83	68:32

Adult counts and first-year corn decline compared to last year (Table 2). Reduced corn rootworm population seemed consistent with reduced damage levels I have observed in my first-year corn flocks in south central Minnesota. Just two years ago the extended diapause problem was widely observed in Minnesota. This fall I am documenting the extent of the problem again. If you know of lodging problems in corn/soybeans or corn/small grain rotations, please leave a message at 612-624-9272 or drop me a note.

Table 2. 1987 corn rootworm population levels in first-year corn.

District	# of Fields	Adult Corn Rootworms per plant	% change	NCR:WCR ratio
NW	14	.09	--	70:30
WC	24	.48	-.96	98/02
C	25	.79	.42	95:05
EC	06	1.15	.52	76:24
SW	18	1.14	-.74	100:00
SC	22	1.48	-1.00	95:05
SE	18	1.15	.06	61:39

Data for both tables supplied from a survey conducted by the Minnesota Department of Agriculture / Plant Industry Division July 20-31.

EUROPEAN CORN BORER -- Above-normal temperatures this summer accelerated European Corn Borer development with second and third flights underway in northern and southern Minnesota, respectively. The pattern of poor first-generation and strong second-generation seems typical of the sudden warm spring and summer we've had these last two years. Egg masses and young larvae can be found in many fields and the presence of pupae suggests a continuation of the flight until frost. The second and third flights, if any, are extremely spread out. Hatched larvae concentrate in the leaf axles near the ear and ear tip. Farmers face a management dilemma with the second generation. Adequate control may require two or more well-timed sprays. This requires an intense scouting effort. The alternative is to sit back, take the damage, and harvest early if necessary.

As a recent Minnesota Department of Agriculture survey (Table 1) indicates, second-generation infestation rates are fairly high. Consultants commonly report one to two or more larvae per ear tip. WARNING: With this level of activity in the ear and ear shank, harvest losses could be high in some fields. Losses will vary with corn relative to maturity, planting date, level of local corn borer infestation, and the stalk and ear shank strength of each variety. Contact your seed salesman for information about your individual variety. Rapid maturation of the corn means farmers will have to decide whether to put on a corn or soybean header. I strongly advise that farmers check each field for potential harvest loss. The procedure is simple. At each of five locations test 40 plants for standability and ear shank weakness. At shoulder level, push each plant over at least one and a half feet to test for stock strength. Breakage usually indicates corn borer damage, while bending of lower inner nodes indicates stock rot. Pull hard on each ear to test the ear shank. If harvest fields in order of potential harvest loss (stock breakage plus weak ear shanks). There are no guidelines on early winter harvest, but I offer these suggestions. If potential loss exceeds 10%, harvest as soon as possible. Fields in the 3-10% level should be scheduled next. Fields at less than 3% can probably stand for soybean harvest. Don't hesitate to revaluate your fields. Dry down and progressing stock rot can increase the loss potential at the time.

-- Kenneth R. Ostlie, Extension Entomologist

DRY EDIBLE BEANS

DRY EDIBLE BEAN DESICCATION -- A Section 18 has been granted Minnesota for the use of sodium chlorate as a desiccant on dry edible beans. The Minnesota Department of Agriculture has set the maximum rate of application at 6 lbs/A with a minimum of 5, and 20 gallons per acre of water for air and ground application. Only licensed applicators may apply the sodium chlorate. The sodium chlorate must be applied at least 7 days prior to harvest and the crop residue cannot be fed to livestock. This Section 18 is valid through September 4, 1987, and is likely to be extended.

-- Jeffrey L. Gunsolus, Extension Agronomist-Weed Control

PESTICIDES

VENDEX WITHDRAWAL FOR GREENHOUSE MITE CONTROL -- Dow Chemical Company has voluntarily withdrawn Vendex (cyhexatin) for all uses except on apples and citrus. Recent toxilogical data showed that, in a laboratory study, cyhexatin caused birth defects in rabbits. Dow stated that their decision was based, in part, on calculations that showed that under some conditions the exposure of women may exceed an adequate margin of safety. In view of the new data, EPA has cautioned that women of childbearing age should avoid or minimize exposure to Vendex.

-- Mark Ascerno, Extension Entomologist

POTATOES

BRUISING -- As the harvest gets started, remember that soil clods and 6-inch drops result in bruises and tuber wounds. Suberizing tuber wounds properly will reduce storage rot. The TBZ fungicide Mertect applied to tubers going into storage will also reduce dry rot.

-- Howard L. Bissonnette, Extension Plant Pathologist

MISCELLANEOUS

PLANT DISEASE CLINIC'S TOP THREE

Cercospora Leafspot/Sugarbeets -- Four cases have been verified by lab analysis, and many more have been reported. Fungicide efficacy testing with Super Tin and M-45 was conducted in vitro. Both fungicides inhibited the germination of spores and provided excellent control. Test results indicated no sign that the fungus was resistant to these fungicides.

Brown Spot/Soybeans -- We continue to receive several samples per week. See **PPST18** (August 21, 1987), page 136.

Phomopsis Canker/Blueberry -- We continue to receive samples. See Extension publication AG-FO-2241, "Blueberry Production in Minnesota."

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

BLACKLIGHT TRAP CAPTURES -- The following table summarizes light-trap captures of important moth pests for the week of August 19 - 25, 1987.

	District	Location	Armyworm Average	Armyworm High	European corn borer Average	European corn borer High
	NW	Crookston	66	91	3	6
*	NW	Roseau	-	-	-	-
	WC	Fergus Falls	6	13	12	19
	WC	Morris	5	13	65	256
	C	Glencoe	2	4	80	324
	C	Olivia	1	4	605	2888
	C	Pierz	1	2	1	2
	SW	Lamberton Expt. Stn.	3	5	181	400
	SW	Lamberton	1	3	856	3597
	SW	Worthington	20	30	38	51
	SC	Blue Earth	14	30	1088	4773
	SC	LeSueur	2	19	288	961
	SC	Sleepy Eye	1	2	439	1268
	SC	Waseca	1	4	65	291
*	SC	Blooming Prairie	-	-	-	-
	SE	Hastings - Molitar Farm	0	0	61	116
*	SE	Hastings - Felton Farm	-	-	-	-
	SE	Burnsville	6	9	8	14
	SE	Clarks Grove	2	3	232	350
	EC	Scandia	6	8	20	24

* No report this week.

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

DIAL U WEEKLY HIGHLIGHTS -- For the two-week period of August 16-29, 1987

Berries -- Watch out for common buckthorn, Rhamnus cathartica. Right now these small trees or large shrubs are loaded with blue-black berries that look as though they should be delicious. Birds love them and spread them with their droppings, but they will make humans **very ill** and should never be eaten. When crushed, buckthorn fruit has 3 or 4 nutlets in the center, rather than the single stone you find in wild cherries and chokecherries.

Head Lice -- The new school season can bring with it an increase in head lice infestations, particularly among grade-school children. Now is the time to remind parents that the best way to avoid head lice is to educate their children not to share head wear, combs, or other personal articles. If head lice become a problem, an insecticidal shampoo available over-the-counter or by prescription will be necessary. (See Extension publication AG-FS-1030, "Control of Lice on Humans.")

Fruit -- All apples and crabapples are edible, but most ornamental crabs have mealy, poor-tasting fruit. They are selected primarily for flowering, not fruit quality.
We've had a number of reports of fruit trees, ornamental crabapples, and lilacs blooming. Apparently the droughtand subsequent torrential rains confused these plants into 'thinking' they'd gone through winter dormancy. The flowers you see now are next spring's blooms. You may as well enjoy them now!

Tree Diseases -- Plant disease calls to Dial U continue to concentrate on tree problems. Oak wilt, Dutch elm disease, and Verticillium wilt (vascular wilts) are of primary importance, followed by wood decay and canker diseases. New fact sheets are being prepared on the latter 2 and should be available for the next growing season.

Foreign Grain Beetles -- Calls about these small flying beetles are on the increase. Foreign grain beetles become numerous in late summer as their populations build on over-ripe and rotting vegetables in the garden. They readily move into homes as they are attracted to lights and are small enough to pass through window screening. Once inside they may become established on moldy or damp cereal products. To minimize the problem, keep lights off near open windows, pick up and discard fallen vegetables in the garden, and eliminate any moldy, damp, or stale cereal products.

Vegetable Diseases -- Septoria leaf spot has defoliated many tomato plants this year. Control should be planned for next year's crop. (See Extension publication AG-FS-1155, "Parasitic Diseases of Tomato.")

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