PLANT PEST Newsletter

MINNESOTA EXTENSION SERVICE — UNIVERSITY OF MINNESOTA

PPST05 — May 17, 1991

IN THIS ISSUE

ALFALFA

BUCTRIL LABEL CHANGES FOR ALFALFA USE—The wording on the Buctril label for alfalfa use has been changed to read, "Apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 4 trifoliate leaves". Previous wording set all alfalfa plants at a minimum of 4 trifoliate leaves. Also, the injury precaution has been down graded with wording cautioning that unacceptable crop injury can occur when temperatures are expected to exceed 70°F, at and 3 days following application, rather than do not spray if these conditions exists. It was technically very difficult to meet the alfalfa staging, small weed size, and temperature requirements of the previous wording. Previous label changes added the labeling for Buctril use on alfalfa underseeded to small grains to the federal label and therefore no longer requires possession of a separate 2(ee) label to apply.

Roger Becker
Extension Agronomist—Weed Control

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

ALFALFA/*Continued*

ALFALFA WEEVIL—Adult alfalfa weevils (AW) have been active in southeastern and central Minnesota for the past three weeks. To date, however, adult counts have been relatively low. As part of an LCMR-funded Biological Control project conducted by Drs. Ted Radcliffe and Kathy Flanders, with intensive sampling for both AW and AW parasites, we have access to more extensive information on AW phenology this year. In addition the Pest Survey group within MDA has revised their monitoring efforts to provide more detailed AW information for a given location.

Adult AW counts as of May 13, were averaging:

26/600 sweeps @ Caledonia

1/600 sweeps @ Rochester

10-15/600 sweeps @ Rosemount

In contrast, the peak number of AW adults collected this week in southwestern Wisconsin was 30/600 sweeps (Dr. Dave Hogg; UW-Madison).

Because of the relatively cool weather this spring, we probably did not have significant numbers of eggs being laid through May 8. However, during the past week significant degree-days (DD) have accumulated, providing the temperatures necessary for significant oviposition.

As with last year's newsletter, I will again be publishing weekly updates of DD accumulations for several locations in the state. DDs are provided this year by Dr. Flanders. DDs for this year and 1990 appear above right.

Alfalfa weevil degree-days* May 13 (>48°F)

	1991	1990
Caledonia -	246	—
Winona -	300	368
Rochester -	264	283
St. Paul -	340	375
Rosemount -	286	362
St. Cloud -	245	280
Becker -	251	312

**DD (>48) using double-sine wave method*

In addition to Minnesota data, Dr. Flanders has summarized 5 other USDA-APHIS data sets on AW phenology in relation to DDs. Combined data from Iowa, Wisconsin and Minnesota indicates the following:

first-instar larval hatch @ 360-400 DD
peak larval density @ 625 DD

These estimates are for the sine-wave DD method, which are usually higher than the max-min DD method for spring temperature accumulations. With the additional DD's accumulated this week, several locations may soon be approaching the 360 DD level where larvae should start hatching. Again, larvae will generally show up first on the south-facing slopes. A sweep net is the most efficient method for detecting initial, small infestations. Once an infestation is found, stem sampling (50-60/field) should be employed to document the infestation level and determine whether the infestation has approached the economic threshold of 35-40% tip feeding and/or 2 larvae/stem. I will have more about sampling and thresholds next week.

Bill Hutchiison
Extension Entomologist

CANOLA

Most canola has been planted using Furadan CR-10 granules as a soil treatment for flea beetle control. Our request for the use of Counter 5G for that purpose was withdrawn by MDA with the submission of the request for the 24c (Special Local Need) for Furadan CR-10. I took the time to summarize all of the Minnesota and North Dakota trials (**Tables 1 and 2**) for your information. The data say that the maximum yield loss prevention was with Furadan .25. However, Counter at 0.5 lb in Minnesota would have been our best choice.

TABLE 1. Average yields of untreated (UT) and treated (T) for paired insecticide stages for flea beetle control in Canola in North Dakota and Minnesota—1980-90

	Furadan				Counter			
Dosage in lb	ND		MN		ND		MN	
AI/acre in	UT	T	UT	T	UT	T	UT	T
0.25	403.4	1074.0 (10)*	334.0	375.9 (8)	364.6	873.3 (13)	351.0	662 (2)
w/o Langdon 88	636.3	1258.2 (7)	--	--	--	--	--	--
0.5	166.9	1075.8 (4)	262.0	422.6 (4)	472.4	1051.3 (8)	505.3	813.9 (14)
w/o Langdon 88	379.7	1126.9 (3)	--	--	--	--	--	--
1.0	--	--	429.3	573.3 (6)	148.5	381.7 (3)	491.3	737.0 (6)

**Number of paired comparisons*

Table 2. Number of comparisons and average ratio of yield of treated (T)/untreated (UT) for flea beetle control in Canola in North Dakota and Minnesota - 1980-90

	Furadan				Counter			
	ND		MN		ND		MN	
Dosage in lbs AI/acre	N	T/UT	N	T/UT	N	T/UT	N	T/UT
.25 incl. Langdon '88	10	56.2	8	1.2	13	52.6	2	2.3
w/o Langdon '88	8	3.1	--	--	10	2.9	--	--
.50 incl. Langdon '88	4	37.2	4	1.9	8	38.8	14	3.8
w/o Langdon '88	3	8.2	--	--	7	3.6	--	--
1.0	--	--	6	1.9	3	3.0	6	2.2

Dave Noetzel
Extension Entomologist

CORN

ANOTHER BLACK CUTWORM FLIGHT DETECTED—A second major flight of moths was detected May 3-6. Significant captures (>8 moths in two nights) were reported from several counties in western Minnesota (Chippewa, Yellow Medicine, Redwood, Pipestone) and scattered through SE Minnesota (Wabasha, Mower). Near significant captures were reported from Wabasha and Martin counties. Several of these counties also reported significant captures in the previous flight, April 26-28. Multiple flights increase the risk of cutworm problems.

Cool temperatures earlier in May dramatically slowed development of eggs from the first flight. Consequently, cutting damage from both flights should appear about the same time. Hatch from both flights occurred this week. Recent warm weather has accelerated development and projected dates for the appearance of cutting have been moved up a few days to June 1-4. Next week I'll summarize the flights to date and expected cutting dates.

PROGNOSIS FOR EUROPEAN CORN BORER—Each fall the Minnesota Department of Agriculture - Plant Industry Division surveys overwintering corn borer populations from standing corn. A quick look reveals what we already know....there were a lot of corn borers around! On a statewide basis, population levels approximated 1983 levels. Despite the high level of shank infestation, miraculously little ear drop occurred. We can't always count on being so lucky.

Given last year's abundant population, what is the prognosis for 1991? With the large overwintering populations the potential clearly exists for first-generation problems. Scouting early-planted fields this year would be especially prudent.

Weather will play several critical roles affecting adult mating and egg-laying, larval survival directly, and the relative timing of corn borer and corn development. All corn possesses some resistance to corn borer in the form of an chemical called DIMBOA. Until 16" extended leaf height, corn is resistant to larval establishment. However, the resistance factor is diluted as the plant grows and is largely absent when plants reach mid to late whorl stage (22-36 inches extended leaf height).

Delayed planting this spring in some areas will have two impacts. First, any early planted fields in the area will be especially attractive to the moths for egg laying. Second, the majority of corn will have a higher level of resistance than usual and this may reduce larval survival.

Ken Ostlie
Extension Entomologist

Fall Survey of European Corn Borer

District	% Stalks Broken	% Shanks Infested	% Ears Dropped	Borers/100 stalks 1990	1983
NW	2.8	13.1	0.5	134	No data
WC	4.2	49.0	0.8	285	241
C	5.2	35.5	0.2	151	178
EC	3.4	22.4	0.6	106	149
SW	5.2	62.0	0.2	285	295
SC	5.1	51.5	0.5	217	181
SE	7.5	44.6	1.3	234	241
Average	4.8	40.7	0.6	208	214

GRASSHOPPERS

Hatch has been reported in northwestern Minnesota by Russ Severson, W. Polk COA-AG, who indicated sugar beet seedling vulnerability in locations adjacent to roadside and CRP sources. We observed hatch a week or so ago in the southwest and south central counties. It is difficult to suggest nymphal numbers at this time, but it is fairly evident they are associated with last years "hotter spots." Our best estimate of population potential for 1991 is that it will be as in 1990 or lower.

POTATO LEAFHOPPER

A few ***potential*** PLH's have been collected in central Minnesota (week of May 6th). However, we have not conclusively identified these as *Empoasca fabae* (PLH) at this time. At any rate, because of low numbers (4/7,000 sweeps), this does not represent a major influx.

ASTER LEAFHOPPER—arge numbers of ALH were found in central Minnesota (May 6th).

Bill Hutchison
Extension Entomologist

SUNFLOWER

SUNFLOWER RUST: SECTION 18 REQUESTED FOR DITHANE FUNGICIDES—The Minnesota Department of Agriculture has requested the Environmental Protection Agency grant a specific exemption from tolerance (section 18) for the use of mancozeb for control of rust (*Puccinia helianthi*) on sunflowers in Minnesota. The request is specifically for the use of Dithane DF, Dithane M-45, and Dithane F-45 (manufactured by Rohm and Haas) as this is the only manufacturer actively pursuing registration of mancozeb on sunflower. Notification of the outcome of this request will follow in subsequent issues.

The requested use pattern will suggest to apply mancozeb if rust reaches 5% severity on the lower leaves of sunflower plants during the R_1 (buds just visible) to R_6 (end of flowering when the ray flowers are wilting) stage. Rates suggested are 2 lb/acre of the DF or M-45 formulations or 1.6 qts/acre of the F-45. A second application may be applied 10-14 days later if needed. No more than two applications will be permitted with the second no later than when flowering is completed.

Sunflower rust has caused significant damage in Minnesota the last two years. Serious loss seemed limited to the confection hybrid Sigco 954 although some rust did develop on certain other varieties. The decision to spray sunflowers will not have to be made until several weeks from now but growers should be aware of the susceptibility of Sigco 954 and watch these fields closely beginning in late June. Dry weather during July slowed rust development in 1989 and 1990, but with many areas counting on in-season rainfall to carry the crop, we may not be that fortunate this season.

Another important point to remember is that sunflower rust, unlike cereal rusts, can survive in last years debris. **Sunflowers should not be planted two years in a row in the same field. If possible, avoid planting next to a field that had sunflower last year if rust was present in that field.**

To receive more information on this disease, contact your local county Extension Agent, or obtain a copy of *Sunflower Rust* (available as PP-998) from the NDSU Extension Service.

Roger K. Jones
Extension Plant Pathologist

MISCELLANEOUS

DIAL U

County Agents Please Alert Master Gardeners to the Following Items

CARPENTER ANTS SWARMS—any carpenter ants swarms (i.e queens and males) have been reported in the metro area. This is good fortune in a sense because it enables home dwellers to better establish the location of carpenter ant nests. When the location of the nest is known, a direct application of a residual insecticide, e.g. chlorpyrifos will eliminate it. If the nest is in a hard to reach area, e.g. behind a wall, a pest control company may be warranted. See AG-FS-1015, *Carpenter Ants.*

BLEEDING CANKER OF WHITE BIRCH—We have received a number of calls describing a canker (dead area) on the trunk of white birch which is oozing red to rust colored material. The cankered area may be slightly raised

due to callus formation by the tree. White birch, like many other trees are predisposed to infection by water stress, freezing stress and defoliation. The fungus usually enters through wounds (hence many of the cankers are at the base of the trunk) but wounds are not essential. **NOTE:** this fungus **WILL NOT** attack healthy birch trees.

Control: Improve the vigor of the tree and remove infected branches. No chemicals are effective. If the trunk canker is small and the tree has regained its health, it may be able to confine and enclose the canker.

CREEPING CHARLIE—For people averse to using any pesticides in the lawn, even herbicides, we suggest buying a dethatching rake. This rake may be pulled through the grass and will take out quite a bit of the viny creeping charlie. It's laborious work, and it doesn't get it all, but it does give some help.

If the weed is mixed in with grass and doesn't predominate, we recommend using a broad-leaf herbicide 2 or 3 times in spring and again once or twice in autumn. This will not damage healthy established grass, but it can **not** be used in areas of newly seeded grass or sod that's not yet rooted firmly into the ground and growing well.

When there is more creeping charlie than grass in some areas, consider killing that portion of the lawn with glyphosate (Monsanto Roundup or Ortho Kleenup) then reseeding (if the areas aren't very large) or sodding. (Large seeding jobs should wait now for mid-August to mid-September.)

BRONZE BIRCH BORERS—Dead branches or limbs with sparse leaves indicate attacks by bronze birch borers. Raised ridges under the bark and D-shaped exit holes also are signs of borer activity. Because these beetles do not survive in healthy trees, increasing birches' vigor is the best control. This is best done by watering when rainfall is not adequate. Place mulch or wood chips over the roots to help keep the roots cool and moist. Insecticides (bendiocarb and chlorpyrifos) supplement cultural control. Beginning the third week of May, make 3 treatments at 3-week intervals. If the first application is missed, the other two will not be effective. See AG-FS-1417, *The Bronze Birch Borer.*

FIREBLIGHT—Conditions have been good for blossom infection by the fireblight bacteria over much of Minnesota. Watch for succulent tissues such as the blossoms and young shoots to turn dark brown or black. This disease can rapidly spread down into larger limbs of susceptible varieties of apple, pear, cotoneaster, mountain ash, raspberry and rose.

Watch for these blighted areas and remove them during dry weather. Prune out infected areas 8-10 inches below any indication of blight and then cut back further to make a good pruning cut, ie. don't leave a stub. It is extremely important that the pruning shears be sterilized by dipping in a disinfectant in between cuts. Household bleach works well. Mix it as 9 parts cold water to 1 part bleach. Mix up a fresh batch each time you prune. Dispose of all blighted material.

FERTILIZING LAWNS—Somehow some people have gotten the idea that fertilizing the lawn is bad for the environment. **NOT SO!** A fertilized lawn is thicker and will be able to keep weeds out more easily, ultimately reducing the use of herbicides.

The key is to use fertilizer properly. Fertilizer should not be applied to the lawn when heavy rain is predicted, particularly if the yard slopes down to the street or any type of lake or river. Lakeshore property owners should leave a "buffer zone" of unmanaged grasses or vegetation around the shoreline to retain nutrients that might wash down.

If soil is very sandy, use fertilizer containing slow-release nitrogen or organic lawn fertilizers that break down slowly, to avoid the possibility of nitrogen contamination of groundwater in the form of nitrates. Or you can split up regular fertilizer applications using half the normal rate and applying it 2 times, so less nutrients are used at any given time.

WOOD TICKS (American dog ticks) have been common this spring and most tick samples have been identified as wood ticks. However, deer ticks are also active. It is important that ticks are correctly identified to determine the potential risk of Lyme disease. If there is any doubt, send samples to Dial-U for identification. See AG-FS-1013, *Minnesota Ticks and Their Control.*

TURF NOTE—Snow mold was quite aggressive this year. Damage to bluegrass lawns was minimal but lawns which also included perennial rye or bentgrass had more severe damage. Symptoms: Large areas, several feet or more in diameter, of dead turf with a few sprigs of bluegrass. These areas will need to be reseeded. For more information see AG-FO-3386, *Lawn Diseases.*

PINE NEEDLE SCALES appear as white spots on pine and spruce needles. Control is only effective when the immature crawler stage is present. Crawlers are anticipated to hatch this weekend in the Twin Cities. Verify their presence by shaking infested branches while holding a white sheet of paper underneath of it. Reddish insects that fall are crawlers. Spray acephate (Orthene) or malathion when the crawlers are present or apply a summer oil about 2 weeks after egg hatch. See AG-FO-0865, *Insect Pests of Evergreens.*

BOTRYTIS BLIGHT—Grey mold or Botrytis blight has hit susceptible peonies. Young stalks suddenly wilt and fall over. See AG-FS-1153, *Diseases of Peony*, for more information.

CANKERWORMS hatched in the Twin Cities the end of the first week of May. The best time for control is 10 days after egg hatch which is now. Check hardwood trees, especially elms and apples, for small (less than one half inch) caterpillars. Target control particularly at young, recently transplanted trees, unhealthy trees, and trees that have been heavily defoliated during one or more years. Bacillus thuringiensis (Thuricide, Dipel), acephate (Orthene), carbaryl (Sevin), and malathion are effective insecticides. See AG-FS-0876, *Cankerworms.*

STATUS OF FURADAN GRANULES

I just received a notification that Furadan granule formulations will be phased out, except for 5 minor uses, by September 1, 1994. Furadan granular use will be banned in certain ecologically sensitive areas beginning 1 Sept. 1991. Use on corn and sorghum will be prohibited after 1 Sept. 1993. All other uses of granular carbofuran will be voluntarily deleted from the label effective 1 Sept. 1992.

ATRAZINE BMP'S FOR MINNESOTA—As a follow-up to last weeks article, here is more on voluntary atrazine Best Management Practices. Sensitive areas are currently being defined by the DNR, but for the mean time, are defined as highly permeable geologic material such as: a) fractured rock aquifers (including karst and sinkhole areas), and b) where sands, loamy sands, and/or sandy loams are the prevalent soil texture within a field (greater than 50% of the soil surface) and where the water table is less than thirty feet below the surface. Counties in which these conditions are prevalent include: Anoka, Becker, Benton, Brown, Chisago, Dakota, Fillmore, Goodhue, Houston, Hubbard, Isanti, Morrison, Mower, Olmsted, Ottertail, Pope, Sherburne, Stearns, Todd, Wabasha, Wadena, Washington, Watonwan, and Winona. These conditions can occur in any county in Minnesota however, especially in river valleys. Rock and Pipestone counties are notable in this category.

Recommendations for mixing and loading are to perform these tasks on an impervious surface such as a rinsing and loading pad, and apply collected rinse water on labeled sites directly or as part of dilution make-up water. Maintaining a 150 ft buffer during mixing, loading, or equipment rinsing from a sinkhole (outer edge of slope), streambed, lake, wetland, water impoundment, river or similar areas is recommended.

IPM strategies include scouting and weed ID, level of infestation assessment, determining if a herbicide is needed, and if so, which one considering alternatives to atrazine, using the least amount of herbicide needed, and maintaining a field history and records. The federal label requirements which apply to all of Minnesota are spelled out as a reminder, such as no applications to corn exceeding 3 lbs ai/A.

Roger Becker
Extension Agronomist—Weed Control

LEAFY SPURGE SYMPOSIUM—The 1991 GPAC-14 (Great Plains Agricultural Council) Leafy Spurge Symposium will be held at the Radisson Metrodome Hotel, on the University of Minnesota Minneapolis campus on July 10-12. The event will start with registration and a reception on Wednesday evening, July 10. Thursday morning, July 11 will start with the Opening Plenary Session invited speakers discussing leafy spurge history, biology, biocontrol, herbicide use, and future methods of management. Thursday afternoon will involve paper sessions, posters, and the business meeting. Dinner is provided onboard an authentic riverboat Thursday evening while touring the historic upper Mississippi River. Paper sessions will be completed Friday morning followed by afternoon panel sessions, an indepth grass ID workshop, or field tours of biocontrol sites and herbicide plots. This symposium is open to all interested in leafy spurge management. A registration form is attached. The registration fee of $75 includes the proceedings, two meals, plus the riverboat evening dinner cruise. Registration increases to $85 on or after June 1, $90 at the door. Rooms are available at the Radisson Metrodome Hotel for $69/night single, $74/night double by calling (612) 379-8888. Papers and posters will be accepted until June 1, limit abstracts to 250 words. Call Cindy at (612) 625-5886 for information about the symposium. See attached registration form. The Minnesota Twins are hosting the Boston Red Sox Friday through Sunday in addition to many sight seeing and entertainment options available for those would like to remain for some R&R following the symposium.

Roger Becker
Extension Agronomist—Weed Control

WEEDIR, Version 3.1—For those who have not already done so, WEEDIR updates are available to upgrade 1990 or earlier programs. For those with the 1990 version 3.1, only an update disk (AG-CS-5621 WEEDIR 1991 Data Disk) is needed for $15. Those with versions 3.0 or older will need to purchase the complete program (AG-CS-2163) for $50. Order from Distribution Center, 3 Coffey Hall, University of Minnesota, 1420 Eckles Ave., St. Paul, MN 55108, ph (612) 625-8173.

Roger Becker
Extension Agronomist—Weed Control

REGISTRATION

Leaf Spurge Symposium **66-06LJT**
July 10-12, 1991

Please print or type.

First Name Middle Initial Last Name

Business/Organization

Complete Business Address (Street)

City State Zip Code

Business Phone Position

_____ I do or _____ do not (please check one) plan to present a paper or poster at the meeting.

_____ I intend to bring my family and am interested in information on what to see and do in Minnesota.

_____ I am interested in the following tours:
- _____ Grass Identification
- _____ Herbicide Plots
- _____ Biocontrol Plots

Registration Fees:

Registration per person before June 1, 1991	_____	$75.00
Registration per person after June 1, 1991	_____	$85.00
Guest ticket for Mississippi River Boat Cruise & Dinner	_____	$15.00
Ticket for the July 12 evening game: Twins vs. Boston (price includes a small charge for transportation)	_____	$11.00

_____ I enclose $ _____ (check or money order payable to the University of Minnesota) in full payment of the Symposium fee.

_____ Please bill my agency (purchase order or letter of authorization attached).

MAIL TO: Registrar, Professional Development & Conference Services, University of Minnesota, 235 Nolte Center, 315 Pillsbury Drive SE, Minneapolis, MN 55455.

MINNESOTA EXTENSION SERVICE
UNIVERSITY OF MINNESOTA
AGRICULTURE

Department of Plant Pathology
University of Minnesota
495 Borlaug Hall
St. Paul, MN 55108