



PLANT PEST

Newsletter

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ALFALFA

BLISTER BEETLES—This is NOT a state-wide alert, but we now have several “hot” spots in the state where blister beetles are showing up in big numbers. Surveys by the Minnesota Department of Agriculture indicate the northwest part of the state has the highest numbers, ranging from 18-35/100 sweeps; counties with high numbers include Clearwater, Marshall, Polk and Roseau. Sherburne and Wright counties also averaged 25 and 10/100 sweeps, respectively. Greg Tuft, Hennepin Co. Agent, indicated this week that in central North Dakota they were averaging

100/sq. yard—which made harvesting hay somewhat difficult.

As I mentioned last week, there are two concerns with blister beetles: (1) defoliation (alfalfa, potatoes, tomatoes, eggplant) and (2) cantharidin poisoning in horses or livestock. As blister beetle larvae are predators of grasshopper eggs, it is not too surprising that their numbers have reached high levels this year—especially in the northwest part of the state.

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

ALFALFA/Continued

Defoliation Concerns—Blister beetles are usually more attracted to solanaceous plant such as potatoes or eggplant than to alfalfa. They will also be more attracted to flowering plants. Sevin (carbaryl) is one material specifically labeled for blister beetles in alfalfa and Sevin can be used on nearly all vegetable crops (see Table for listing of insecticides). My major concern is protection for the newly-seeded alfalfa fields.

Cantharidin Poisoning Concerns—Dealing with this potential risk is significantly more complicated, but I would like to give you some reasonable options. There is no simple way to determine how many blister beetles it takes to kill a horse or livestock, but the number varies from 50-300, depending on the species of beetle, cantharidin content and health and age of the animal. Most studies have shown that horses are more sensitive in terms of direct toxicity. The more common concern with cows is reduced palatability of the forage, and decreased milk production.

At least 50% of the solution to this problem is knowing what to look for and when. If you have any questions about blister beetle identification, contact your county agent. Dominant species are currently the ash-gray and black blister beetles. They have an ant-like head with long wings covering their back, just up to the tip of the abdomen. They range from 3/4 to 1" long and are about 3/8" wide. After you are sure of the identification, the following management tips and information should help.

1. When possible, always harvest your hay at early-bud to first-flower. Allowing the field to flower heavily not only reduces % protein and quality, but also attracts more beetles.
2. Beetles are quite mobile, so the best bet is to check your fields before you cut. Watch for beetle "swarms" while you are cutting and check the windrows after you cut.
3. If beetles begin swarming in from of the harvester, stop harvesting that section of the field; move to another area to allow the beetles to disperse.

4. If beetles are in high numbers (e.g. >25/100 sweeps) prior to cutting, there are two alternatives:
 - a. **nonchemical approach:** Remove the crimper/conditioner from the harvest process. Research (Kansas State University) has shown that this *minimizes* the number of beetles crushed during harvest; more live beetles are to move out of the windrow. **Disadvantage:** uneven drying of stems and leaves to maintain % moisture goals.
 - b. **Chemical approach:** Treat the field with insecticide prior to harvest to kill beetles. Conversations with entomologists in Texas and New Mexico indicate that most of the beetles will completely fall from the plants, and even burrow into the litter and cracks in the soil surface before they die. Thus, there is minimal risk of beetles showing up in baled hay. **Disadvantage:** some insecticides have 7-14 day pre-harvest interval restrictions.

If insecticides are used, they are **NOT TO BE APPLIED DURING PEAK BLOOM**, to minimize bee kills.

Insecticides labeled for Blister Beetle Control in Alfalfa*		
Material	Rate (Product/ac)	Restrictions
Sevin (XLR Plus) (carbaryl)	1/2 - 3/4 qt.	7-day phi-alfalfa 14-day phi-pasture (ground application).
Malathion 5E	2 pt.	0-day phi.
Parathion 4E	1 pt.	14-day phi.

*Source: National Pesticide Information Retrieval Systems (NPIRS).

Phi = pre-harvest interval.

—Bill Hutchison
Extension Entomologist

CORN

EUROPEAN CORN BORER—The moth flight in southern Minnesota has peaked and is rapidly declining. Only a few locations peaked at over 100 moths per night, a level typifying a substantial first flight. While typical catches are not "eyebrow raising", the potential clearly exists for scattered, economical infestations. Moths can still be found along field margins, which indicates egg laying is not

complete. Fields examined Tuesday and Wednesday near Waseca and Lamberton contained some egg masses and shotholing was readily detected. The majority of borers were in the first larval stage. Infestation levels in taller corn ranged from 5 to 60%. These observations suggest we're just entering the critical two week scouting period for ECB in southern Minnesota.

Weather during the last two weeks since the flight began have been excellent for mating, egg laying and especially for larval survival. Rapid growth of corn with hot temperatures this week and the concurrent loss of DIMBOA should also enhance survival. Larval counts in shotholed plants ranged from 2 to 8 larvae, with an average near 4 in fields I scouted. Compared to previous years when counts averaged from 1 to 2 larvae per shotholed plants, survival and establishment of larvae are exceptional.

While most larvae are currently in the first instar, hot temperatures this coming week could rapidly shut the treatment window for ECB in southern Minnesota. I'm concerned that the ingredients are right for being caught by surprise and missing the opportunity to control these isolated, severe infestations of first generation ECB. Most people haven't looked at fields yet for ECB. Larval survival is excellent. Hot temperatures could rapidly close the treatment window.

BEGIN SCOUTING IMMEDIATELY! The next two weeks are critical. Start with taller, early planted fields. If shotholing does not exceed 35%, return in 3 to 4 days. If shotholing levels reach 35% or above, pull whorls from representative shotholed plants and count living larvae that haven't tunneled. The best approach is to estimate preventable yield loss using the calculations outlined last week. The alternative treatment threshold of 50% shotholing dryland or 35% irrigated may be too high if larval survival is high (an average of three or more larvae per plant). Fields may warrant treatment at a lower % shotholing (e.g., 40%) when survival is excellent.

The moth flight is delayed as we go north in Minnesota. Morris and Fergus Falls reports increasing moth captures while Crookston has yet to report the initiation of the first ECB flight.

INSECTICIDE PERFORMANCE AGAINST FIRST GENERATION ECB—Insecticide performance against first generation ECB larvae has been evaluated in a series

of insecticide trials over the last few years. The following table presents the % control for recommended granular and liquid formulations on whorl-stage corn. Each value represents an average of two trials. These results reflect timely scouting and insecticide application. Actual control achieved may deviate from these results but they serve to illustrate some key points. First, granules generally provide 80% control or better when properly timed. Second, wider variation occurs in liquid performance than with granules. Third, some liquids, notably Ambush 2E, Pounce 3.2E and Penncap-M 2F, provide control against first-generation ECB equivalent to granules. This contrasts sharply with conventional wisdom that granules are the preferred formulation against first-generation larvae.

<u>Insecticide</u>	<u>Rate</u>	<u>Average % Control</u>
Granules		
Diazinon 14G	7.1 lb	73
Dipel 10G	10.0 lb	87
Dyfonate II 20G	5.0 lb	88
Furadan 15G	6.7 lb	81
Lorsban 15G	6.7 lb	81
Pounce 1.5G	6.7 lb	86
Liquids		
Ambush 2E	9.6 fl oz	82
Asana 0.66E	9.6 fl oz	60
Furadan 4F	1 qt	56
Lorsban 4E	1 qt	75
Penncap-M 2F	2 qt	80
	1 qt	71
Pounce 3.2E	6 fl oz	77

The values reported above reflect rates used for aerial application. Ground applied rates may differ according to label directions.

Please note: Because of erratic or poor performance in field trials, Lorsban 4E, Furadan 4F and Asana 0.66E are not recommended for first-generation ECB control.

—Ken Ostlie
Extension Entomologist

COLORADO POTATO BEETLE

Egg hatch will have occurred the week of the 25th of June. Our impression is that spring adult numbers of CPB are greatly reduced over 1989. However, in the valley, control for both CPB and potato leafhopper (PLH) will need to begin by the 4th of July.

Two biologicals (Javelin and M-1) will be marketed in the valley for pyrethroid resistant CPB control. These products, both modifications of *Bacillus thuringiensis* (Bt), will

not give you the dramatic control of CPB you have come to enjoy and will not control PLH. You will probably need to combine the first applications of either biological with an insecticide to remove early CPB hatchlings that the Bt does not kill. It perhaps makes the most sense to use the Bt early with 2 or 3 applications followed by an insecticide rotation. When you use the biological and it works well, don't forget you need an insecticide for PLH.

GRASSHOPPER REPORT

We have had a problem finding research sites with sufficient grasshoppers for good trials. This suggests a large reduction in grasshopper potential for the state. In fact it is possible that most grasshopper control will be on non-CRP crops, cropland borders or on CRP borders. We have not seen a single population that reaches 100 per sq yard over a half or full section and are beginning to believe that larger area treatments may be few.

We have seen adult migratory hoppers but no two-striped adults this week. Redlegged hatch is now underway and conspicuously related to alfalfa.

The Department of Agriculture will have reached an agreement with APHIS on the federal cost share program for CRP this week. They will communicate with county agents and township officers when everything is signed and sealed.

—Dave Noetzel
Extension Entomologist

MISCELLANEOUS

BLACKLIGHT TRAP CAPTURES—The following table summarizes the captures made last week. June 21-26.

District	Location	Nightly capture			
		European corn borer		Armyworm	
		Average	High	Average	High
NW	Crookston	--	--	2	3
WC	Fergus Falls	10	16	4	6
C	Glencoe	6	9	--	--
C	Olivia	13	37	53	90
SW	Lamberton	9	12	--	--
SW	S. Lamberton	10	16	4	7
SC	Blue Earth	11	30	5	17
SC	LeSueur E. trap	10	16	11	12
SC	LeSueur W. trap	8	16	4	8
SC	Waseca	3	7	2	4
WC	Morris	18	21	10	15

—Ken Ostlie
Extension Entomologist

DIAL U

County Agents: Please Alert Master Gardeners
to the Following Items

NUISANCE MOTHS: We have received many calls about large (one inch long) blackish, grayish colored moths that are attracted to houses, sometimes by the hundreds. In some cases, the moths are also found indoors. Besides the metro area, we have also received reports from Stearns and Douglas counties. We have received only one sample so far and it was identified as a noctuid, apparently a species of cutworm.

These moths do not reproduce indoors or cause damage to property. Those found indoors can be killed with a fly swatter or a rolled-up newspaper. Large numbers can be killed with an insect spray containing pyrethrins or resmethrin. Reduce the moths' attractiveness to homes by turning off all unnecessary lights at night. Repair and seal holes in screens, gaps around windows and doors, and other possible entry points. Insecticides, such as chlorpyrifos, diazinon, or malathion, can be sprayed on building exteriors as a last resort.

LILACS: We've had lots of lilac calls the past few days, most of them on pruning. Most people realize that the best time to prune lilacs is right after they're through blooming. But there are many questions about how far back to prune them, and what to do with all the sucker growth.

The more drastically you prune lilacs, the longer it takes ... sometimes many years ... before they resume blooming. In a hedge, where bloom may not be considered too important, it's obviously OK to prune severely, but on an individual shrub that is grown largely for its flowers, don't prune back much beyond removing this year's dead blossoms and their attending growth.

As for suckers, remove all but a few. Those few you leave should be allowed to grow, so at some point they can replace old, woody stems you cut out.

We've also had reports of lilacs that didn't bloom. This is normally attributed to their having been planted in too shady a spot (lilacs thrive in full sun), but can also be the result of heavy pruning several years ago, or light pruning last fall, which would have accidentally taken off the miniature flower buds at the tips of some branches.

WOOD DECAY: Soft wood or mushrooms fruiting on a tree indicate wood decay. Carpenter ants nesting in the tree can also be a sign of decay. Getting rid of the soft wood or the mushrooms will not solve the problem. The mushrooms are simply the reproductive structures of the fungus which is causing the decay.

There is no treatment for wood decay. Prune out dead branches or branches with decay in them. Since decay is associated with wounds, avoid wounding trees with lawnmowers, weed whips, etc. A tree with extensive decay is more likely to be blown over by strong winds.

ANTS IN HOMES: Small, brown ants are being reported entering homes. Samples include cornfield ants, odorous house ants, and thief ants. These ants are most likely coming indoors from outside nests, especially if they have been seen just recently. They are a seasonal problem and should be gone by the end of the summer. Temporary relief can be gained by spraying outside along the foundation with an insecticide, such as chlorpyrifos or diazinon. If the problem can be traced to a particular nest in the lawn, treat the nest with carbaryl (Sevin) or diazinon. Ant baits can be used indoors but can take weeks or months to control the ants. Also a particular bait is not necessarily effective on all ants.

WEED CONTROL IN LAWNS: We've had a number of weeds sent in for identification and removal recommendations. Recently our number one call on weeds has been about white clover, a plant that isn't even considered a weed by many people. (You can buy clover seed in garden centers, for use in low-maintenance lawns.) Because white clover thrives in the wet weather we've experienced this spring and early summer, small, insignificant amounts of it are, all of a sudden, extremely visible in the lawn.

If you feel you must rid your lawn of clover, use an herbicide containing Trimec... a combination of 2,4-D, MCP, and Dicamba. Spray when the temperature will not go above the low 80's and no rain is expected for at least 48 hours. If this herbicide washes into the soil, it may be picked up by the feeder roots of young trees, shrubs, and garden plants, and it can be quite destructive. Apply enough just to wet the clover leaves, no more.

Don't spray in hot weather. If necessary, wait until next fall to repeat the application.

FUNGUS-KILLED FLIES: These flies are found attached to leaves and twigs on a variety of trees and shrubs, including apples, birch, maple, and privet. They don't move and their legs and wings are froze at awkward looking angles. Despite the claims that they are chewing or sucking leaves and/or killing plants, they are completely harmless to plants. This entomophagous fungi is much more abundant this year than in previous ones because of the wet season we are experiencing.

PLANT PATHOLOGY BRIEFS: Apple scab and patch disease on lawns continue to be frequent calls. We have also had this summer's first sample of Septoria leafspot on tomato.

OTHER COMMON CALLS INCLUDE: carpenter ants, post birch leafminer damage, mosquitoes, repairing storm-related injury to trees, killing poison ivy, sodding (yes, you can), and fertilizing lawns.

<i>Jeffrey Hahn</i>	<i>Cynthia Ash</i>	<i>Deborah Brown</i>
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