Pest & Crop

April 19, 2002 - No. 5

In This Issue

Insects, Mites, and Nematodes

Weevils Wreaking Widespread Woes – (*John Obermeyer, Rich Edwards, and Larry Bledsoe*) –

- Scout alfalfa NOW!!!
- Warm temperatures have accelerated larval development and activity
- Use highest labeled insecticide rate for longest possible residual control
- If a second application is necessary, adhere to product rate restrictions

Alfalfa fields in southern and central Indiana need to be inspected immediately for weevil tip feeding and skeletonization of leaves. Our field surveys, see "Alfalfa Weevil Larval Survey," from southeastern and south central counties show that weevil damage and larval numbers are very high. Illinois and Ohio entomologists are reporting the same trend across their states.

Last fall and winter's mild temperatures have allowed for successful egg and adult over-wintering. Also, based on the numbers and size-variability of larvae, egg laying occurred over an extended period. This means that egg hatch and larval development will be occurring over a longer period than normal. Unfortunately, unless beneficial organisms (both parasitic wasps and pathogenic fungi) begin to really kick into gear, some fields may need to be treated more than once. Should this be the case, be certain to adhere to rate-use restrictions.

Our management guidelines for this time period suggest that fields be treated when there are 3 or more larvae per stem and tip feeding is at least about 50%. Surveys and reports from pest managers in the state are showing even higher tip feeding percentages, 100% being quite common. Most insecticide labels suggest using higher rates for increased residual control, we concur with this recommendation. Refer to "Insecticides for Alfalfa Weevil Larval Control" in last week's *Pest&Crop*.

Alfalfa Weevil Larval Survey - 4/16/02 & 4/17/02 (Ron Blackwell)

County (Fields) Sampled	Stem Ht. (in.)	% Tip Feeding
Lawrence		80%
Lawrence		100%
Parke	8.9	88%
Parke	8.1	52%
Parke	7.2	100%
Parke	6.6	92%

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Aphids In Wheat - (*John Obermeyer, Rich Edwards, and Larry Bledsoe*) -

- Yellow wheat could be Barley Yellow Dwarf Virus which is vectored by aphids
- Transmission by aphids mainly occurs in the fall
- Later on, watch for aphids on wheat heads

A caller this week from southwest Indiana was concerned about the presence of aphids on wheat and disease potential. Barley Yellow Dwarf Virus (BYDV), which is transmitted by aphids, causes yellowing of wheat. BYDV usually is observed in late spring, at about jointing, and usually occurs in patches of varying sizes. Plants infested with aphids in the fall, usually more likely in early plantings, are more likely to be infected with BYDV and severely damaged. Insecticide applications applied after wheat reaches Feekes' 4.0 does little good to prevent the transmission of BYDV (refer to "Feekes Growth Stages for Wheat" in *Pest&Crop*, Issue #1).

Watch for aphid population increases as wheat heads begin to emerge and fill. The aphids injure developing heads by sucking plant juices. An average of 50 or more aphids per head indicates that an insecticide treatment should be considered. Normally when aphid numbers build to 10 or more per plant, it is not uncommon for predators and parasites to increase rapidly in response to this increased source of food. Lady beetles (adults and larvae), syrphid fly larvae, lacewing larvae, and several species of parasites are probably now or shortly will be numerous in most fields. These natural control agents should help reduce aphid numbers.

Aphids feeding on developing kernel

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Showers, Flowers, and Black Cutworm - (*John Obermeyer, Rich Edwards, and Larry Bledsoe*)

- Recent fronts have brought us many cutworm moths
- Timing of scouting can be improved by tracking heat unit accumulations
- Scouting fields and treating when necessary makes more sense than the prophylactic applications of insecticides

Several intensive captures (9 or more moths caught over 2-nights) have been recorded by our dutiful cooperators throughout the state, see "Black Cutworm Adult Pheromone Trap Report." This recent flush of moths is attributed to warm wind currents from the Gulf Coast States and southwestern portions of the country.

Significant moth captures at this time, along with the use of heat units to predict the beginning of larval activity, gives us an indication of potential severity of the problem and locations of concern. Thus, we are able to predict with some degree of accuracy when and where crop damage is likely to occur based on these data. Watch for future *P&C* articles concerning this pest.

Should one treat for black cutworm before or at planting? The tried, true, and **economic** approach to black cutworm management is to scout fields, determine infestation and damage levels, and use a rescue treatment, if needed. Scouting, treatment thresholds, and control information will be provided in future *Pest&Crop* newsletters

Bug Scout

"Ahhh... spring time... look at all the pretty black cutworm moths!"

Black Cutworm Adult Pheromone Trap Report
Week 1 = 4/4/02 - 4/10/02 Week 2 = 4/11/02 - 4/17/02
(Ron Blackwell)

County	Cooperator	BCW Trapped		County	Cooperator	BCW Trapped	
		Wk 1	Wk 2			Wk 1	Wk 2
Adams	Roe/Price Ag Services	7	3	Knox	Smith/Growers Co-op (Whtlnd 2)	6	5
Bartholomew	Ludwig/Growers Service	7	2	Lake	Kliene (1)	1	12*
Bartholomew	Weinantz Farm/Pioneer	7	9	Lake	Kliene (2)	1	14*
Benton	Schellenberger/Jasper Co. Co-op	0	7	Marshall	Barry/Marshall Co. Co-op	0	10
Clay	Smith/Growers Co-op (Bzl)	2	6	Newton	Babcock/Jasper Co. Co-op	0	5
Clay	Smith/Growers Co-op (CC)	2	10*	Parke	Rule/Midland Co-op	10*	6
Clinton	Blackwell/Purdue	4	20*	Porter	Mueller/Agriliance	1	8
Decatur	Miers Farm/Pioneer	16*	6	Putnam	Nicholson Consulting	1	4
Elkhart	Kauffman/Crop Tech (1)	3	0	Randolph	Jackson/Davis-Purdue Ag Center (S)	5	1
Elkhart	Kauffman/Crop Tech (2)	0	1	Randolph	Jackson/Davis-Purdue Ag Center (N)	3	3
Fayette	Schelle/Falmouth Farm Supply	4	13	Rush	Peggs/Pioneer	6	13*
Gibson	Hirsch Farms	11*		Sullivan	Smith/Growers Co-op (W)	2	8
Fountain	Mroczkiewicz/Syngenta	0	2	Sullivan	Smith/Growers Co-op (E)	6	9
Fountain	Hutson/Purdue	5	7	Tippecanoe	Obermeyer/Purdue	2	16
Hamilton	Dobbins/FMC	0	8	Tipton	Johnson/Pioneer	0	11*
Hendricks	Whicker/Midland Co-op	6	4	Vermillion	Hutson/Vermillion Co. Ext. (N)	10*	14*
Henry	Schelle/Falmouth Farm Supply	2	3	Vermillion	Hutson/Vermillion Co. Ext. (S)	12*	5
Jasper	Manning/Jasper Co. Extension (S)	1	0	Vigo	Smith/Growers Co-op	4	7
Jasper	Manning/Jasper Co. Extension (Ctrl)	0	4	Warren	Shields/Jasper Co. Co-op	1	7
Johnson	Truster/Ag Excel Inc.	2		White	Reynolds/Orville Redenbacher 1K	4	12
Knox	Smith/Growers Co-op (Oaktown)	5	12*	White	Reynolds/Orville Redenbacher 2P	4	12
Knox	Smith/Growers Co-op (Edwardsport)	9*	4	Whitley	Walker/NEPAC	6	3
Knox	Smith/Growers Co-op (Whtlnd 1)	1	4				

* = Intensive Capture.... An intensive capture occurs when 9 or more moths are caught over a 2-night period.

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Armyworm Moths Also Arriving - (*John Obermeyer, Rich Edwards, and Larry Bledsoe*)

Armyworm pheromone traps in Kentucky and one keen observer in Orange County Indiana have confirmed that this dreaded pest from the 2001 season has made its annual arrival into the Midwest. Watch for our black light trap catch reports beginning in next week's *Pest&Crop* and subsequent newsletters before jumping to conclusions about this pest in 2002.

Armyworm moth

Atrazine and Frogs - (*Glenn Nice and Thomas Bauman*)

"Ubi dubium ibi libertas" which is Latin for, "Where there is doubt, there is freedom." Far too often in the media one study is dictated in such a manner that suggests proof. The media does this with the full knowledge of what sells. In fact, as many high school science classes will teach, one study only means that a hypothesis has been supported, never proven. The word "proof" is almost never heard in research. We see and hear words like "suggests" and "supports." Generally in science, whether it be butterflies or frogs, one study will raise eyebrows that lead to other studies revolving around or repeating the first. It is important to have a study repeated by others before strong over all conclusions can be made. An idea or hypothesis has to be supported by others and in the field.

Research recently released by Dr. Tyrone B. Hayes of the University of California at Berkeley suggests that atrazine can interfere with the African clawed frog (*Xenopus laevis*) sexual development. Dr. Hayes reported in the *Proceedings of the National Academy of Science* that atrazine levels from 0.1 ppb to 200 ppb can increase the production of the enzyme aromatase, which is involved in the conversion of androgen hormones to estrogen hormones. These hormones are involved in the sexual development of the frog. As the levels of atrazine were increased to 200 ppm up to 20 percent of the frogs showed multiple sex organs. Vocal chord development was also suggested to be effected. Which would affect the frogs ability to attract a mate and reproduce. At present, EPA allows 3 ppb of atrazine in drinking water and the chronic exposure limit for aquatic life is 12 ppb for aquatic life.

Is this a concern for people? The effects on people have not been addressed by the research. However, the point is made that unlike frogs people do not live in the water (ABC News.com). Also unlike frogs, people generally don't have the ability to change their sex mid life cycle (excluding the use of modern medicine). In populations of frogs, males can become females if there is an over abundance of male frogs in a population indicating a certain plasticity of sex determination.

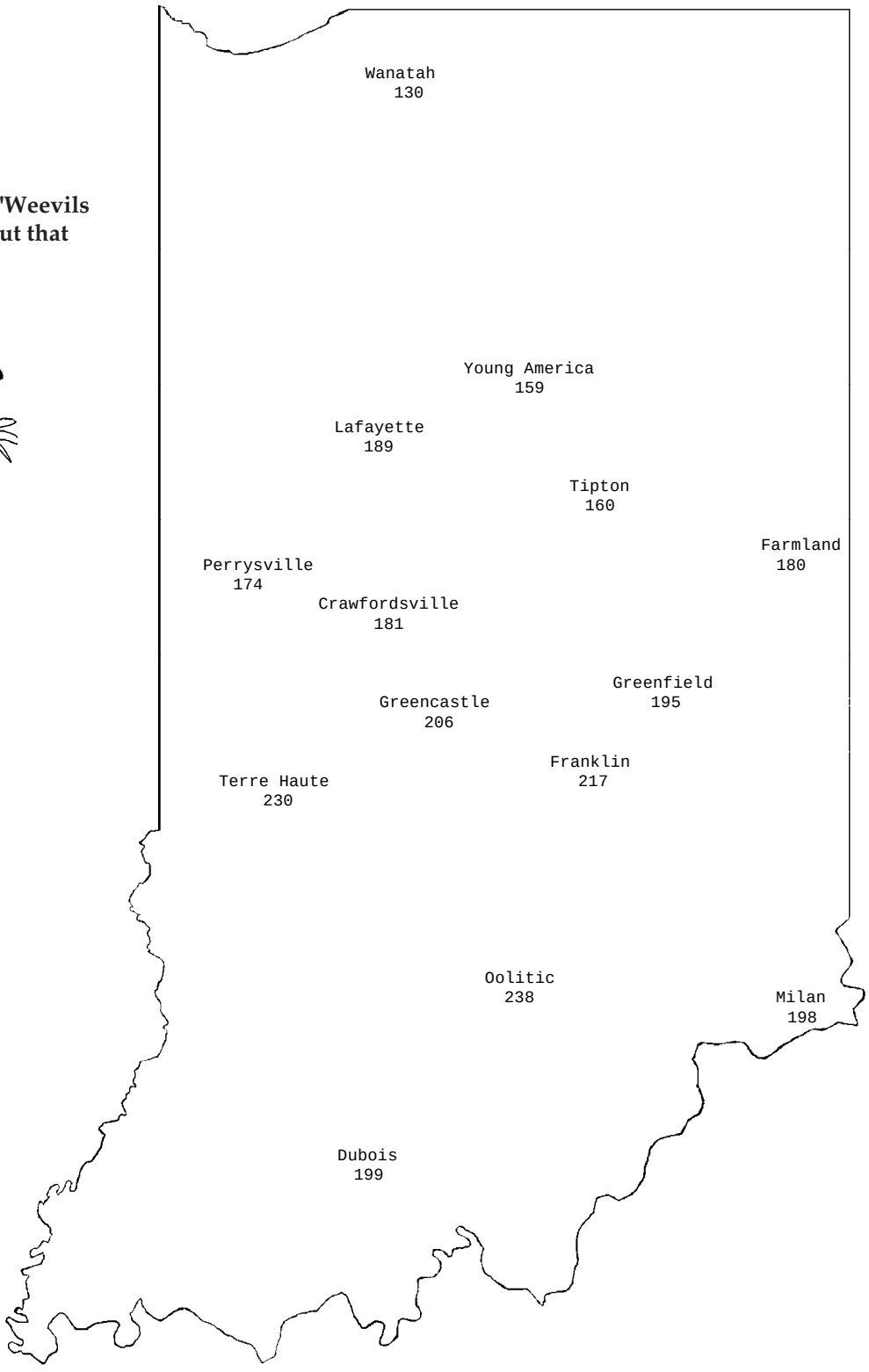
What does this all mean to the producer? Atrazine has become a staple in corn production due to its efficacy and cost. However, atrazine is up for re-registration by the EPA. Furthermore, the EPA has been pressured by governing bodies to make a decision on atrazine's registration. Its future as a weed management tool is uncertain. This study has raised new environmental concerns. Also, whether the results of this study are supported by other research from other institution or not, many people's minds will be made up and pressure to take atrazine out off the market will be there. I do not doubt the credibility of the above research at all; however it is important to note that one study does not make gospel.

Weather Update

Temperature Accumulations from Jan. 1 to April 17, 2002

MAP KEY
Location HU48

HU48 = heat units at a 48°F base from Jan. 1, for alfalfa weevil development (begin scouting at 200)



Bug Scout says, "Weevils everywhere...scout that alfalfa NOW!"

4" Bare Soil Temperatures 4/17/02

Location	Max.	Min.
Whitford Mills	60	47
Wanatah	79	62
Columbia City	69	55
Winamac	77	70
W Laf Agro	79	63
Tipton	63	59
Farmland	71	57
Perrysville	66	62
Crawfordsville	62	56
Liberty	61	59
Oolitic	65	61
Dubois	80	63

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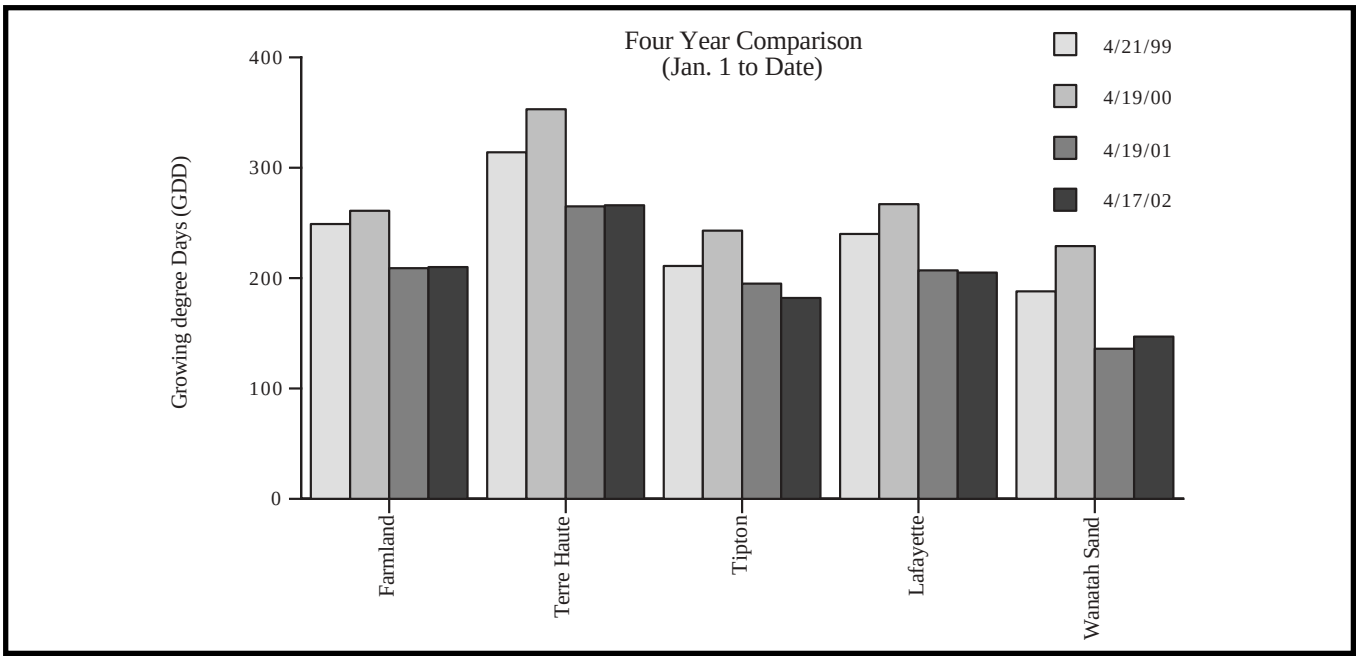

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