WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE & CONSUMER PROTECTION

INSECT PESTS

wisconsin insect survey results and outlook for 2007

Plant Industry Bureau
January 17, 2007

Krista L. Hamilton, Plant Pest & Disease Specialist

bean leaf beetle

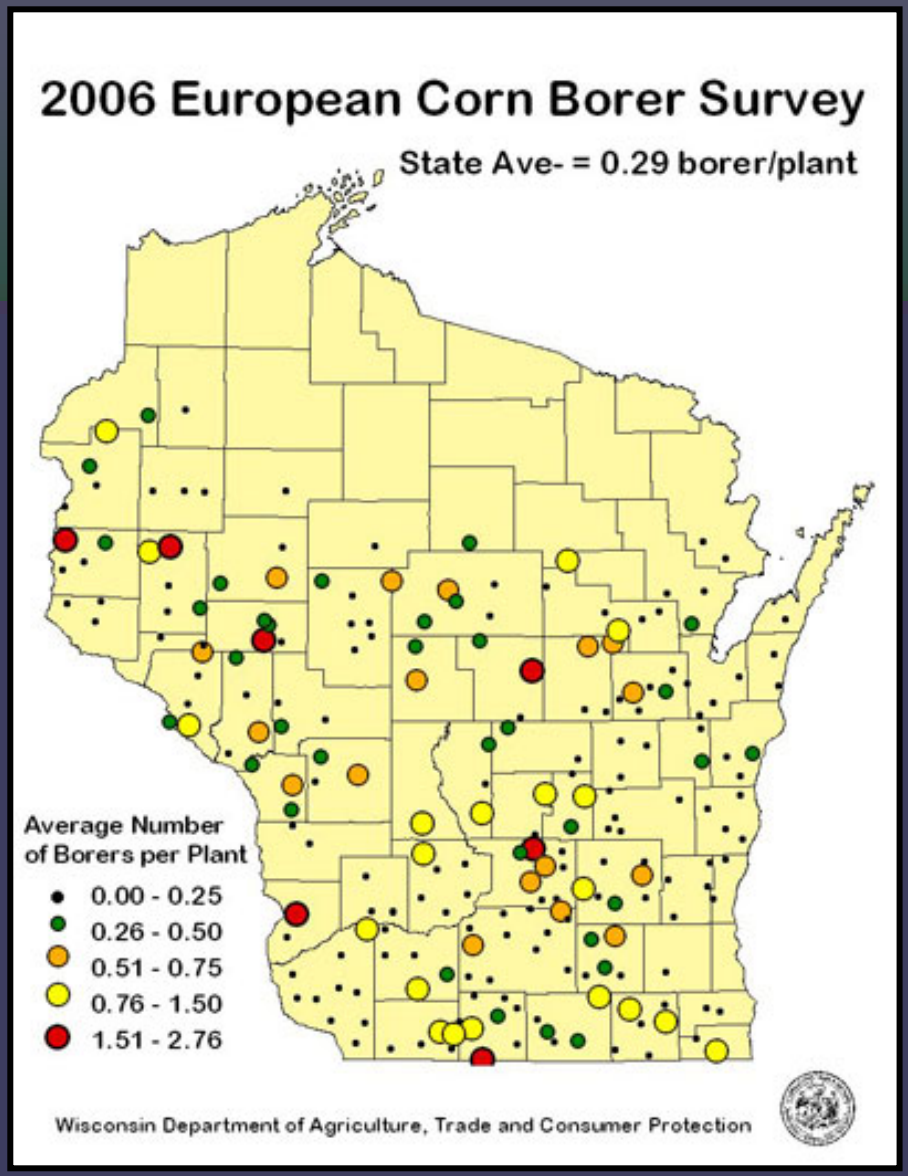
european corn borer

corn rootworm

western bean cutworm

soybean aphid

black cutworm



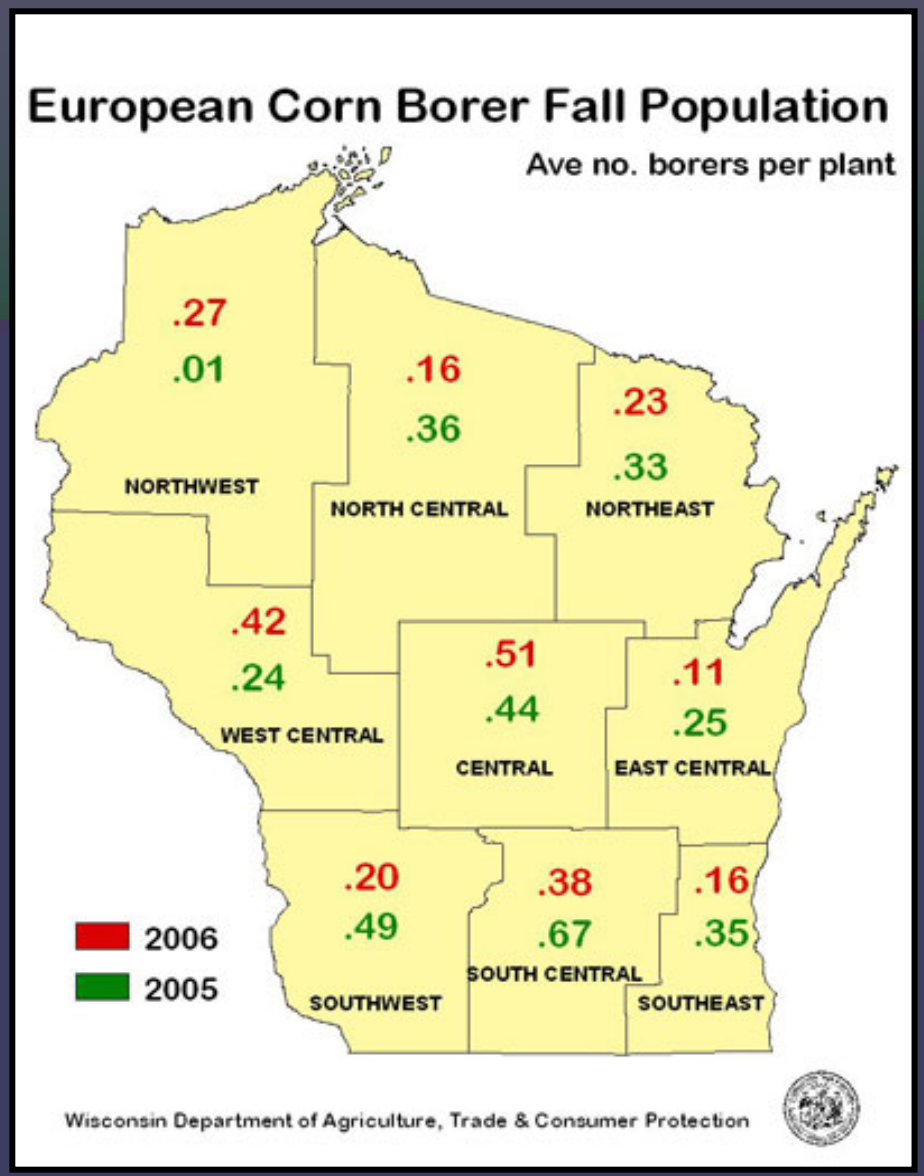
fall ecb survey summary

statewide average ecb larvae per plant

2006:	0.29
2005:	0.40
10-year:	0.30
50-year:	0.48
Threshold:	1.00

226 survey sites in 2006

district ecb averages



92% (208 of 226) of the fields had **populations < 1.0 borer per plant**

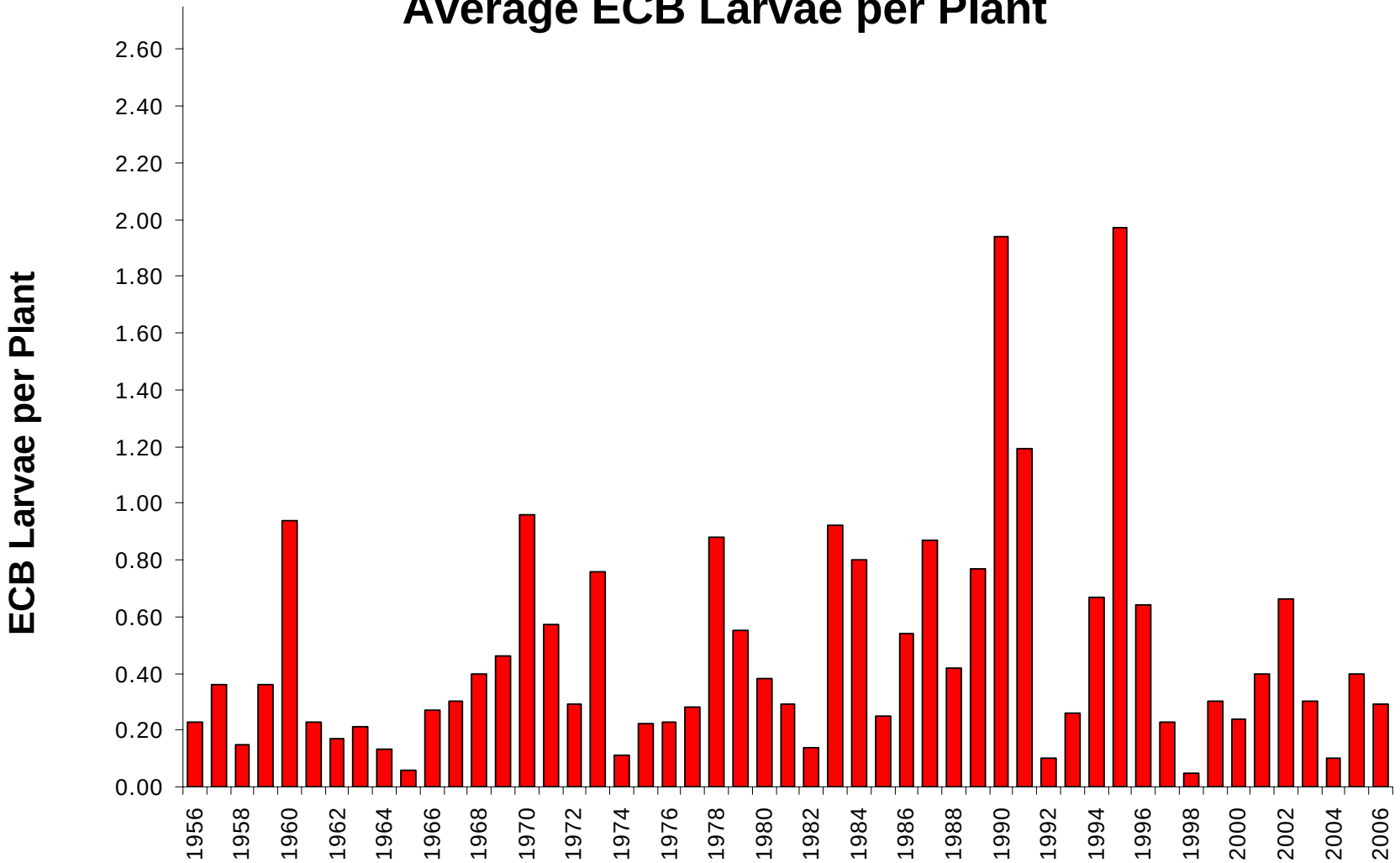
8% (18 of 226) had populations > 1.0 borer per plant

West central and central districts had the highest number of fields with economic populations

Largest decreases recorded in the southwest and south central districts

Statewide Fall Survey Averages 1956-2006

Average ECB Larvae per Plant



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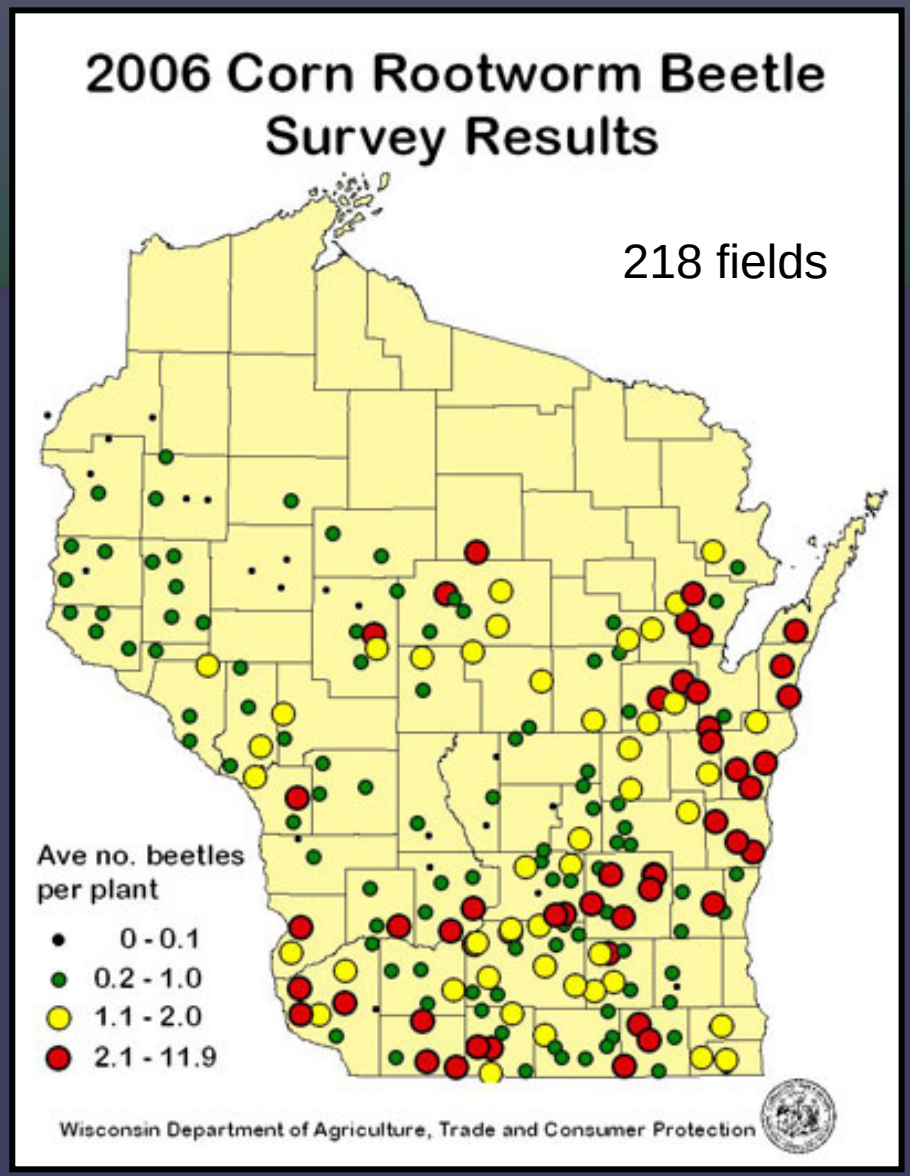
http://pestbulletin.wi.gov/



corn rootworm beetle survey

average number of beetles per plant

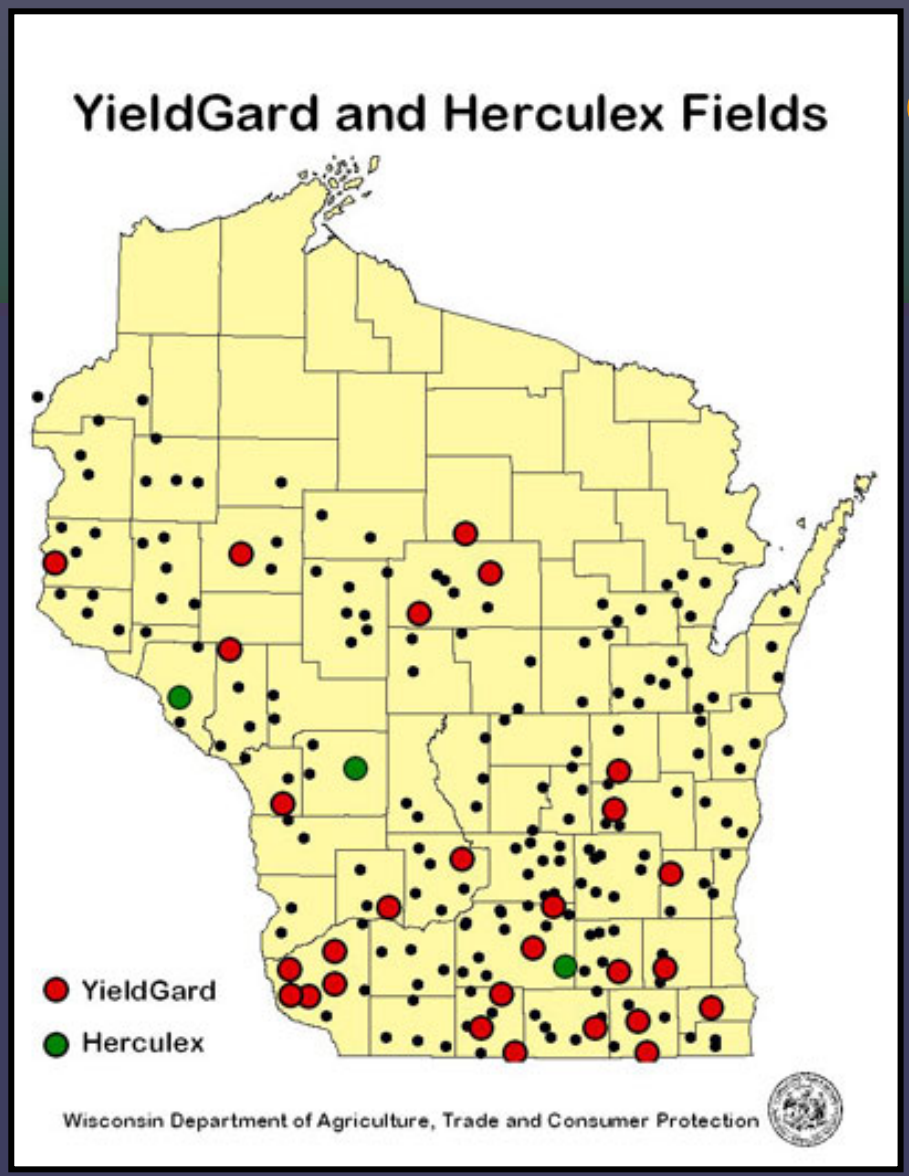
Statewide average	1.4
Northwest	0.1
North central	0.9
Northeast	1.8
West central	0.8
Central	0.7
East central	2.2
Southwest	2.2
South central	1.7
Southeast	1.4

corn rootworm beetle survey

mobile testing for transgenic traits

corn rootworm beetle survey

mobile testing for transgenic traits



corn rootworm beetle survey

mobile testing for transgenic traits

YieldGard® Bt-Cry3Bb1 protein in 13% of the fields (28 of 218)

Herculex® Bt-Cry34Ab1 protein was detected in 1% (3 of 218) of the fields

57% of YieldGard® fields with counts above 1 beetle/plant (16 of 28)

33% of Herculex® fields with counts above 1 beetle/plant (1 of 3)

outlook for corn rootworm in 2007

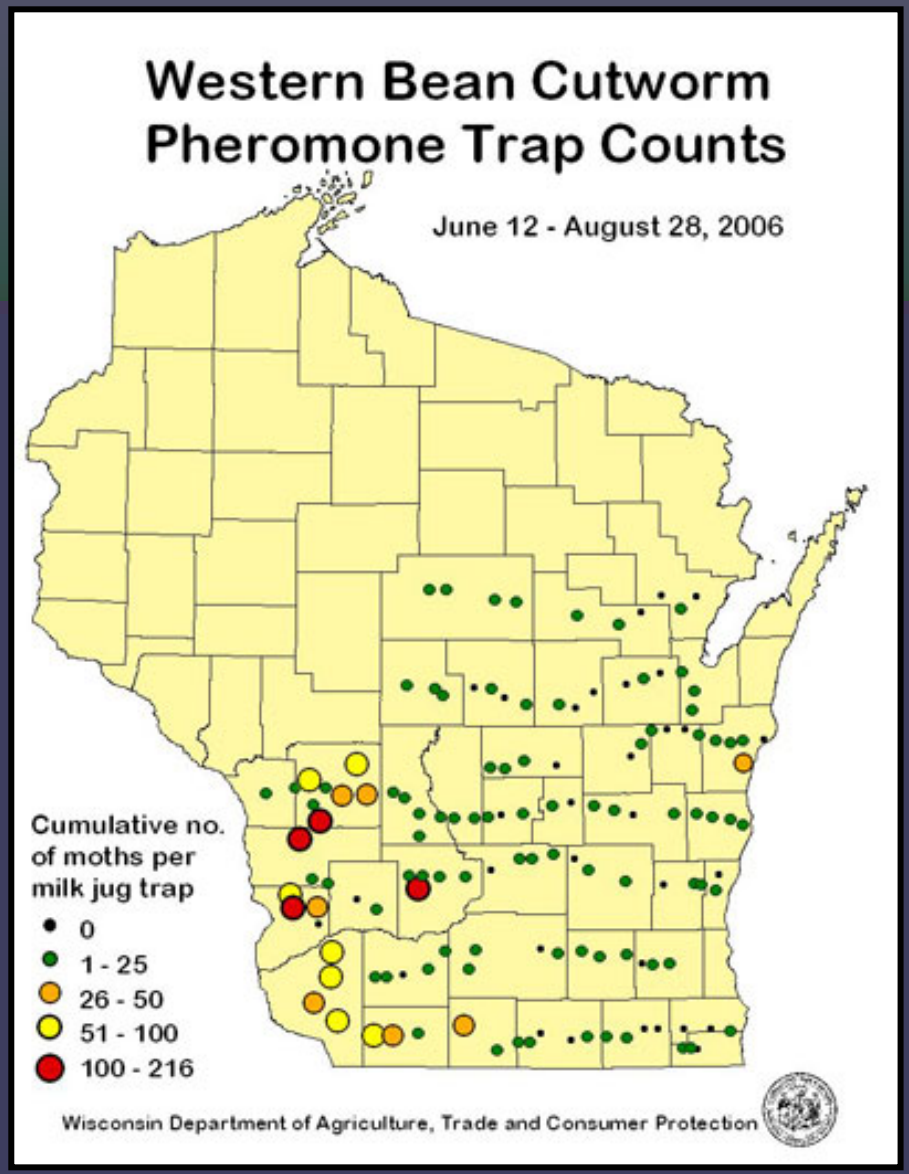
Heavy corn rootworm beetle populations found in 2006, especially in the NE, EC, SW, SC and SE districts

Lots of crw adults = lots of crw eggs

Expect heavy larval populations and instances of severe lodging in multi-year corn

western bean cutworm trapping

- 135 milk carton pheromone traps set in 2006
- Traps deployed in early June
- First moths captured between July 6-13
- Peak flight registered between July 21-30 at most trapping sites



western bean cutworm

87% of traps (117 of 135) captured 0-25 moths

5% of traps (7 of 135) captured 26-50 moths

5% of traps (7 of 135) captured 51-100 moths

3% of traps (4 of 135) captured 101-216 moths

Highest count recorded was 216 moths


Mineral Point, WI
August 31, 2006

wisconsin department of agriculture, trade and consumer protection ● division of agricultural resource management ● bureau of plant industry

western bean cutworm
degree days and moth emergence

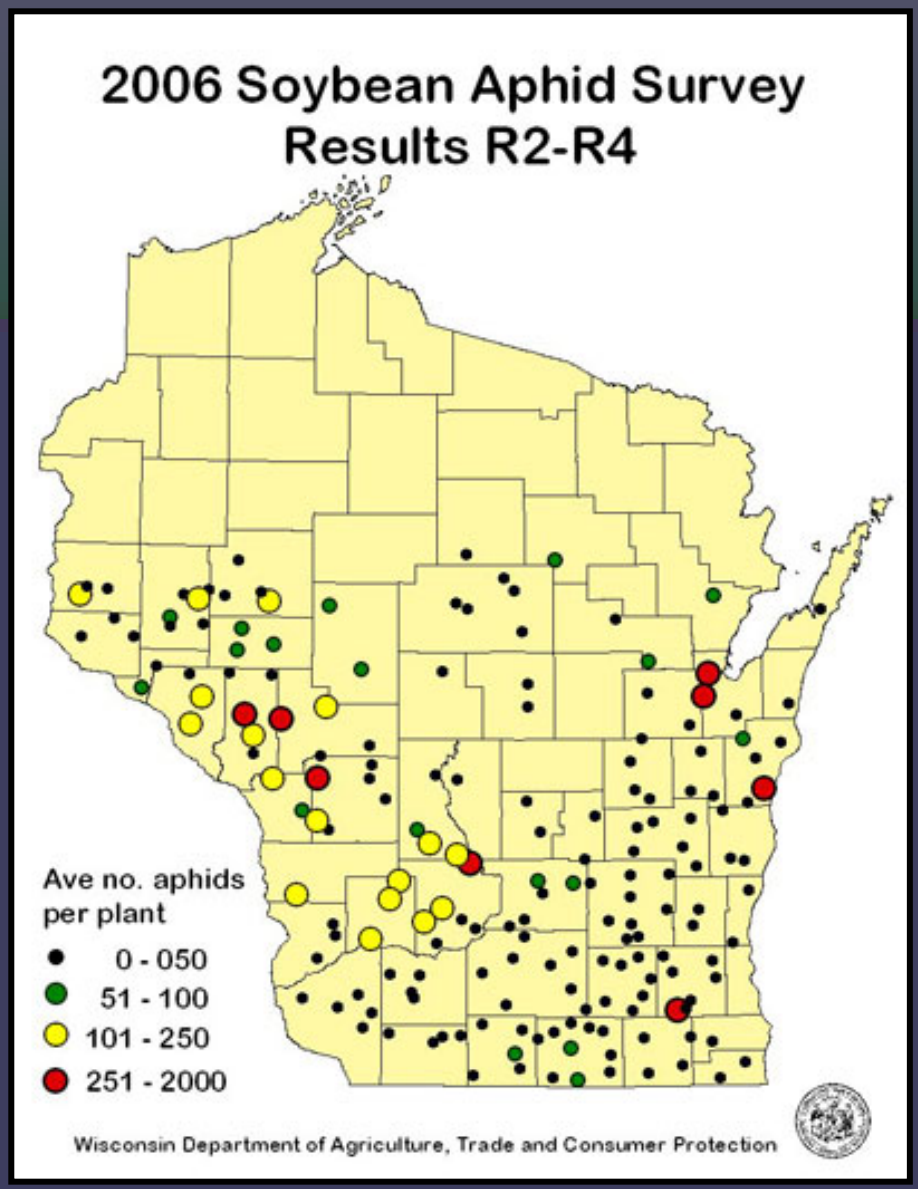
- 25% emergence by 1319 GDD^{50}
  - July 15 in Madison in 2006
  - July 09 in Madison in 2005
- 50% emergence by 1422 GDD^{50}
  - July 21 in Madison in 2006
  - July 13 in Madison in 2005
- 75% emergence by 1536 GDD^{50}
  - July 25 in Madison in 2006
  - July 18 in Madison in 2005
- Peak flight registered July 21-30

results & recommendations for wbcw in 2007

- Moth flight begins early to mid-July in WI
- Place pheromone traps by late June
- Begin scouting as soon as the 1st moth is noticed
- Expect peak flight by late July
- Look for larvae in ears and damage by mid-August (earlier than corn earworm)
- Action threshold = 8% of plants have egg masses and/or small larvae

corn earworm

western bean cutworm



soybean aphid survey

R2-R4 stages of growth

Statewide average number of aphids per plant:

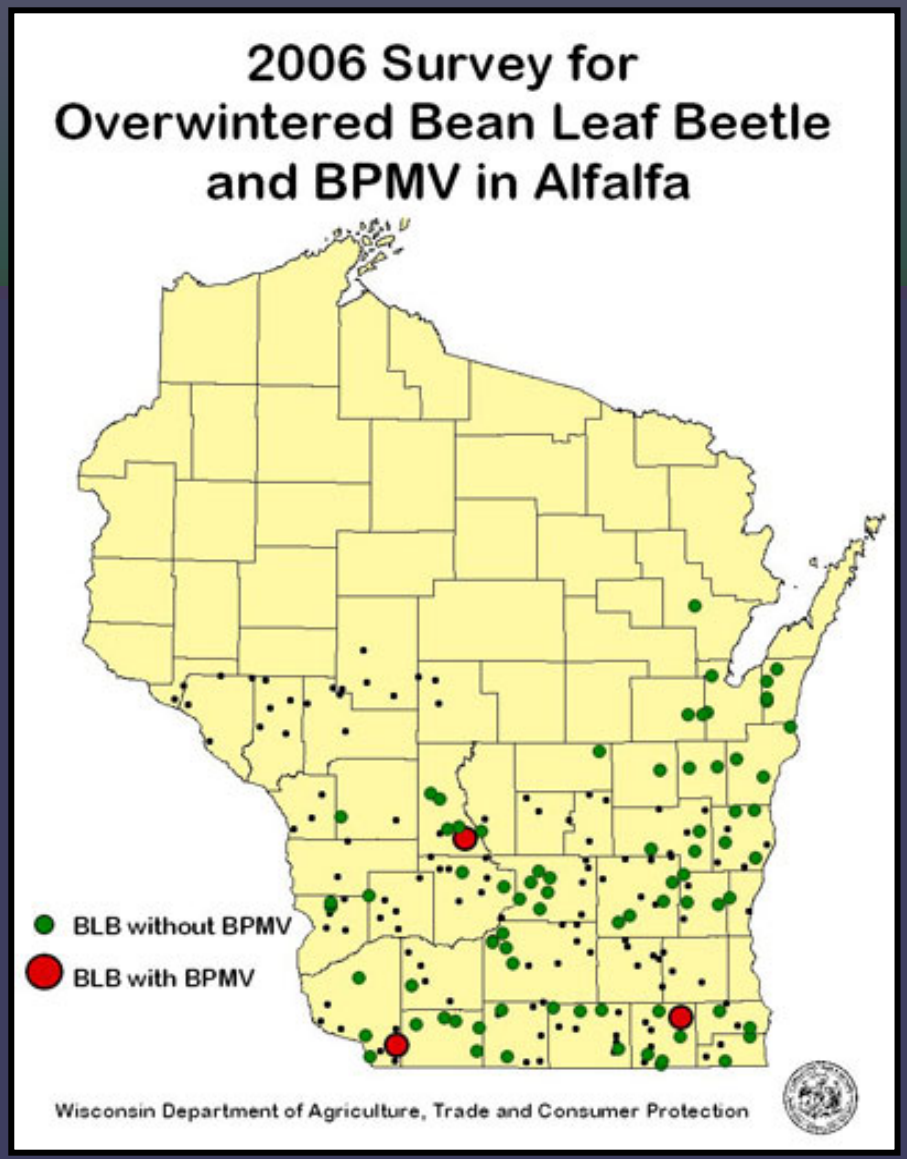
2006	70
2005	120
2004	15
2003	770

85% fields with < 100 aphids/plant

10% fields with 101-250 aphids/plant

5% fields with 251-2000 aphids/plant

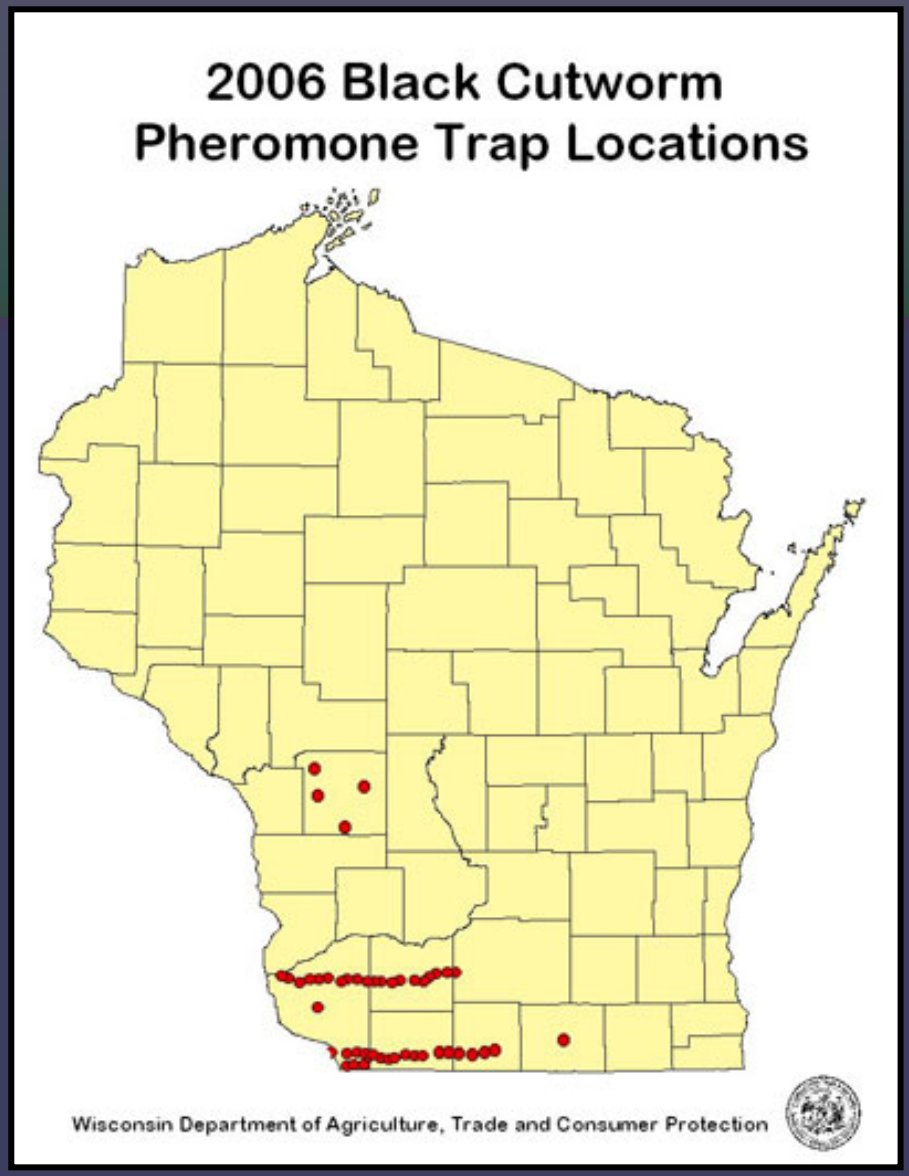
spring blb survey



- 202 survey sites (alfalfa fields)
- BLB found at 81 sites (40%)
- BLB from 3 of 81 sites tested positive for BPMV
- BPMV^{+} beetle found in Grant, Juneau and Walworth Cos.

blb outlook for 2007

- BPMV found in three overwintered beetles collected in spring of 2006
- BPMV not present in any of the 188 soybean fields surveyed in 2006
- Early season BPMV transmission not expected to be an issue in 2007



black cutworm trapping

Migratory early-season corn pest arrives by mid-April

Pheromone traps placed in SW to determine:

- arrival of moths
- start of egg laying
- when seedling corn is most susceptible to cutting

First “concentrated capture” of moths on April 24 in 2006

black cutworm trapping

Follow Wisconsin Pest Bulletin reports next April for black cutworm arrival in your area

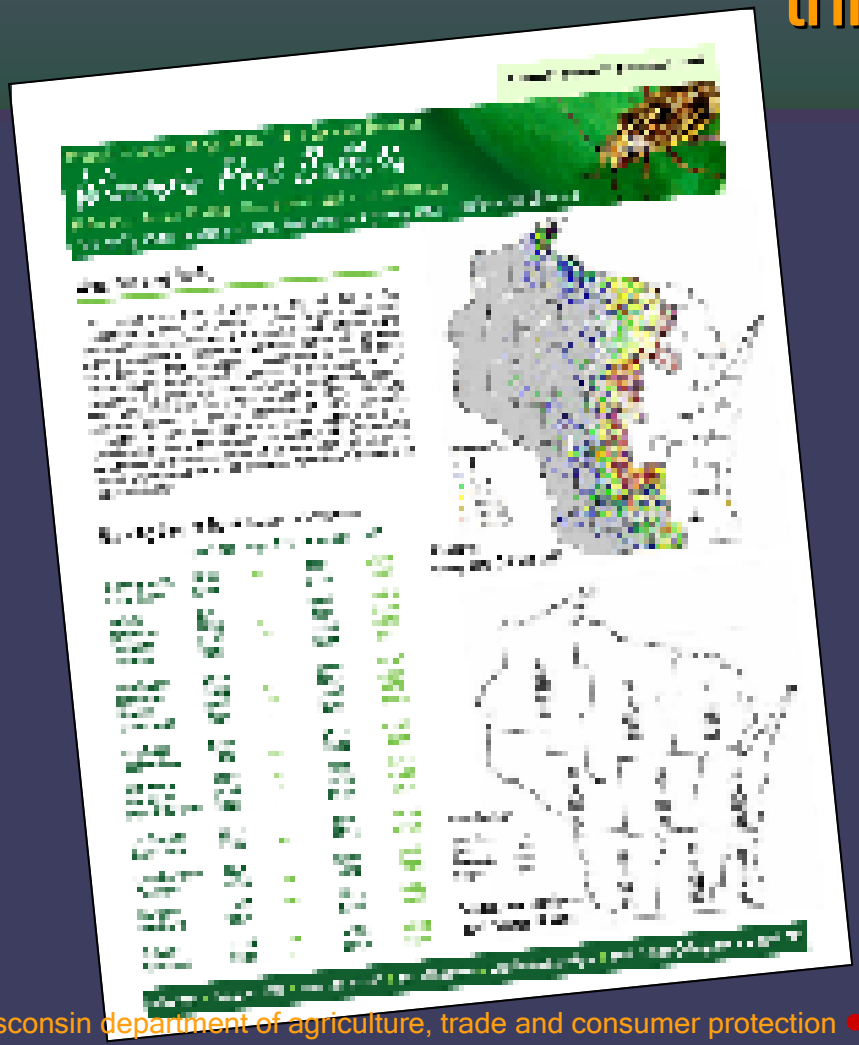
Look for first “concentrated capture” of moths by late April or early May

Track growing degree days to determine when corn is most susceptible to cutting (300 GDD base 50°F following a concentrated capture of moths)

Larval instar	Head capsule width	Approximate days left to feed	Potential number of plants that may be cut		
			1 leaf	2 leaf	4 leaf
4		25	4	3	1
5		21	4	3	1
6		14	4	3	1
7		5	1	1	1

Figure 1. Guide to black cutworm development and damage in corn.

for weekly updates on pest conditions throughout the growing season:



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