DATCP's 2002 Insect Survey Results & Outlook for 2003

Krista Lambrecht
Wisconsin Department of Agriculture, Trade and Consumer Protection

European corn borer

Soybean aphid

Corn flea beetle

Bean leaf beetle


European Corn Borer
Marlin E. Rice

ECB Fall Survey Objectives

- To estimate the density of the fall corn borer population
- To forecast the potential size of 1st flight of moths next summer
- To estimate the potential economic impact of ECB

ECB Fall Survey Protocol

Photos: Integrated Pest Management
University of Illinois at Urbana-Champaign

- examine 25 consecutive plants
- determine number of infested plants
- dissect last two infested plants and count larvae
- calculate average number of corn borers per plant

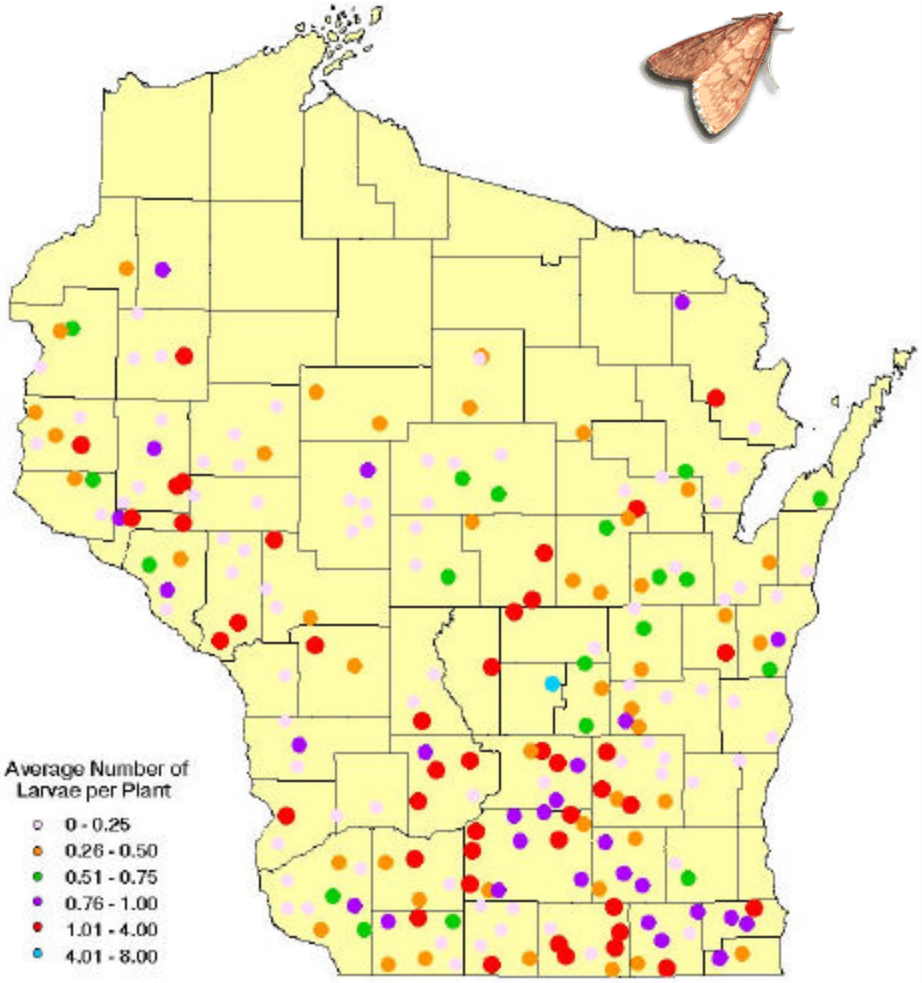
European Corn Borer Survey Form

Field No.	Field Corn or Sweet	No. of plants infested in count of 25 **14**				Maturity			
Number of borers by instar, in two infested plants		1.	I	II	III	IV	V **2**	P	E	Total **2**
		2.	I	II	III	IV	V **1**	P	E	Total **1**
No. of stalks broken above ear **3**		No. stalks broken below ear **2**					No. ears on ground **0**			
Percent plants infested **14/25 = 56%**		Borers per infested plant **1.5**					Borers per 100 plants **1.5 x 56 = 84**			

ECB Fall Survey Results

Year	Ave. Number of Borers per Plant
2002 :	0.66
2001:	0.40
10-year:	0.53
50-year :	0.49
Threshold:	0.75

2002 European Corn Borer Survey



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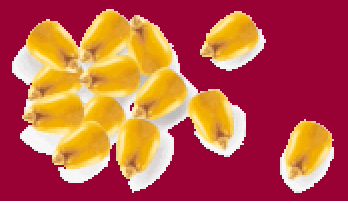
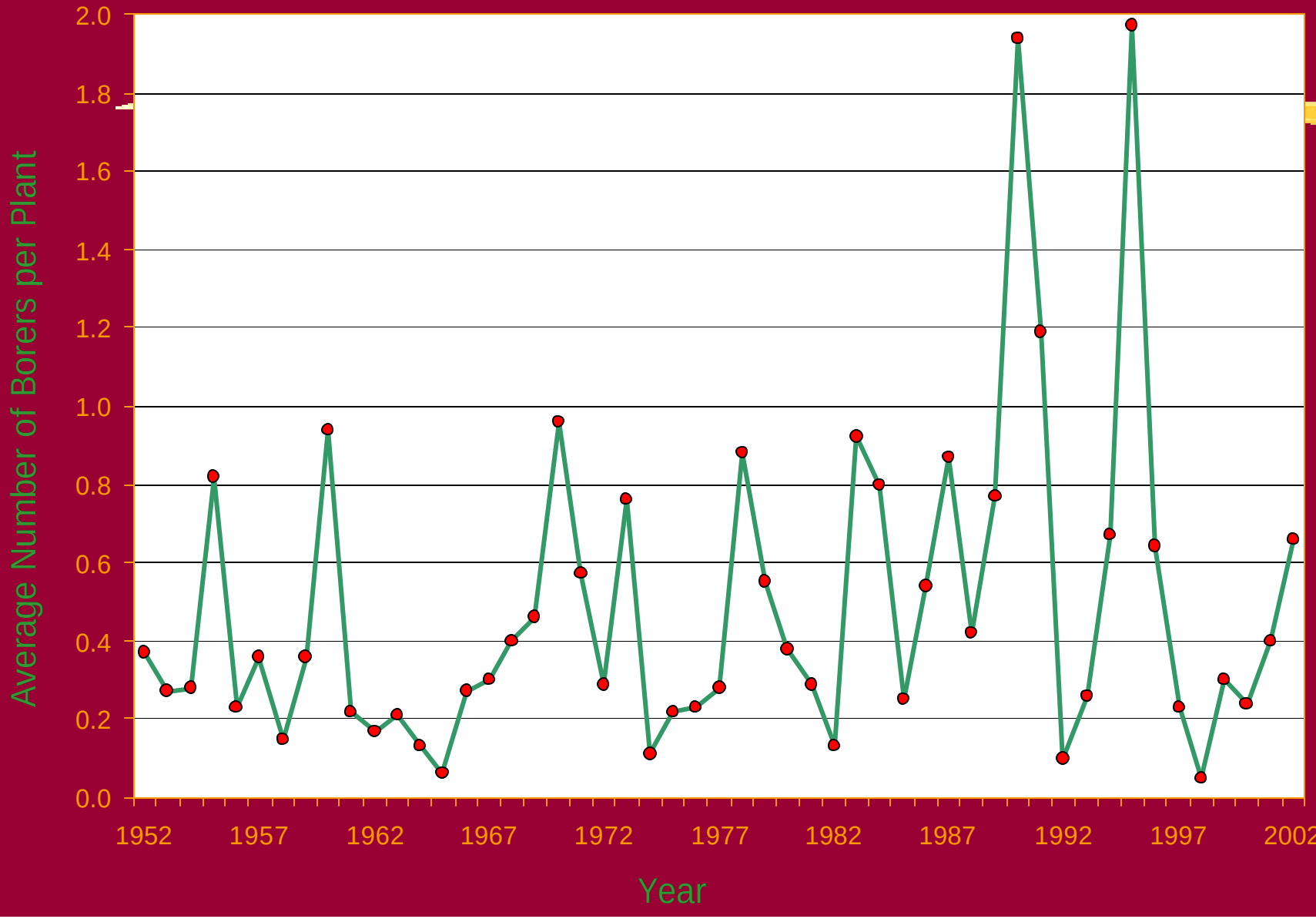
ECB Fall Survey Results 1993-2002

District	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	10-Yr
NW	.25	.20	.10	.32	.03	.02	.15	.24	.33	.44	.21
NC	.15	.08	.17	.41	.26	.01	.03	.04	.05	.26	.15
NE	.02	.10	.53	.47	.18	.01	.18	.03	.07	.75	.23
WC	.17	.45	1.21	.80	.15	.02	.30	.31	.67	.71	.48
C	.29	.92	1.23	1.02	.09	.02	.30	.41	.48	1.21	.60
EC	.13	.28	2.49	.65	.26	.03	.25	.19	.33	.44	.51
SW	.65	1.10	6.31	.51	.39	.17	.57	.39	.87	.65	1.16
SC	.14	1.01	2.65	.83	.35	.10	.61	.33	.48	.86	.74
SE	.40	1.07	3.08	.79	.35	.10	.31	.16	.36	.61	.72
Ave.	.25	.58	1.97	.64	.23	.05	.30	.24	.40	.66	.53

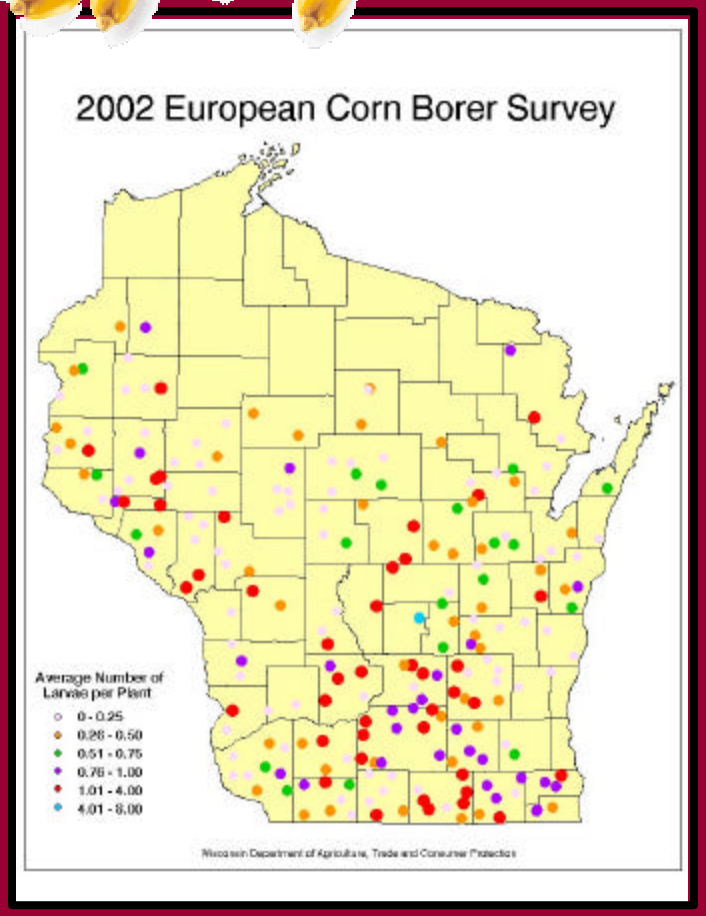
Average number of borers per plant



European Corn Borer Fall Survey Results 1952-2002



To Bt or not to Bt?



- With a statewide average of 0.66 borers per plant, can we expect economic losses in 2003?
- Does the economic risk outweigh the extra cost for Bt seed?

Corn Flea Beetle

Stewart's Wilt Risk Factors

- Prevalence of Stewart's wilt during previous season
- Corn flea beetle winter survival
- Corn flea beetle population size
- Percentage of corn flea beetle population carrying *Pantoea stewartii*, the bacteria that causes Stewart's wilt

Predicted CFB Survival & Risk of Stewart's Wilt

based on Dec-Feb temperatures

0 month > 24°F = very low risk

1 month > 24°F = low to moderate risk

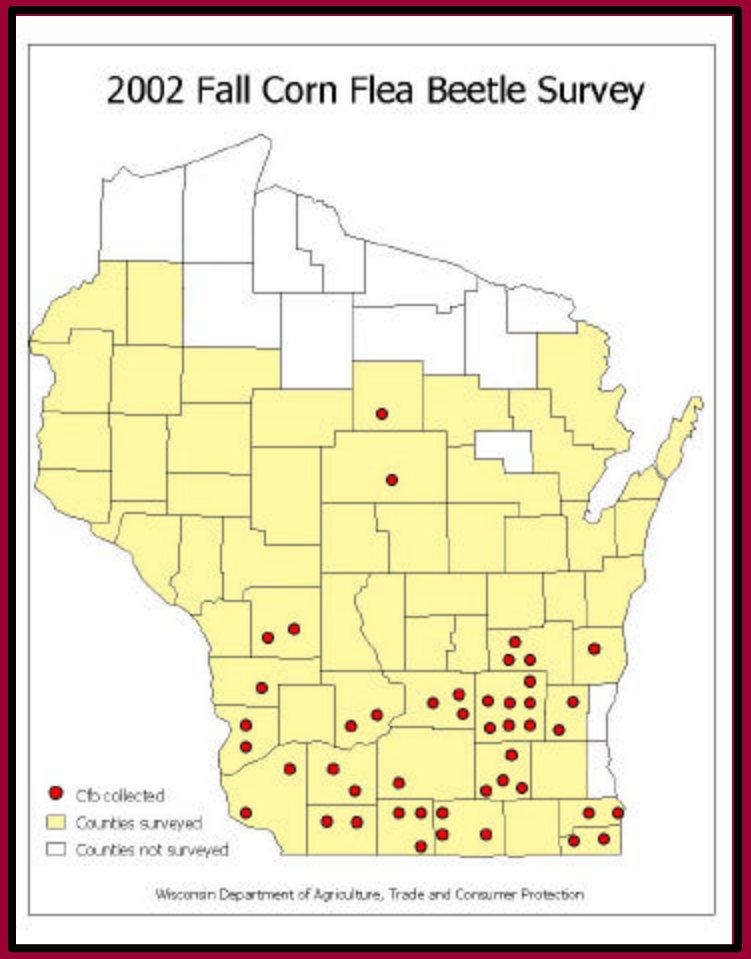
2 months > 24°F = moderate to high risk

3 months > 24°F = high risk

(model developed at Iowa State University)

2002 Cfb Survey Results

- Corn flea beetles collected at 46 of 221 survey sites
- Beetles carrying *P. stewartii* collected at 1 of 46 cfb positive sites



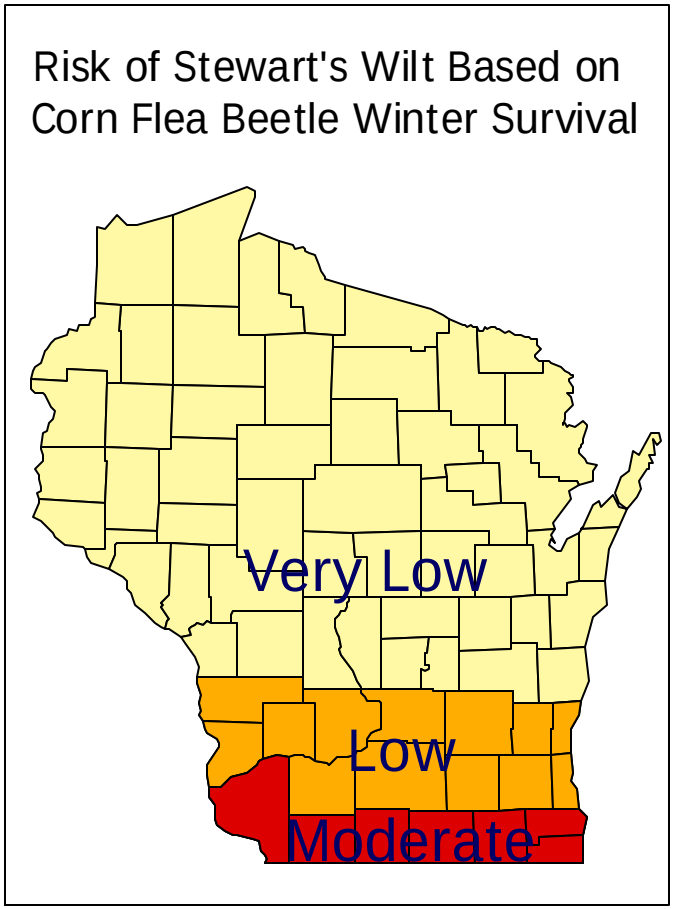
Outlook for Cfb & SW in 2003

FACTORS to CONSIDER

- Corn flea beetles collected at 46 of 221 survey sites
- Beetles carrying *P. stewartii* found at 1 of 46 positive sites
- Two cases of Stewart's wilt detected during 2002 corn survey (Kenosha & Calumet Cos.)

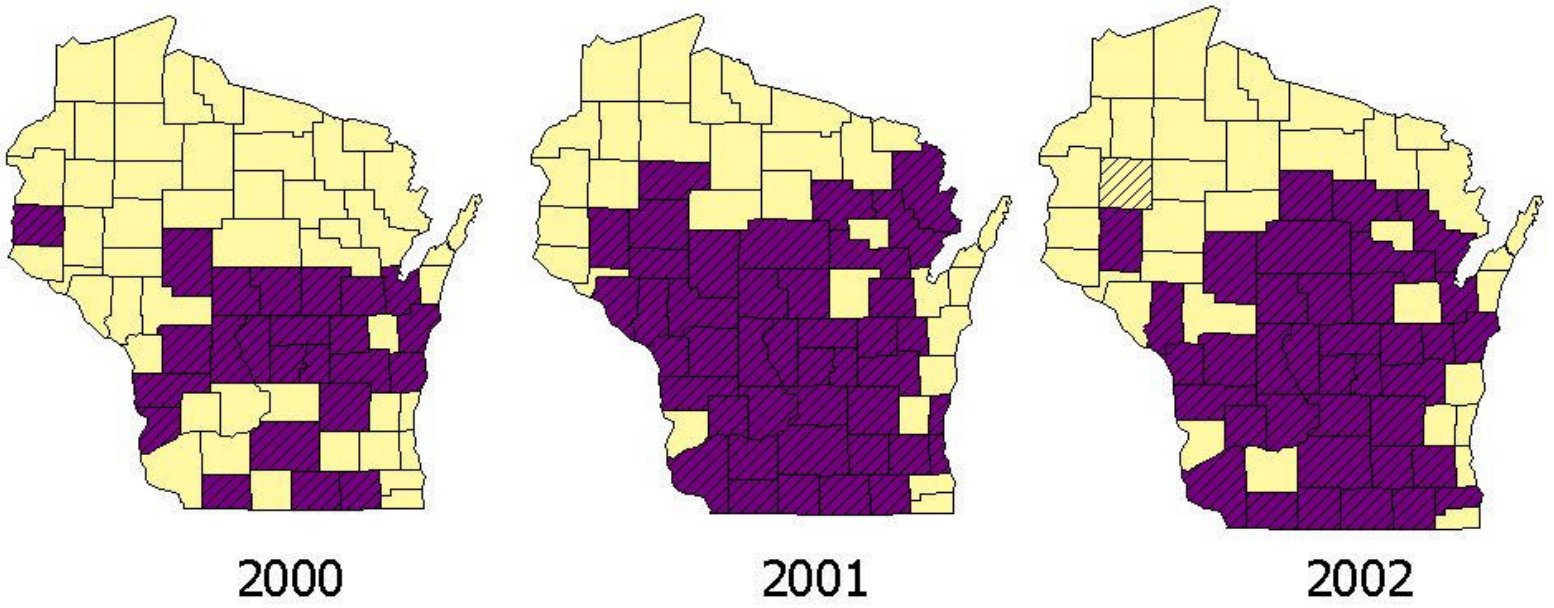
CONCLUSION

- Even with mild winter temperatures, risk is mostly LOW, except in far south and southeast corner



Soybean Aphid

Soybean Aphid Survey 2000-2002



2000 2001 2002

soybean aphid detected

counties surveyed

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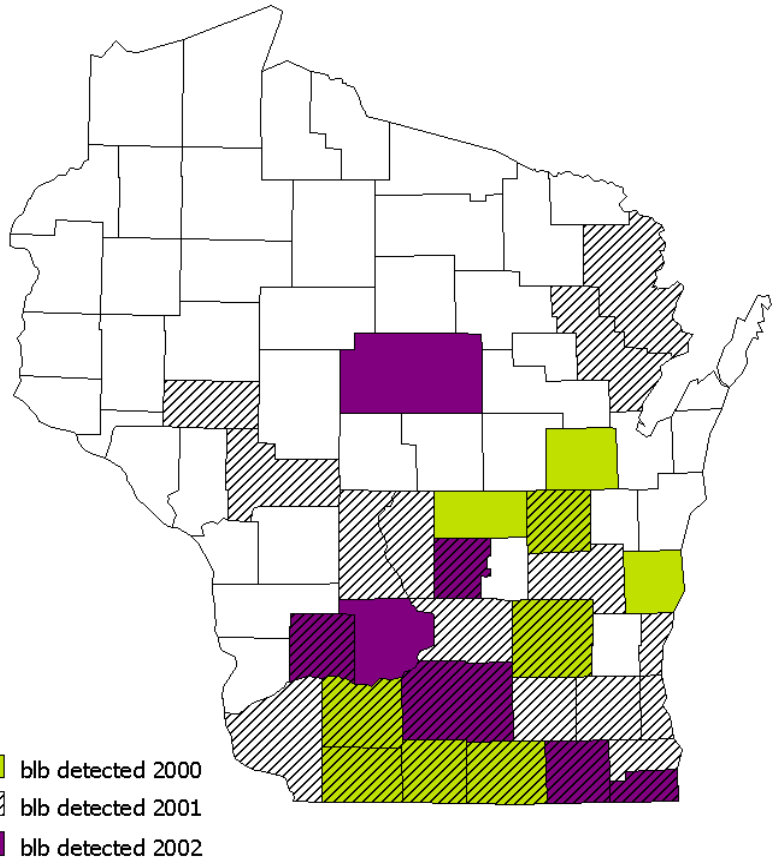
Soybean Aphid in 2003

- Scout early to determine when aphids first appear
- Monitor rate of population increase
- Stay one step ahead of the aphids. Scout and treat before infestations reach damaging levels
- No stage-specific thresholds currently available

Bean Leaf Beetle

Bean Leaf Beetle Survey



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Outlook for BLB in 2003

- Mild winter temps may lead to early-season problems
- Monitor 1st generation to predict size of 2nd generation and potential for pod damage
- Apply an insecticide only when economic thresholds are exceeded

For weekly updates on pest conditions throughout the growing season:

The Cooperative Pest Survey Bulletin

http://datcp.state.wi.us/arm/environment/insects/pest-bulletin/