Wisconsin Pest Bulletin

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Wisconsin Department of Agriculture, Trade & Consumer Protection

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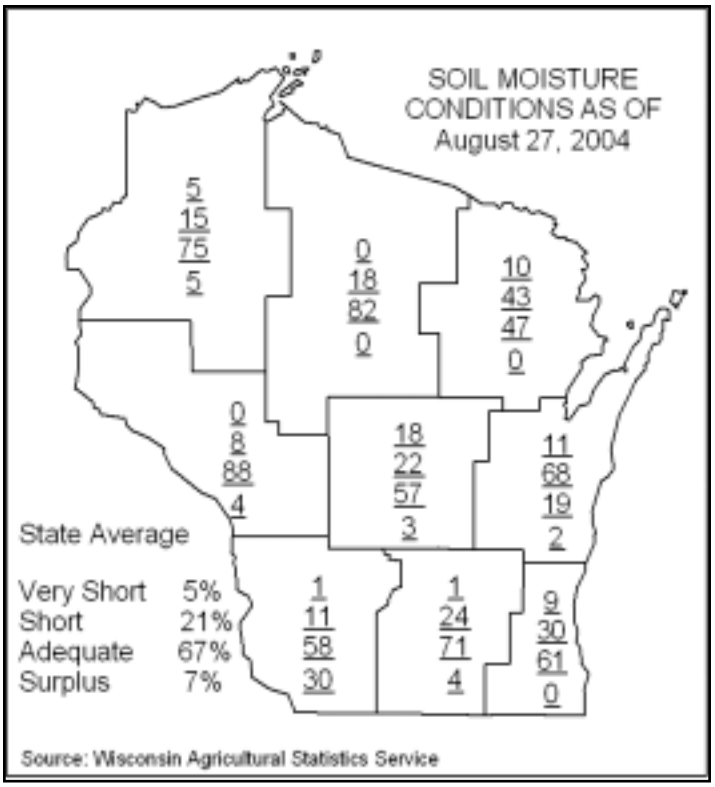
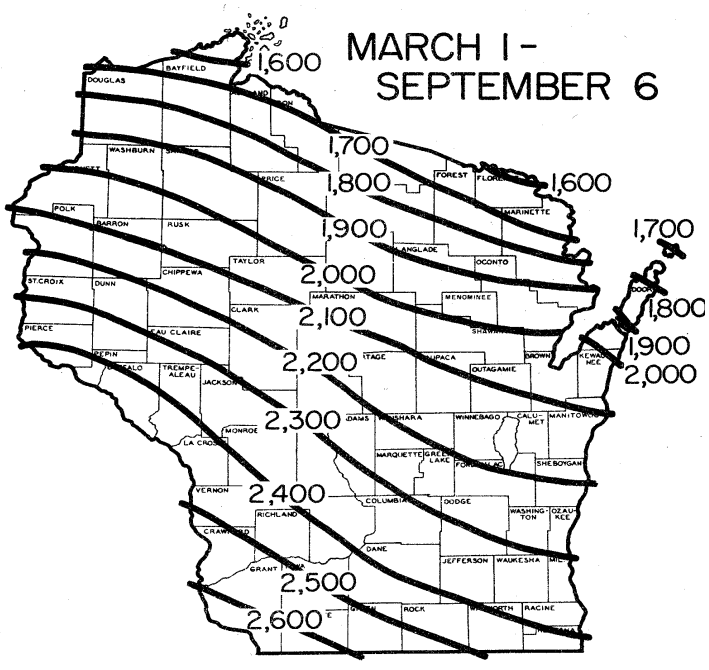




Historical Average Growing Degree-Days
Accumulated Since March 1.
(Wisconsin Agricultural Statistics Service)

Weather and Pests

Autumn has come early this year and another Wisconsin Pest Bulletin season has come to pass. This is the last weekly Bulletin of the summer. One more issue will be published on November 5, once our fall surveys have been completed.

As we look back on weather conditions during the past growing season, it is difficult to find words that fittingly characterize 2004. One term that comes to mind is erratic. Temperatures were well-below normal for the duration of the season, while frequent and often heavy precipitation

Growing degree days from March 1 through September 2:

Site	GDD*	2003 GDD	Normal GDD	Base 48	Base 40
SOUTHWEST					
Dubuque, IA	2206	2379	2558	2373	3673
Lone Rock	2077	2354	2405	2242	3511
SOUTHCENTRAL					
Beloit	2140	2311	2421	2302	3592
Madison	2067	2289	2336	2240	3450
Sullivan	2037	2202	2292	2172	3469
Juneau	2029	2200	2188	2189	3457
SOUTHEAST					
Waukesha	1995	2115	2267	2135	3421
Hartford	1964	2127	2193	2124	3378
Racine	1941	2035	2297	2083	3347
Milwaukee	1892	2024	2265	2038	3276
EAST CENTRAL					
Appleton	1726	2089	2048	1898	3057
Green Bay	1641	1883	1978	1817	2961
CENTRAL					
Big Flats	1890	2230	2187	2036	3248
Hancock	1838	2204	2118	1982	3180
Port Edwards	1740	2102	2181	1867	3044
WEST CENTRAL					
LaCrosse	2151	2386	2358	2268	3585
Eau Claire	1896	2307	2181	2014	3236
NORTHWEST					
Cumberland	1459	2087	2033	1510	2634
Bayfield	1203	1607	1478	1240	2263
NORTH CENTRAL					
Wausau	1523	1923	2023	1622	2731
Medford	1463	1861	1950	1553	2640
NORTHEAST					
Crivitz	1470	1833	1869	1596	2698
Crandon	1388	1739	1771	1412	2514

*GDD above base 50 deg. with 86 deg. upper limit

made it difficult for growers to complete early, mid- and late season field activities on schedule. On the positive side, these conditions kept pest populations in check, and to our surprise, overall diseases were not drastically more prevalent despite highly favorable environmental factors. As the season winds down, corn growers are encouraged to be wary of late-season corn earworm and corn rootworm activity, as well as stalk rots and ear rots. Also, with the recent unusually high black light trap counts of dingy cutworm, alfalfa growers in susceptible areas should be alert to the possibility of infestations in new seedings. Last, apple growers should continue to monitor apple maggot activity through harvest, as activity remains high and conditions continue to be favorable for the emergence of this pest.

We want to offer a profound and sincere thanks to our many cooperators for their efforts this season, in particular the apple insect and black light trappers, cabbage looper network cooperators (new in 2004!), County Extension Agents, UW Research and Extension Specialists, UW Experimental Stations, crop advisors and consultants, nursery growers, and numerous other individuals. Thanks also to those of you who took the time to fill out our reader survey. It is your cooperative reporting and consistent support that have strengthened this publication. We hope your survey responses will help us to better survey you in the seasons ahead. Thanks again, and we look forward to your continued cooperation next season!

Alerts

Daylily rust -- Daylily rust has been detected at a second Wisconsin nursery, this one in Rock Co. See FOREST AND LANDSCAPE section for more information.

Corn earworm – Since the arrival of moths approximately two weeks ago, corn earworm activity has surged. The Sturtevant pheremone trap registered a count of 295 moths; 105 of those were caught in a single night! Counts at the West Madison Research Station were approximately 300, and as far north as Bancroft, Coon Valley and Chippewa Falls, counts of 175, 62 and 60 moths were registered, respectively. A Wisconsin Pest Bulletin reader rightly pointed out that the use of growing degree days to forecast the arrival of corn earworm moths, something we had done in recent Bulletin issues, is misleading since the moths migrate into Wisconsin on southerly storm fronts, and arrival dates are not fixed from one season to the next. This season he noted the first official influx of corn earworm moths occurred on the evenings of August 22 and 23, following a storm cycle out of the southwest. As corn earworm activity escalates in the week ahead, growers should anticipate finding increasing numbers of small larvae in the tips of corn ears. Scout fields thoroughly, as 2004 could be a big year for this late-season pest.

Dingy cutworm – Extraordinarily high counts of moths were registered at black light trapping sites for the second week in a row. Alfalfa growers in particular are cautioned to monitor populations closely in summer seeded alfalfa. On occasion, treatment for this pest is warranted. Trap captures were as follows: Lancaster-80; W. Madison-170; Marshfield-107, Mazomanie-79; Sparta-207.

Special Fungicide Registration - Wisconsin has approved a request by Syngenta Crop Protection for a FIFRA 24(c)/SLN special use of Tilt fungicide, on **seed corn** for control of **Helminthosporium leaf blights, rusts, gray leaf spot and eye-spot.** The federally registered label permits use on seed corn up to 50% silk. The special registration allows a use-pattern change to permit use of Tilt on seed corn, post-silking. This will allow better timing of the application for improved product performance. In addition, applications made post-silking will avoid worker exposure to detasselers.

The SLN label is numbered WI 040004, and expires December 31, 2009. Tilt contains the active ingredient propiconazole.

Looking Ahead

European corn borer – The most effective treatment period for second generation corn borers has passed in parts of the south central and west central districts, where 2100 DD50 have been reached. Treatment in these areas is now strongly discouraged, as larvae have begun to bore into corn stalks and ears, which are impenetrable by insecticides.

Corn rootworm – Corn rootworm activity is still very intense and heavy egg laying is a distinct possibility in parts of southern Wisconsin. There are still approximately two more weeks in which scouting will be an effective means of assessing the potential for rootworm problems next season.

Corn

European corn borer – Black light trap counts declined for the third consecutive week, suggesting that the second flight of corn borer moths is nearing an end. Counts dropped to below 18 moths at all reporting sites. As day length shortens and temperatures fall in the weeks ahead, European corn borer larvae will enter diapause and prepare to overwinter. European corn borers pass the winter as mature fifth instar larvae in corn stalks and stems of other hosts, and will not become active again until temperatures exceed 50°F next spring. For pest survey staff, this means it's time to begin the annual fall abundance survey for corn borers. While it is still far too early to forecast the corn borer situation throughout the state, black light trap catches have indicated that we had an unusually light second flight of moths this season. This could translate into lighter populations of second generation larvae, but only a thorough fall survey will tell. A complete report and summary maps will be available in the November 5 issue of the Wisconsin Pest Bulletin. Anyone wishing to receive paper or electronic copies of the 2004 summary maps should contact Krista Lambrecht at (608) 224-4594 or krista.lambrecht@datcp.state.wi.us.

Corn rootworm – According to reports from a southeastern Wisconsin cooperator, corn isn't the only crop corn rootworm beetles have impacted this season. He reported that all three species moved from nearby soybean fields into to his buttercup squash and pumpkins plantings, where they have now done considerable damage. The cooperator also noted that these beetles emerged, "with a vengeance this season", reportedly clipping the silks on 50% of one batch of his sweet corn. Observations like this one indicate that 2004 may shape up to be a bigger season for this pest than we initially suspected.

During this week's surveys staff observed that adults were highly active, feeding, mating and of course, laying more eggs. Weather conditions in the past week have been extremely favorable for the beetles, thereby extending the period during which mating and egg laying can occur. Depending on temperatures, the average female corn rootworm lifespan ranges from sixteen to eighty-four days, and females are capable of laying about one thousand eggs in a two-week period. This suggests that some southern Wisconsin fields replanted to corn next season could be in for heavy larval populations next spring. Naturally there are additional variables that will affect corn rootworm population size from one season to the next. For instance, snow cover this winter will also have an impact on survival rates, as will winter temperatures. These unpredictable variables make it difficult to tell whether this season's corn rootworm population will likely to lead to economic injury to corn next season. Thus, as adults continue to be active, extended and intense periods of egg laying will also occur. Scouting is strongly urged. There remain at least one or two more weeks in which scouting for beetles to predict the potential for rootworm problems next season will be effective. An average of 0.75 beetle per plant, based on counts at several sites within an individual field is a commonly used indicator that sufficient numbers of eggs have been laid this summer to cause problems next spring. Scouting now may prevent a lot of headaches and lodged stalks next season!

Corn earworm – The 2004 corn earworm flight period is now in full swing, and exceedingly high pheromone trap catches are being reported from Sturtevant to Chippewa Falls. The Sturtevant cooperator reported a count of 295 moths from 8/26 to 9/2; 105 of those moths arrived on a single night! West Madison also registered an extraordinarily high catch of 300 moths this week. Based on these recent high trap counts, it seems fair to say that heavy larval infestations are likely to develop. As we approach harvest, regular scouting of sweet corn fields for larvae should be scheduled.

On a side note, sweet corn growers should be alert to the fact that recent trials in Minnesota and Wisconsin have documented **poor pyrethroid control of corn earworm larvae**. It now appears that some larvae may be resistant or tolerant to selected pyrethroids. This could be a concern for fresh-market producers as well as processsors. UMN has initiated a monitoring project to assay corn earworm populations for possible resistance/tolerance to pyrethroids. Growers who use pyrethroids this year, and find significant numbers of surviving larvae, should contact Eric Burkness for more information at 612-624-3670, or email: burkn001@umn.edu.

Finally, for the first time ever, Wisconsin's pest survey team will be monitoring infestations of corn earworm larvae this season as part of the fall abundance survey for corn borers. Look for corn earworm larval survey results in the November 5 edition of the Bulletin.

Forages

Alfalfa caterpillar – A cooperator located near Manitowoc reports that alfalfa caterpillar are defoliating some third crop that is overdue to be cut. He commented that it appears not to be a substantial problem, but some growers may notice it nonetheless. As a reminder, the economic threshold for alfalfa caterpillar is 10 or more caterpillars per sweep. It should also be noted that while alfalfa caterpillars are readily found at this time of year, economic damage is unusual. This species is susceptible to a virus that spreads rapidly and causes high mortality, particularly when populations grow dense.

Loading hay, Door County, July 1940

Dingy cutworm – With the exceptionally high numbers of moths registered at black light trapping sites again this week, alfalfa growers in susceptible areas should check for larvae in summer-seeded alfalfa in the week ahead.

Soybeans

Soybean aphid – Although aphid experts had forecasted the possibility of lighter soybean aphid densities this season, none predicted just how light they would be. Following record high levels of aphids in 2003, soybean aphids reappeared later than normal, and remained at the lowest densities since first being detected in Wisconsin in 2000. The first aphids of the season were found by pest survey staff during the week of June 29 in Dane Co., while in past years the aphids appeared by June 13. Populations grew at an atypically-slow pace, and peak densities were also observed somewhat later than normal.

This season's unprecedented low aphid densities make it next to impossible to forecast what may happen with next season. While 2004 was a light year, this pest has on more than one occasion demonstrated a remarkable capacity to reproduce at a rapid rate. Growers would be wise to err on the side of caution and expect the soybean aphid situation in 2005 to more closely resemble events of 2003 rather than 2004.

Brown stem rot -- Survey efforts in several southern tier counties found widespread but light bacterial pustule infection. **White mold** and **Phytophthora root rot** symptoms were found in about half the fields surveyed, but only at barely detectable levels. One field in Rock Co. showed symptoms of brown stem rot (caused by Phialophora gregata), with an incidence of greater than 10%.

Vegetables

Cabbage looper – For the last four weeks, trap catch numbers have ranged from 0-4 across the state, which means most cabbage loopers in Wisconsin are probably in the pupal stage right now. Moths will emerge in 10-14 days, mate, and produce eggs, which will give rise to the second generation. However, considering the cool summer we've had, and the light migration of moths in July, it is highly unlikely that the second generation will cause significant damage when and if it occurs. If we have a very warm September, be on the lookout for larval damage. If the weather turns cool, it is possible there will not even be a second generation.

As the first year of the Cabbage Looper Cooperator Network comes to an end, we would like to thank the wonderful cooperators who volunteered this year. Everyone did an excellent job of monitoring and reporting. Cooperators do not need to report their trap catches next week. We look forward to continuing this project next year to increase our knowledge of the cabbage looper in Wisconsin.

Anthracnose and Alternaria leaf blight of cucumber - Inspection of cucumber seed fields this week found the crop in good shape, with no bacterial wilt and only low levels of leaf blights, mostly anthracnose and Alternaria leaf blight. **Gummy stem blight** (caused by *Phoma cucurbitacearum*) was detected in one field, but at a trace incidence.

Powdery mildew on cucurbits – A severe infection was found in a Jefferson Co. pumpkin field this week, and a mild case was found in a Dane Co. cucumber field. In the unlikely chance that we experience a warm, humid September, this disease could become more widespread. Symptoms appear as pale yellow spots on older leaves, then a white or brownish powdery growth covers the plant until the plant dies. If the disease appears, a fungicide is warranted.

Forest and Landscape

Note: Christmas tree inspections will be starting within the next week. Interstate shippers and growers who requested a plant health certificate for their Christmas trees can expect a visit from their inspector in September or October. Growers who do not ship interstate or who did not request a plant health certificate will be inspected as time permits. If you have not requested a plant health certificate but would like one, or if you have questions about your inspection, please contact Konnie Jerabek at (715) 491-2913,konnie.jerabek@datcp.state.wi.us or Brooke Voelker at (608) 224-4575, brooke.voelker@datcp.state.wi.us.

Daylily rust – Another infestation of daylily rust was found at a nursery in Rock Co. Samples brought into the

Daylily rust

Plant Industry Lab were confirmed positive. The disease is probably being brought in from other nurseries outside the state. Most of the infected plants were shipped in the spring and summer but signs and symptoms did not become noticeable until a few weeks ago. It is unclear if this fungus can overwinter outdoors in Wisconsin. DATCP will monitor landscapes where infected daylilies are known to occur to assess overwintering potential.

Balsam gall midge – Light numbers of galls were observed on balsam fir at nurseries in Ashland, Clark, Dunn and Portage Cos. See the Christmas Tree Pest Manual for more information at http://www.na.fs.fed.us/spfo/pubs/misc/xmastree/

Balsam gall midge on balsam fir

Pine tortoise scale – A Portage Co. nursery had Scotch pine with light amounts of scale. This insect extracts the sap from woody shoots and branches of mainly Scotch, Austrian and red pines. High populations can leave trees unfit for sale. Sooty mold growing on the honeydew secreted by the insect also makes the trees unattractive. This scale is relatively large and obvious on infested trees. Insecticides can be used to control this insect. Treat infested trees with a registered insecticide between mid-June and mid-July when crawlers are emerging. See the Christmas Tree Pest Manual for more information at http://www.na.fs.fed.us/spfo/pubs/misc/xmastree/

Root collar weevil – A localized but severe infestation was found on Scotch pine at a nursery in Portage Co. See the Christmas Tree Pest Manual for more information at http://www.na.fs.fed.us/spfo/pubs/misc/xmastree/

Leafhopper – Red and Freeman maples were being hit hardest at nurseries in Kenosha and Waukesha Cos. At this point in the season it is too late to control this insect.

Foliar nematode – A light infestation of foliar nematodes was found on 'Pathfinder' hosta at a nursery in Rock Co.

Sphaeropsis tip blight – Damage from this fungal disease was light to moderate but widespread at a nursery in Waupaca Co. The fungus overwinters in pine shoots, needles, bark, cones or litter. During wet weather spores are released to reinfect shoots, branches and cones. Stressed trees and those attacked by insects or injured by hail are very susceptible to sphaeropsis tip blight. Avoid planting pines next to infected pine windbreaks. Often the cones on these trees are loaded with fruiting bodies of the fungus. Resistant cultivars are not available. If needed, protect your trees by applying a registered fungicide every two weeks during bud swell and shoot elongation. For more information see the UW-Extension Garden Facts Publication at http://www.uwex.edu/ces/wihort/gardenfacts/XHT1010.doc

Guignardia leaf blotch – Heavy amounts of damage were observed on red horsechestnut at nurseries in Clark, Racine and Rock Cos. This disease is very similar in appearance to leaf scorch which is physiological. The presence of small, black fruiting bodies on infected leaves will indicate the leaf blotch disease is present. Sometimes both conditions are found on the same tree. Under the right conditions complete defoliation of the tree is possible. The first signs of infection may not appear until July. Very wet springs are also conducive to disease development. The disease overwinters in fallen leaves and therefore it is important to rake up and destroy any leaves in the fall. Fungicides may be used in the spring at budbreak and again at ten-day intervals but the total number of applications is governed by the weather. For more information see http://ohioline.osu.edu/hyg-fact/3000/3044.html

Verticillium wilt – Damage was starting to show up on tulip tree and Norway maple at nurseries in Kenosha and Racine Cos.

Quince rust – Moderate numbers of twig galls were observed on cockspur hawthorn at a nursery in Kenosha Co. For more information see

Quince rust on hawthorn

http://ohioline.osu.edu/hyg-fact/3000/3055.html

Rhizosphaera needlecast – Light amounts were seen on Colorado spruce at nurseries in Dunn, Portage and Sawyer Cos. See the Christmas Tree Pest Manual for

more information at
http://www.na.fs.ed.us/spfo/pubs/misc/xmastree/

Red spot – Moderate amounts of this fungal disease were found on peonies at a nursery in Rock Co. Remember to rake up and remove all leaves in the fall to minimize inoclum for next year.

Broom rust – Small numbers of brooms were observed on balsam fir at nurseries in Clark, Dunn, Shawano and Sawyer Cos. See the Christmas Tree Pest Manual for more information at
http://www.na.fs.ed.us/spfo/pubs/misc/xmastree/

Gypsy Moth

Gypsy moth trapping program - Trappers are continuing to take traps down in the southern part of the state while trappers in the northern part of the state will begin takedown on September 7. As of September 1, trappers have caught 118, 388 male gypsy moths. The total last year at this time was 379,000 gypsy moths. Heavy spring rains, cooler than normal summer temperatures and an aggressive treatment program are all factors contributing to the lower population this year.

There are 12 counties finished with trap takedown. Here is a list with the "unofficial" final total number of gypsy moths: Calumet (2,530), Dodge (2,581), Kenosha (2,587), Marquette (6,724), Milwaukee (1,567), Ozaukee (2,274), Racine (2,081), Sheboygan (5,369), Walworth (3,458), Washington (7,019), Waushara (6,529), and Winnebago (3,963). These totals do not include cooperator data. That data will be added in at the end of the season. Most traps should be down by the end of September while a few northern areas will be down by the first week of October.

If you have any questions about the GYPSY MOTH PROGRAM, please call our hotline at 1-800-642-MOTH or visit the Department's gypsy moth web site at http://www.datcp.state.wi.us, keyword "gypsy moth".

Fruit

Apple maggot – Activity has lessened only slightly at most cooperating orchards in the past week, but one site reported it's highest count of the season. The Hill Point trapper reported a catch of 17 AM on a single red ball between 8/26 and 8/31. Astonishingly, this count isn't nearly as high as some that have been reported this season. Just last week 50 flies were trapped at an orchard near Mequon, 32 at a site near Richland Center and 28 at Baraboo. It appears that the continued emergence of flies in the next few weeks is a strong possibility. As we've stated numerous times already, growers should continue to monitor closely until harvest.

Calendar

September 20-23 Farm Technology Days, Chippewa County. Near Bloomer. Hilger Farms Inc. is located on State Highway 64 at County Highway GG.
http://www.co.chippewa.wi.us/FarmTechnologyDays/Default.htm

September 30 - October 4 World Dairy Expo Madison, Wisconsin. For more information please visit the WDE web site at
http://www.world-dairy-expo.com/gen.main.cfm

October 14, 15 Midwest Emerald Ash Borer Symposium Novi, Michigan. See http://www.emeraldashborer.info/symposium.cfm for registration details or call 517.241.1833 .

October 18-22, 2004 North American Plant Protection Organization annual meeting, Vancouver, BC. Information at
http://www.nappo.org/annualmtg/Annualmtg04-bil.htm

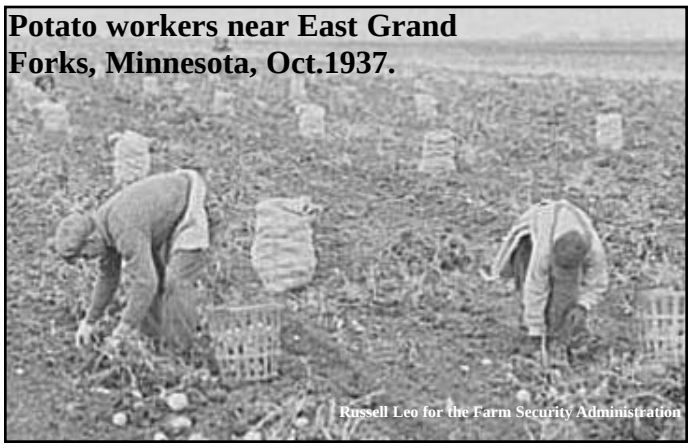
October 26 Potato-Vegetable-Field Corn-Cropping Systems on Irrigated Sandy Soils Field Day at the Hancock Research Station in Hancock WI. No charge, however, registration is required. For more information call Dick Wolkowski at 608.263.3913.

January 18-19, 2005 Wisconsin Cranberry School, Wisconsin State Cranberry Growers Association , Chula Vista Resort, Wisconsin Dells, WI Contact WSCGA at 715-423-2070 or wiscran@wctc.net

January 21-22, 2005 Wisconsin Christmas Tree Producers Association Winter Convention & Trade Show. Fox Hills Resort, Mishicot, WI. Contact WCTPA at 608-742-8663 or info@christmastrees-wi.org

Feb 15-17, 2005 Wisconsin Potato and Vegetable Grower Association 2005 Grower Education Meetings at the Holiday Inn in Stevens Point. If you have any questions, or would like more information please contact the WPVGA at (715) 623-7683

Potato workers near East Grand Forks, Minnesota, Oct.1937.



Black Light Trapping Results

Trap Site	Date	ECB	AW	BCW	VarCW	SpotCW	DinCW	CelLoop	ForLoop	CabLoop	CEW	WBCW
Southwest												
Lancaster	8/27-9/2	18	9	1	0	10	80	0	15	0	19	0
South Central												
W Madison	8/27-9/2	11	9	4	0	3	170	0	25	0	*300	0
Mazomanie	8/27-9/2	12	7	1		6	79				17	2
Arlington	8/28-9/3	26					10					
Southeast												
Sturtevant	8/26-9/2										*295	
East Central												
Manitowoc	8/26-9/2		10				22	6				
West Central												
Sparta	8/26-9/1					5	207			2	5	
Coon Valley	8/27-9/2										*62	
Central												
Marshfield	8/27-9/2	16	9	0	3	2	107		3		5	
Plover	8/27-9/1	11										
Plainfield	8/27-9/1	3										
Bancroft	8/27-9/1										*175	
Northwest												
Chippewa Falls	8/27-9/2										*60	

ECB--European corn borer; **AW** --armyworm; **BC**--black cutworm; **VC**--variegated cutworm; **SC**--spotted cutworm; **DC**--dingy cutworm; **CelL**--celery looper; **FL**--forage looper; **CabL**--cabbage looper, **CEW**--corn earworm, **WBCW** --western bean cutworm, ***** corn earworm pheromone trap

Apple Insect Trapping Results through September 3, 2004

	Date	STLM	RBLR	CM	OBLR	AM - Red baited	AM- Red baited-range	AM-Red unbaited	AM yellow	AM yellow-range
Grant Co.										
Cuba City	8/26-9/2	0	0	0	7					
Crawford Co.										
Gays Mills-W2	8/24-8/31	50	8	0	0			0	0	
Iowa Co.										
Dodgeville	8/26-9/2	20	0	42	4			13	2	
Richland Co.										
Hill Point	8/26-8/31	65	9	2	0	17			3	
Dane Co.										
Deerfield	8/25-9/2	0	4	8	0			6	0	
Racine Co.										
Burlington	8/27-9/3	500	9	1.3	0			1.5	0.6	
Raymond	8/27-9/3	300	26	15	4			0	0	
Rochester	8/27-9/3	~125	10	0.4	1.5	6.7	(127/19 traps)	3	1.3	(24/19 traps)
Waukesha Co.										
New Berlin	8/27-9/3	350	23	24	5			4	0	
Pierce Co.										
Spring Valley	8/27-9/3	347	2	1	0			0-1	0	
Jackson Co.										
Hixton	8/18-8/24	12	0	0	0			0	8	
Marquette Co										
Montello	8/22-8/29	11	5		4	3		2	0	

STLM--Spotted tentiform leaf miner; **RBLR**--Redbanded leaf roller;**CM**--Codling moth;**OBLR**--Oblique banded leaf roller; **AM**--Apple maggot

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Web Site of the Week

Insect Diagnostic Lab, UW-Madison Department of Entomology

http://www.entomology.wisc.edu/entodiag.html

We like everything about this website. It has a great ID function with good images, links to Extension Bulletins, Powerpoint presentations and other educational programs, and, if you don't manage to catch Phil Pellitteri's frequent visits to Wisconsin Public Radio, weekly insect highlights. It also includes detailed instructions on how to submit insect samples for identification, if need be. A reminder of the tremendous impact of the Smith-Lever Act of 1914.

Quote of the Week

The sun, with all those planets revolving around it and dependent on it, can still ripen a bunch of grapes as if it had nothing else in the universe to do.

Galileo Galilei (1564-1642) Italian mathematician and astonomer

http://www.soils.wisc.edu/wimnext/tree/arbor.html