

Wisconsin Department of Agriculture, Trade & Consumer Protection

Wisconsin Pest Bulletin

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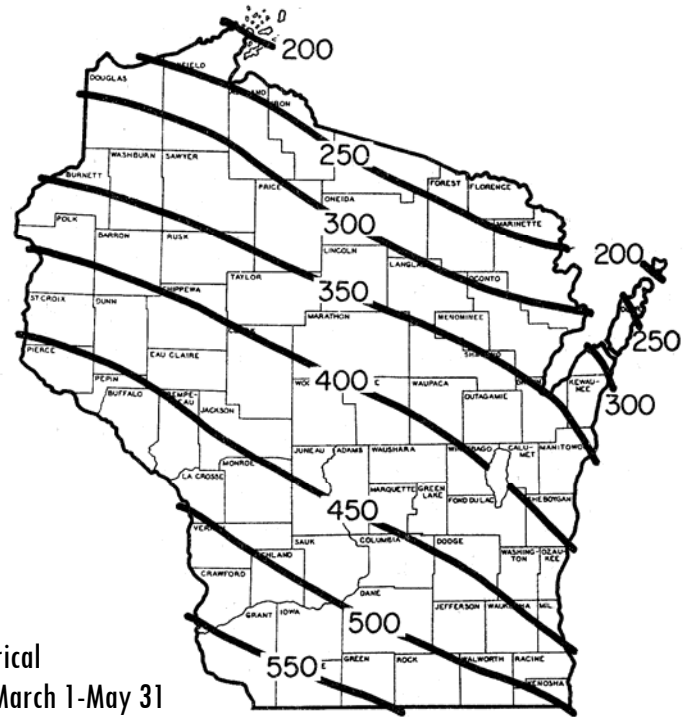
Your weekly source for crop pest news, first alerts, and growing season conditions for Wisconsin



Weather and Pests

Insect development and reproduction continued unchecked while DATCP survey specialists took time off to enjoy the holiday weekend. The first substantial wave of heat to hit Wisconsin this season began more than a week ago and has incited a burst of insect activity and crop growth. Where sweep nets collected just a handful of alfalfa weevils and aphids just a short time ago there are now almost too many insects to count. Populations of several economically important alfalfa pest species have grown exponentially since the last report was issued on May 19.

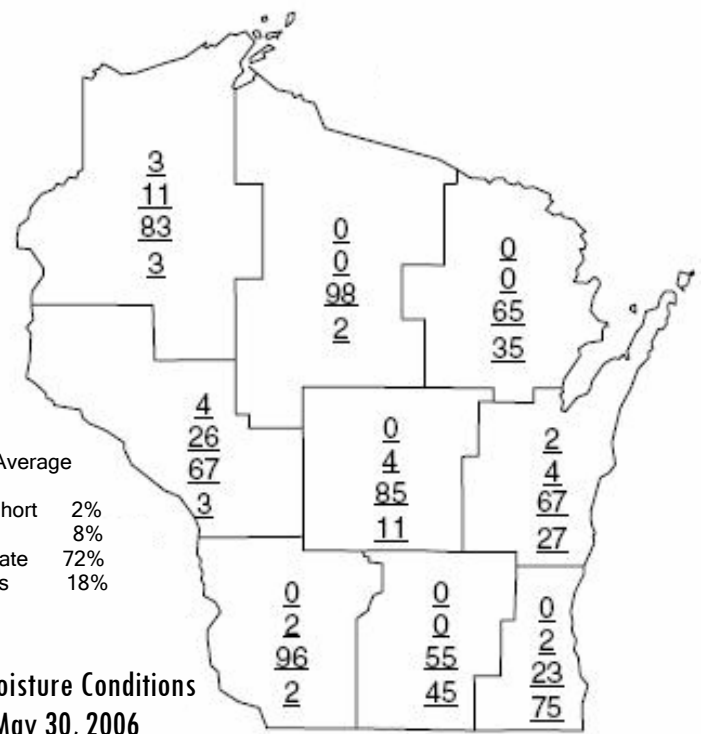
Crop progress for the 2006 season remains ahead of schedule. According to the Wisconsin Field Office of the USDA's Statistical Reporting Service, approximately 20% of



Historical
GDD March 1-May 31

Growing Degree Days through 6/1/06 were

	GDD 50F	2005	Sine 48F	40F
Dubuque, IA	551	554	537	1037
Lone Rock	532	520	501	991
Beloit	589	545	576	1097
Madison	502	514	483	969
Juneau	479	504	461	955
Sullivan	528	530	510	1019
Waukesha	466	461	449	941
Hartford	460	447	446	935
Racine	417	375	423	884
Milwaukee	425	370	418	892
Appleton	463	401	449	929
Green Bay	397	336	409	852
Big Flats	514	480	481	974
Hancock	502	462	470	959
Port Edwards	516	444	488	981
La Crosse	588	530	576	1100
Eau Claire	561	481	554	1063
Cumberland	482	392	459	937
Bayfield	313	247	287	701
Wausau	447	389	410	871
Medford	455	370	421	886
Crivitz	397	320	388	837
Crandon	395	350	360	787



the first crop of alfalfa has been harvested statewide, which is about 10% above average. An estimated 25% of the soybean crop has peeked through the soil, and 65% of corn has emerged. Field crops continue to advance at a pace well above the five-year average.

Recent soaring temperatures also made for an action-packed week of survey. The first European corn borer moths of the season appeared at several black light trapping sites, pea aphid densities increased four-fold, and populations of potato leafhoppers, alfalfa weevil larvae and plant bugs are on the verge of exploding in second crop regrowth. Crop advisors are encouraged to spend a good deal of time scouting fields in the week ahead to divert any emerging insect problems.

Alerts

Bean leaf beetle - The last time bean leaf beetle made Wisconsin Pest Bulletin headlines was in 2002 when soybean growers saw unprecedented levels of defoliation and remarkably high densities of beetles, particularly in southern Wisconsin. Not surprisingly, 2002 was also the first year Bean Pod Mottle Virus (BPMV), the virus vectored by bean leaf beetles, was detected in a substantial number of the state's soybean fields. In the years following, bean leaf beetle has been only a minor soybean pest insect relative to the soybean aphid, but survey observations from the past two weeks suggest growers may see a repeat of 2002, possibly even higher populations of this soybean defoliator.

Since May 4, DATCP's survey specialists have been gathering evidence of bean leaf beetle activity by sampling alfalfa fields for overwintered beetles. Results were mixed during the first weeks of survey due to less than ideal weather conditions, but warmer temperatures have prompted a sharp escalation in bean leaf beetle activity. Last week's surveys found beetles in Dodge, Columbia, Washington, and Ozaukee Co. alfalfa fields and surveys this week detected overwintered beetles in Fond du Lac, Adams, Juneau and Sauk Co. fields. The numbers of beetles per 100 sweeps ranged from 0-14. To date beetles have been found at about 55% of the survey sites.



Bean leaf beetles feeding on snap beans

www.hort.purdue.edu

In addition to recent Wisconsin surveys, reports from neighboring Midwestern states also point to higher populations of overwintered beetles this season compared to

recent years. In an article titled, "*Bean leaf beetle return—with a vengeance*", Jeffrey Bradshaw, Marlin E. Rice and David Dorhout of Iowa State University Dept of Entomology described finds of 340 bean leaf beetles per sweep in Iowa alfalfa fields in mid-May, 2006. Kevin Steffey, author of the recent article "*Scrutinize Early-Planted Soybean Fields for Bean Leaf Beetles*" noted receiving his first report of significant numbers of bean leaf beetles in Green Co. Illinois this week. Although Wisconsin survey specialists have not found populations comparable to those noted in Iowa, beetles are unexpectedly abundant this season.

Soybean growers are strongly urged to scout emerging soybean fields for bean leaf beetles and defoliation. During the early seedling stage VC-V1 the threshold for bean leaf beetles is 16 per foot of row. At V2+ the threshold increases to 39 beetles per foot of row. All early-planted soybeans are likely candidates for bean leaf beetle defoliation. When scouting in the week ahead, be sure to sample several sites within a field to get an accurate estimate of the beetle population. Apply an insecticide only if the action threshold mentioned above is exceeded.



Severe bean leaf beetle defoliation

rock.uwc.edu

Looking Ahead

European corn borer - The first moths of 2006 were registered at several black light trapping sites this week and first generation eggs are being deposited on potatoes, small grains and early snap beans in areas of the state where 450 GDD have accumulated. Look for black light trap captures to increase sharply at advanced locations in the week ahead as the first peak flight of corn borer moths approaches. A light to moderate first flight is expected. European corn borer counts this week were as follows: Janesville 17 moths, Mazomanie 9 moths, Sparta 2 moths, Manitowoc 0 moths, Chippewa Falls 5 moths, Reedsburg 4 moths, and Wausau 1 moth.

Black cutworm - Newly emerged corn is susceptible to cutting right now. Continue to watch fields closely for indicators of cutworm activity as southern and west central Wisconsin enter what is expected to be the heaviest period of cutworm activity, from 562-640 GDD (base 50F). The injurious cutting stage may last two and a half to three weeks (through V5) depending on temperatures.

True armyworm - Another round of 127 moths were reported from the Janesville black light trapping sites between May 26 and June 1, meaning south central growers should remain vigilant for any signs of armyworm problems. No serious armyworm issues have emerged so far this season, but the worst armyworm problems do not tend to develop until July. The migratory moths that entered Wisconsin during the last several weeks are laying the foundation for problem populations next month. Surveys for armyworm larvae should begin about 10-14 days after a peak flight has been registered and should be biased toward surveying the most attractive host fields such as corn and small grains.

Potato leafhopper - Last season the first potato leafhopper nymphs were observed on the undersides of rhubarb leaves at an eastern Dane Co. residence on June 7. Given the current high daytime temperatures, there is a good chance that nymph production will begin by next week. Adult leafhoppers are commonplace in southern Wisconsin fields and currently range from 4-8 adults per 10 sweeps. Look for a considerable increase in leafhopper populations to occur once nymph production gets underway in the week ahead.



Potato leafhopper nymph

www.vegedge.umn.edu

Soybean aphid - No aphids have been detected so far this season, but observant soybean aphid researchers at the Arlington Research Station almost always spot the first aphids of the season by the second week of June. Look to next week's issue of the Wisconsin Pest Bulletin for any late-breaking soybean aphid detection news. Although soybean aphids may migrate back to soybean fields on schedule, aphid experts throughout the Midwest are predicting 2006 will be a lighter aphid season relative to recent years.

Codling moth - Record high pheromone trap catches ranging up to 82 moths per trap were reported from several southern Wisconsin orchards in the last two weeks. This week the action threshold of five moths per trap per week was exceeded at 10 of the cooperating orchards. The first peak flight is expected to take place once 500 GDD (Base 50F) are reached in the coming week, and eggs are hatching wherever 491 GDD have accumulated. High counts this week were as follows: Gays Mills 82 moths, Richland Center 50 moths, Malone 16 moths, Raymond 8 moths, New Berlin 7 moths, Plymouth 7 moths, Deerfield 7 moths, and Campbellsport 6 moths.

Plum curculio - The first oviposition scars of the season were reported on fruits in a Racine Co. orchard on May 24-25 indicating it's time for growers to step up scouting efforts. Spray applications to control plum curculio should be timed to prevent egg laying by the overwintered generation of weevils and may be warranted when 0.5-1% fruit injury is detected.

Tobacco blue mold - As planting begins in parts of south central and west central Wisconsin in the near future, tobacco growers are encouraged to make regular visits to North Carolina State's Tobacco Blue Mold Forecast Homepage at <http://www.ces.ncsu.edu/depts/pp/bluemold/> for first alerts on the highly destructive and fast-paced fungal epidemic. Forecasts are generated on Monday, Wednesday, and Friday each week from March through August.

Forage

Alfalfa weevil - Higher numbers of late instar alfalfa weevil larvae were noted this week along with more extensive tip feeding injury. Larvae ranging from newly hatched to third instar were common in all Adams, Juneau and Sauk Co. fields, tip injury ranged from 10-40%, and counts ranged from 0.4-7.5 per sweep. Control of alfalfa weevil larvae is warranted when 40% tip feeding is observed more than 7-10 days prior to harvest, and in new growth when 10% of the tips show signs of injury.

Potato leafhopper - Counts averaged less than one adult leafhopper per sweep in uncut Adams, Sauk and Juneau Co. alfalfa fields. No reproduction was noted this week but nymphs are expected to appear in the near future. Be sure to check the rims of sweeps nets in the week ahead for the neon green offspring of these migrant adults.



Pea aphid mummy

www.myrmeconet.net

Pea aphids - Counts in alfalfa fields quadrupled in the last two weeks. Sweep net sampling found densities ranging from 18-42 aphids per sweep in south central fields; approximately 15% of the population is winged. Pea aphid mummies (see image above) were observed in all of the fields surveyed, but the parasitoids did not appear to be making a dent in the growing aphid populations. The presence of winged forms suggested pea growers should watch for the appearance of aphid in pea fields, particularly as more hay acreage is harvest next week.

Meadow spittlebug - Nymphs in southern Wisconsin are nearly full grown and far more numerous than they were just one week ago. Counts of spittle masses in Adams, Juneau and Sauk Cos. averaged three nymphs per 10 stems, falling well below the threshold of one nymph per stem. The brown, wedge-shaped adults are likely to begin emerging next week and will remain active throughout the summer. Numbers of spittle masses should slowly decline over the next two to three weeks as nymphs mature into adults. Only one generation of meadow spittlebugs occurs in Wisconsin each season.

Alfalfa blotch leafminer - The first mines of 2006 were noted in south central alfalfa fields this week at the rate of 1 mine per 20 stems. Last year at this time, Columbia and Dodge Co. fields had developed heavy infestation, with leaf mines, pinholes or a combination of the two on 15-100% of the plants examined. For the time being, very low numbers of mines are present, but next week could bring an increase in ABLM activity. UWEX recommends that alfalfa fields with 40% pinhole feeding should be harvested early to prevent economic loss.

Alfalfa plant bug - Nymphs were extremely active in the alfalfa fields surveyed this week. Sweep net counts ranged from 0.5-3.0 adults and nymphs per sweep. None of the fields surveyed had populations exceeding the economic threshold for plant bugs.

Corn

European corn borer - Since the first flight of corn borers officially began on May 30 near Janesville in Rock Co., black light traps from Reedsburg to Chippewa Falls have reported light numbers of moths. Female corn borer moths were spotted flying from stem to stem in uncut Sauk, Juneau and Adams Co. alfalfa fields this week, suggesting that first generation eggs are being deposited on hosts such as potatoes, small grains and early snap beans in areas where 450 GDD (base 50F) have accumulated.



European corn borer moth

www.inra.fr/

Black light traps are expected to register peak flight activity around 631 GDD, which could occur near Janesville and Beloit by June 4. The first flight of moths is projected to peak near Madison and Hancock by June 8, near Wausau by June 12, and near Crivitz by June 14. Counts of corn borer moths recorded during the next two to three weeks will indicate the general size of the first flight of moths and possibly the subsequent first generation of larvae. Recent warm evening temperatures have been very favorable for this night-flying moth species.

Soybeans

Bean leaf beetle - Since the last Wisconsin Pest Bulletin report on May 19, approximately 25% of the state's projected soybean acreage has emerged. Leading the way is the southwest district with 33% soybean emergence, followed by the east central district with 26% soybean emergence, the south central district with 25% emergence, and the southeast close behind with 23% emergence (as of May 28). Soybean growers who have contributed to these statistics should be on high alert for bean leaf beetle defoliation in the week ahead. As we've said in past issues, early-planted soybeans are "magnets" for bean leaf beetles.

Surveys this week found high numbers of beetles in VC soybeans in Sauk, Juneau and Adams Co. fields. The overwintered adults were observed feeding head-down in the youngest trifoliolate. In a VC soybean field southwest of Mauston in Juneau Co., 70 per 100 plants showed light-moderate defoliation and an average of three beetles per foot of row were detected. Bean leaf beetles were busy feeding on soybean leaves in Sauk Co. fields as well, but defoliation was slightly lower, estimated at 35 per 100 plants and fewer than one beetle per foot of row.



Bean leaf beetle yellow phase with spots

Krista Lambrecht, DATCP

Fruit

Codling moth - After several weeks of false alarms (*Proteoteras* spp.) record counts of codling moths were reported from a number of Wisconsin orchards. Last week Barthel's Fruit Farm in Mequon reported counts ranging from one to 43 moths per trap and averaging 23 moths per trap,

an all-time high according to Nino Ridgeway. This week's high counts of 82 and 50 moths were reported by John Aue from orchards in Crawford and Richland Cos. A total of 10 of the DATCP's apple insect trapping cooperators reported codling moth counts above the action threshold of five moths per trap per week during the last reporting period. The first eggs of the season are hatching in orchards where 491 GDD have been surpassed. Sprays to control codling moth should target young larvae before they burrow into the developing fruit.

in instances where no controls are required for codling moth or other apple pest insects. Orchardists who haven't sprayed recently are urged to check orchard edges closely in the week ahead.

Weeds

Curly dock (*Rumex crispus*) - Surveys over the past few weeks found a number of flowering curly dock plants within agricultural fields and in ditches adjacent to fields. The plants are forming seed now in the southwestern part of the state. Curly dock can grow in most conditions, but it apparently thrives in wet areas, making low spots and ditches ideal habitat for growth.

Curly dock is a perennial plant. It reproduces from seed and has the ability to grow back from its taproot after being cut. It is similar to broadleaf dock, but as the name indicates, leaves are furled and curly at the margin and will sometimes stand erect as opposed to broadleaf dock which is low to the ground and has large, broad leaves.



Codling moth larva

www.oznet.ksu.edu



Codling moth

agspsrv34.agric.wa.gov.au

Spotted tentiform leafminer - Pheromone trap counts have declined to the lowest in three weeks at southern orchards indicating STLM populations are currently in the larval stages. Activity of the second flight of moths should get underway in regions where 539-750 GDD (Base 50F) accumulate in the week ahead, most likely in the south central, southwest and west central regions.

Plum curculio - Weevils began moving into orchards late last week, according to cooperator Bob Willard who observed multiple plum curculio scars on apples at Ela Orchards in Rochester on May 24-25. Growers should begin to see the characteristic signs of plum curculio as more adults continue to move into apple orchards. Perimeter scouting is advised



Curly dock

www.library.uiuc.edu/



Curly dock

www.ces.ncsu.edu

Individual curly dock plants can produce up to 60,000 seeds per year, making it important to remove plants prior to seed set if you are trying to decrease seedbank populations. The

seeds themselves can persist in the soil for up to 50 years. When seeds are ripe, they have a rusty color and are attached to an upright flower stalk which bolts from the rosette in late spring.

Dandelion (*Taraxicum officinale*) - The yellow speckles that blanketed field side ditches in past weeks have transformed into wispy white bundles of dandelion seed. Dandelion uses an aerial dispersal mechanism to spread seed. Each familiar seed has a helicopter type structure attached to it, called the pappus. When seeds are fully developed, they will be loosely held by the plant; wind will detach it and carry it away from the mother plant. Depending on the wind speeds, dandelion plants can send seed several feet away.



Dandelion seed head

www.boudist.com/images/

Gypsy Moth

Gypsy moth trapping program - Trappers continued to set traps for male gypsy moths in the western two-thirds of the state this week. As of May 31, a total of 5,366 traps, or 16% of the final number of traps expected to be set, were deployed. Trap setting will continue for approximately 4-5 weeks and all traps should be in place by the first week of July. Portage Co. is the only county that has been completed to date.

At this time of year gypsy moth larvae are actively feeding on susceptible host trees. After hatching from the egg mass gypsy moth larvae are only about a sixteenth of an inch in length, but as they grow larger they develop the characteristic grayish body color, tufts of hair on the sides of the body, a yellow head with black eyespots, and five pairs of blue dots and six pairs of red dots along their backs. By the end of June in Wisconsin, gypsy moth larvae generally grow to a length of 2.5-3 inches.

Forest and Landscape

Grape flea beetle (*Altica chalybea* Illiger) - Larvae were found feeding on grape and Virginia creeper foliage in Green Lake and Columbia Cos. earlier this week. The larvae (pictured right) are brown with black spots and grow to a length of 10 mm. Feeding takes place during a period of three to four weeks before larvae mature and drop to the ground to pupate in the soil.

The blue-green adults are about 5 mm long and also feed on foliage and can cause significant damage to vineyards feeding on new buds and unfolding leaves. Grape flea beetles overwinter as adults in debris on the ground and become active in early spring, laying light yellow egg masses in cracks in the bark, at bases of buds, between bud scales, and on host plant leaves.



Grape flea beetle larva

Krista Lambrecht, DATCP

Septoria leaf spot - This common fungal leaf spot, which affects many cultivars, was found this week on *Penstemon* spp. and *Echinacea purpurea* in Green Co., variegated dogwood in Dane and Fond du Lac Cos., Anthony Waterer and Magic Carpet Spirea in Waupaca, Goldmound and Dart's Red Spirea in Brown Co.

Symptoms of Septoria leaf spot first appear at the base of the affected plants where small spots appear on leaves and stems. Once symptoms appear control is difficult to achieve. Preventative measures like destroying infested plants by burning or burying them are the best course of action to take. Also, increasing spacing between plants to promote airflow and faster foliage drying time helps to minimize problems.

Apple scab - Apple scab is a fungal disease of ornamental and fruit trees in the rose family. Symptoms of this disease were observed on Harvest Gold Crab, Ornamental Crab, Delicious Apple, Honey crisp Apple, Red Splendor Crab apple and Sugartyme crab in Dane Co. and crabapple in Waupaca Co.

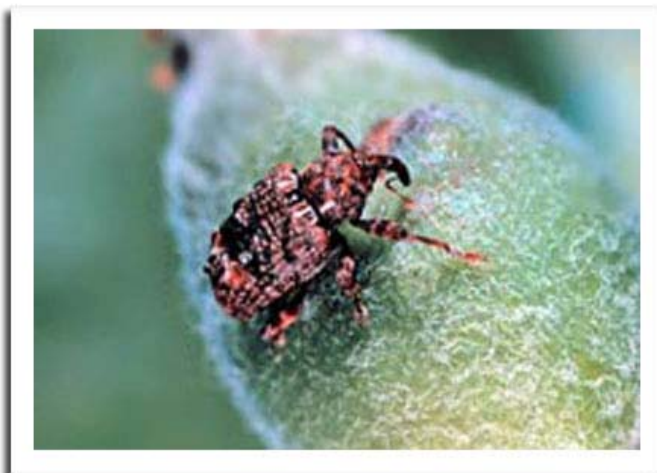
Botrytis - Symptoms of this fungal leaf spot have been frequently observed on geraniums in Kenosha, Milwaukee and Racine Cos.

Ash flower gall mite - This tiny eriophyid mite feeds on the male flower clusters of ash trees causing them to enlarge into irregular, unattractive masses. The masses are green in color in the early season as they form, but turn black as they dry up later in the season. Although ash flower galls may persist for up to two years, they do not seriously harm the tree. Symptoms of this mite were found in on an ash tree in Walworth Co. earlier in the week.

Hosta Virus X - A 'Green White' Hosta from St. Croix Co. tested positive for Hosta Virus X. Other positives were found on 'Golden Tiara' and 'Aurea Marginata' in Douglas Co. The plants showed faint mosaic symptoms on the leaves. The hosta stock was imported bareroot from the Netherlands.

Weekly Apple Insect Trap Counts (May 26-June 2, 2006)

County	Site	Date	STLM	RBLR	CM	OBLR	PC
Bayfield	Erickson	5/25-6/1	517	0	0		
Bayfield	Galazen	5/25-6/1	489	6	6 ?	0	
Bayfield	Gellerman	5/22-5/29	14	0			
Bayfield	Feraro	5/25-6/1	0	0	0		
Bayfield	Kavajecz 1	5/25-5/30	15	0	0		
Bayfield	Kavajecz 2	5/25-5/30	21	0	0		
Bayfield	Kavajecz 3	5/25-5/30	17	0	0		
Bayfield	Kavajecz 4	5/25-5/30	14	0	0		
Bayfield	Olsen 1	5/25-6/1	136	0	2 ?		
Bayfield	Olsen 2	5/25-6/1	135	0	5 ?		
Bayfield	Lobermeier	5/25-6/1	154	0	0		
Crawford	Gay Mills	5/30-6/1	2	7	82	0	
Dane	Deerfield	5/25-6/1	0	10	7	0	
Dane	Stoughton	5/26-6/1	7	18	5	4	
Dane	Stoughton	5/19-5/25	0	14	2	0	
Dodge	Brownsville	5/26-6/1	4	2	3	0	
Fond du Lac	Campbellsport 1	5/25-6/1	110	11	3		
Fond du Lac	Campbellsport 2	5/25-6/1	150	30	6		
Fond du Lac	Malone	5/25-6/1	3	2	16 (ave = 12)	0	
Fond du Lac	Rosendale	5/25-6/1	46	14	2	0	
Grant	Sinsinawa	5/26-6/2	0	0	5	0	
Green	Brodhead	5/25-6/1	0	0	1	0	
Jackson	Hixton	5/26-6/1	3	2	1	2	
Marquette	Montello	5/21-5/28	336	18	3	0	0
Marinette	Wauzaukee	5/26-6/2	64	0	15	0	
Pierce	Spring Valley	5/26-6/2	62	6	0	0	0
Pierce	Beldenville	5/25-6/1	30	26	0	3	
Racine	Rochester	5/26-6/1	16	1	14.88	0	0.5
Racine	Raymond	5/25-6/1	4	3	8	0	
Richland	Richland Center E	5/30-6/1	200	30	50	0	
Richland	Richland Center W	5/30-6/1	66	25	1	0	
Sauk	Baraboo	5/30-6/1	225	21	5	0	
Sheboygan	Plymouth	5/25-6/1	110	19	7	0	
Waukesha	New Berlin	5/25-6/1	4	2	7	0	



Plum curculio

www.gaipm.org



Plum curculio oviposition scars

www.nysipm.cornell.edu

Weekly Black Light Trap Counts

Black light trapping - For the week of May 18-24, true armyworm remained the dominant black light trap catch. A few more variegated and spotted cutworms appeared in the traps along with a low number of celery loopers in Lancaster, Arlington, Janesville, Sparta, Marshfield, and Manitowoc. The first European corn borer of the season was observed in Chippewa Falls.

During the week of May 24- 31, European corn borer was caught for the first time at several locations, celery looper, spotted cutworm and variegated cutworm catches rose slightly and true armyworm catches increased from the previous week.

Black Light Trapping Results

	Date	BCW ¹	CabL ²	CeL ³	CE ⁴	DCW ⁵	ECB ⁶	FA ⁷	TA ⁸	ForL ⁹	SCW ¹⁰	VCW ¹¹
Southwest												
Reedsburg	5/25 to 5/31	0	0	0	0	0	4	0	0	0	0	0
South central												
Mazomanie	5/25 to 6/1	1	0	11	0	0	9	0	22	0	5	0
Arlington												
Rochelle, IL												
Southeast												
Janesville	5/25 to 5/31	5	0	10	0	0	17	0	127	1	3	0
West central												
Sparta	5/25 to 5/31	0	0	0	0	0	2	0	0	0	0	0
Chippewa Falls	5/25 to 5/31	0	0	3	0	0	5	0	0	0	0	0
Central												
Wausau	5/25 to 5/31	2	0	18	0	1	1	0	34	0	5	0
Marshfield	5/25 to 5/31			19					75			16
East Central												
Manitowoc	5/25 to 5/31	5	0	17	0	0	0	0	32	0	0	0

¹ Black Outworm; ² Cabbage Looper; ³ Celery Looper; ⁴ Corn Earworm; ⁵ Dingy Outworm; ⁶ European Corn Borer; ⁷ Fall Armyworm; ⁸ True Armyworm;

⁹ Forage Looper; ¹⁰ Spotted Outworm; ¹¹ Variegated Outworm; ¹² Alfalfa Looper

Black light
trap

CATCH
of
the
WEEK



European corn borer



Dingy cutworm



Department of Agriculture,
Trade & Consumer Protection,
Division of Agricultural Resources Management
PO Box 8911
Madison WI 53708-8911

Web Site of the Week

Integrated Crop Management

This Iowa State University Extension publication features detailed, research-based articles plus Marlin Rice's amazing insect images that we've been known to borrow from time to time. Thanks Marlin!

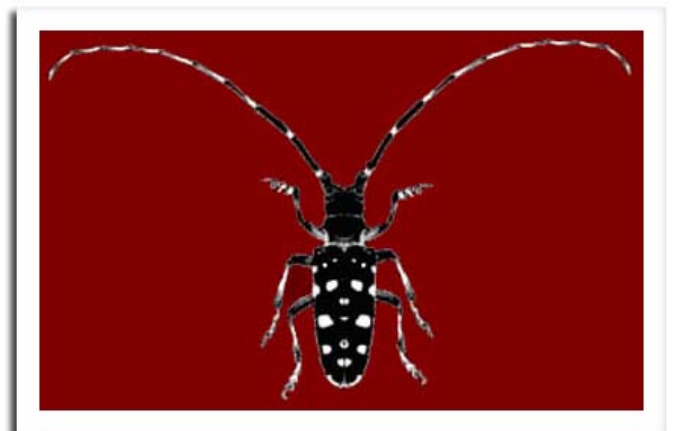
<http://www.ipm.iastate.edu/ipm/icm/>

Quote of the Week

"Cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous, and they are tied to their country and wedded to it's liberty"

-- Thomas Jefferson (1762-1826)

June 02, 2006



Asian longhorned beetle, *Anoplophora glabripennis* (Motschulsky)

EXOTIC Pest of the Week
Asian longhorned beetle,
Anoplophora glabripennis (Motschulsky)