

Wisconsin Department of Agriculture, Trade & Consumer Protection

Wisconsin Pest Bulletin

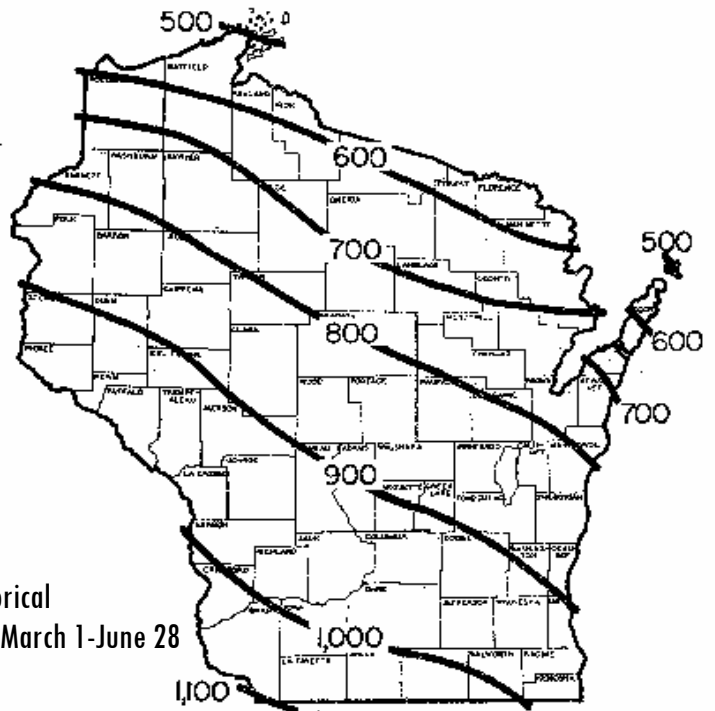
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Your weekly source for crop pest news, first alerts, and growing season conditions for Wisconsin



Weather and Pests

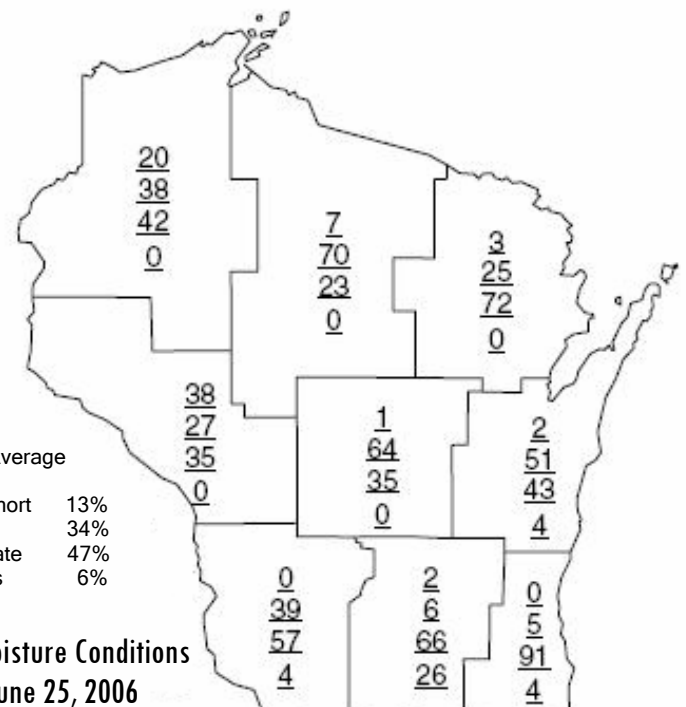
Torrential downpours early in the week drenched fields and caused flash flood warnings to be issued in parts of south central Wisconsin, but also brought several inches of needed precipitation to the state's parched corn and alfalfa crops. Despite significantly slowing haying operations, the rains were a welcome relief for farmers. As of June 26, second cutting alfalfa was reported at 9% complete, above last year's average of 1% and the 5-year average of zero, according to the Wisconsin Field Office of USDA's National Agricultural Statistics Service. As we move ahead into summer, crop conditions are reported as good overall. While farmers in northern and central Wisconsin could still use more rain, those in the south are hoping for a dry spell to allow harvest of second crop hay to be completed.



Growing Degree Days through 6/29/06 were

	GDD 50F	5-yr Ave	Sine 48F	40F
Dubuque, IA	1031	1064	1033	1793
Lone Rock	985	1010	991	1718
Beloit	1080	1055	1082	1867
Madison	947	983	941	1687
Sullivan	983	993	980	1752
Juneau	909	955	904	1660
Waukesha	898	925	896	1651
Hartford	890	906	890	1643
Racine	844	852	866	1592
Milwaukee	855	840	862	1603
Appleton	899	839	898	1641
Green Bay	809	745	858	1535
Big Flats	963	941	942	1694
Hancock	942	918	921	1668
Port Edwards	974	885	959	1711
La Crosse	1115	1051	1110	1910
Eau Claire	1080	956	1090	1863
Cumberland	933	805	938	1648
Bayfield	669	559	667	1293
Wausau	853	786	817	1532
Medford	863	755	867	1548
Crivitz	789	702	781	1488
Crandon	768	696	720	1396

Historical GDD March 1-June 28



State Average

Very Short 13%
Short 34%
Adequate 47%
Surplus 6%

Soil Moisture Conditions as of June 25, 2006

Looking Ahead

Western bean cutworm - Moth emergence is underway in Wisconsin, Indiana, Iowa, Missouri and Ohio according to weekly counts posted on Iowa State University's new **Western Bean Cutworm Monitoring Network** web site at <http://www.ent.iastate.edu/trap/westernbeancutworm/isite>. One of the 122 milk jug traps placed throughout 36 Wisconsin counties registered moth activity this week, two moths were captured at the Mazomanie black light trapping site and one moth was caught at Lancaster, marking the start of flight here in the Badger State. Look for Wisconsin pheromone traps catches to increase in the week ahead. The comprehensive Western bean cutworm trapping grid established in 2006 should help to determine if this traditionally western U.S. corn pest should be considered a threat to Wisconsin corn at this time.

European corn borer - Above-threshold populations of first generation corn borers were detected in some west central and south central fields during surveys this week. The pattern of defoliation and dissection of whorl leaves indicated most larvae are second instar, but some have reached the third instar and are tunneling into stalks. The treatment window for first generation corn borers has closed near Beloit, La Crosse and Eau Claire where 1000 GDD (base 50F) have been surpassed. Insecticide treatments should be effective for another week in parts of central and northern Wisconsin.

Japanese beetle - "Extremely large numbers of Japanese beetles are being found in corn and soybean fields in southern and central Illinois. Some insecticide applications are taking place" according to Kevin Steffey of the University of Illinois Extension (*The Bulletin* No. 14 Article 1, June 30, 2006). Southern Wisconsin residents can expect beetles in the week ahead and possibly very high populations this season.



Japanese beetle defoliation

Krista Hamilton DATCP

Apple maggot - After the substantial amount of rainfall received in the past week, it's no surprise that emergence of the first apple maggot flies of the season began near Dodgeville in Iowa Co. where a single fly was captured on an unbaited red ball trap. In the week ahead, scouting and control efforts should be intensified in all growing areas where

900 GDD have accumulated. See the FRUIT section for scouting recommendations and action thresholds for this pest.

Western corn rootworm - The first western corn rootworm beetle of 2006 was spotted by a DATCP specialist in a V9-stage corn field east of La Crosse this week. This individual emerged ahead of most of the population, and at this point in the season attention should continue to focus on lodging and other symptoms of larval feeding instead of adult populations. Larval damage to corn roots is likely to become apparent in heavily infested fields in the next few weeks. More adults will begin emerging next week.

Corn earworm - Light moth activity was registered at pheromone trapping sites from June 23-29, 2006. Light, but consistent moth captures since early June suggest any corn fields with fresh silks will be good candidates for earworm problems. Scout advanced, silking fields closely in the week ahead. Counts this week were as follows: Lancaster 13, Manitowoc 22, Mazomanie 5, Sparta 8, and Sturtevant 6.

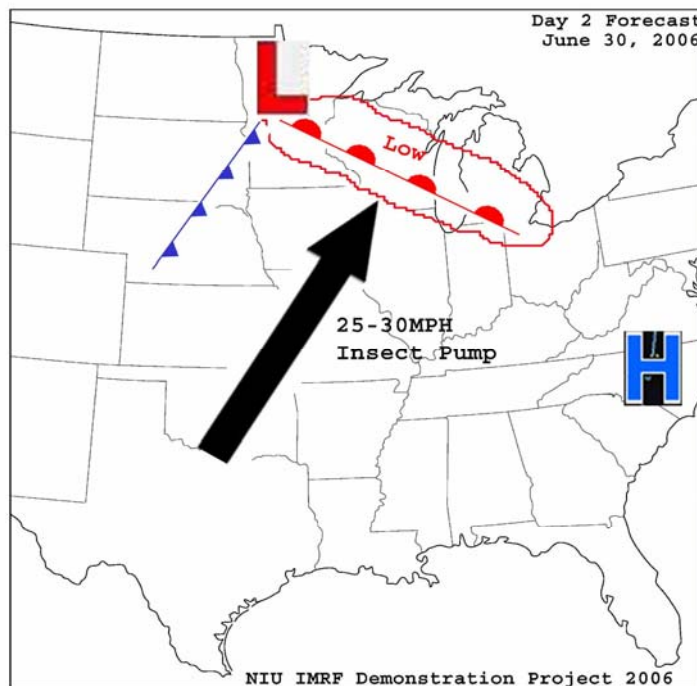
Insect Migration into Midwest Forecast

The following insect migration forecast was developed and provided by Mike Sandstrom and Dave Changnon, Department of Geography, Northern Illinois University DeKalb, IL 60115

SHORT-TERM (DAY 2 FRIDAY, JUNE 30 NOON THROUGH SATURDAY, JULY 1 NOON):

Relative Risk of Insect migration into the Midwest: LOW (5-15%) - greatest risk area along and either side of the I-94 corridor from Minnesota to Wisconsin into Michigan.

Low pressure is expected to develop over the High Plains and move into northern Minnesota by the end of the Day 2 period (Saturday morning). The warm front currently located over

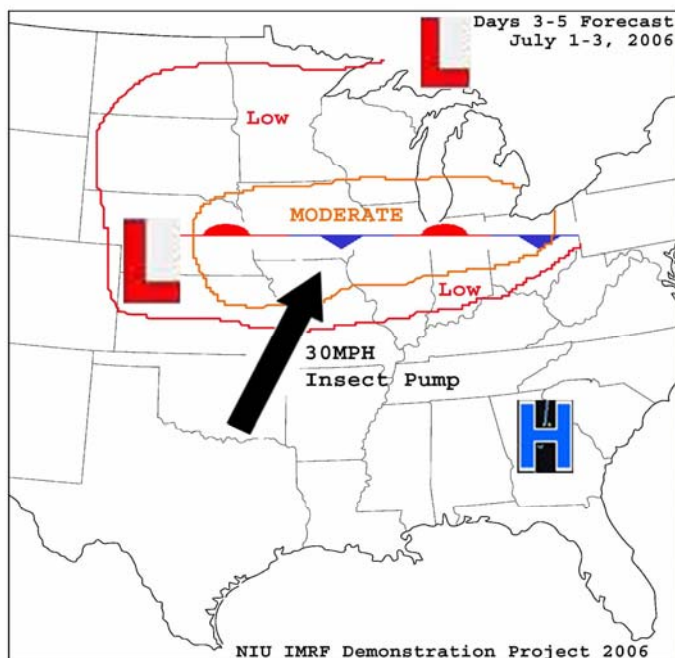


Missouri will move rapidly north, reaching from Green Bay to Detroit by Saturday morning. Scattered precipitation areas are expected to develop along the northward-advancing warm front mainly along and north of I-94 after dark Friday evening and continue into Saturday morning. Given the increasing southerly flow to the south of this boundary and expected precipitation, a low risk of insect migration is forecast from Minnesota into lower Michigan for Day 2. Elsewhere, across the southern Midwest, little to no precipitation is forecast. Therefore, no drop zones are expected, thus no insect migration risk.

LONG-TERM (DAYS 3 TO DAY 5 - SATURDAY, JULY 1 NOON THROUGH MONDAY, JULY 3 NOON):

Relative Risk of Insect migration into the Midwest: LOW TO MODERATE (5-20%) - all of the Midwest is at some risk for insect migration, however, the greatest concentrated risk at this time appears to be on either side of I-80 from Nebraska to Ohio.

The forecast for the 3-5 day period is still uncertain, however, forecast confidence has increased somewhat today compared to earlier forecasts. The low pressure system and attendant frontal boundary will continue to affect the upper Midwest early in this period, but as a new area of low pressure develops over the central Great Plains, the front will stall across the Midwest. Right now, it appears this front will become stationary somewhere along the Interstate 80 corridor from Omaha to Chicago to Cleveland. Nightly organized precipitation clusters will generate along and north of the frontal boundary, generating focused insect drop zone regions for each night included in this forecasting period. To the south of the frontal boundary, very warm to hot conditions along with decent southerly flow in the lower levels of the atmosphere will allow insects originating in source regions across north central Texas into Oklahoma to move north for several days in a row. Given the favorable migratory pattern expected to develop and persist, our forecasted risk is now increased to Moderate levels along the I-80 corridor. Tomorrow's forecast will update this situation.



Forage

Any of the alfalfa pest species that might delay growth, defoliate leaflets, or transmit disease are now established at varying levels in Wisconsin alfalfa fields. Populations of pests like potato leafhoppers, pea aphids, plant bugs, and a few remaining alfalfa weevil larvae can be expected to fluctuate throughout the summer months. Densities of alfalfa pests will increase with favorable conditions like high temperatures and dry weather, and decrease with unfavorable conditions like cold, wet weather. Most resident alfalfa pests, particularly leafhoppers and aphids, have the ability to reproduce at remarkable rates when conditions are right.

The key to managing pest outbreaks is regular scouting, once or twice a week. Nearly all publications on alfalfa pests recommend taking five sets of 20 sweeps (100 sweeps total) and calculating the average number of (fill in the blank pest) per sweep. However, at this time of year alfalfa inhabitants are usually so numerous, DATCP specialists have found that taking more sets of fewer sweeps, such as 10 sets of 10 sweeps, will make it easier to count the leafhopper adults as they bound from the sweep net and nymphs that tend to stick to the rim. Either way, take a total of 100 sweeps, just not all at once. Action thresholds for the top four pests of alfalfa in Wisconsin are provided below. As a reminder, harvesting fields early should always be considered before spraying fields with an insecticide.

Potato leafhopper - The action threshold for leafhoppers is as follows: 0.3 per sweep in 3" alfalfa; 0.5 per sweep in 4-6" alfalfa, 1.0 per sweep in 8-11" alfalfa, and 2.0 per sweep in 12" alfalfa. While sweeping fields shorter than four inches is a challenge, make a concerted effort to scout newly cut fields to ensure potato leafhopper pressure is not delaying growth.

Alfalfa weevil - Treatment is warranted in any field where tip feeding exceeds 40%, but by late June, treating fields with above-threshold levels of feeding is probably unnecessary since the injury is likely old, and most alfalfa weevils are in the non-feeding pupal stage. Alfalfa weevil larvae could still reach threshold levels in a few isolated northern Wisconsin fields, but for most of the state the weevil threat has passed for 2006.

Pea aphid - Unlike alfalfa weevil, pea aphids are a persistent, season-long pest whose populations rise and fall in response to weather conditions and parasite populations. The action threshold for pea aphids in alfalfa is 100 per sweep. Chemical control in peas is warranted when sweep net counts exceed 10-35 aphids per sweep (see April 28 issue) in fields that are more than 15 days from harvest. Treat fields only if aphid populations meet or exceed this threshold and don't be alarmed if sweeping stirs up an abundance of aphids. High numbers of aphids are normal in alfalfa.

Plant bugs - Several species of plant bugs are commonly found in Wisconsin alfalfa fields. For treatment purposes, all species can be counted together. The threshold for plant bugs in alfalfa that is 3" or shorter is three per sweep, and increases to five per sweep in taller alfalfa fields. Again, harvesting early is an acceptable way to lower plant bug numbers without using costly chemicals.

Corn

European corn borer - Above-threshold levels of first generation corn borer larvae were detected in several V7-V10 corn fields along Hwy 16 in La Crosse and Monroe Cos. and in parts of central Wisconsin earlier this week. Larval feeding injury was noted on 82% of the plants in one La Crosse Co. field, although the county average was 46% (still fairly high). First, second and third instar larvae were present in all of the fields surveyed and populations were primarily made up of second instar larvae. Some tunneling into midribs and stalks was noted, but rescue treatments would still be effective in west central fields through the weekend. In a V7-V8 Marquette Co. field, 69% of the plants infested with early instar corn borer larvae, and in Dodge Co. corn fields, infestations affecting 36-49% of plants were observed.

Surveys this week indicate high populations of first generation borers are present in some southern and central corn fields. Scouting over the weekend is strongly advised before the most effective treatment period for first generation corn borers (800-1000 GDD base 50F) closes. Treatments in the far north should still be effective until about mid-July. As a general rule, fields with infestations affecting 50% or more of the plants should be considered for treatment. For precise control recommendations visit UWEX publication titled *The European Corn Borer* by Eileen Cullen and John Wedberg at <http://s142412519.onlinehome.us/uw/pdfs/A1220.PDF>.

European Corn Borer GDD Model

Development Stage	Accumulated Degree Days
First Generation	
First spring moth	374
First eggs	450
Peak spring moths	631
First gen treatment period	800-1000
Second Generation	
First summer moths	1400
First eggs	1450
First egg hatch	1550
Peak summer moths	1733
Second gen treatment period	1550-2100

Corn rootworm - Emergence of the first western corn rootworm beetles of the season was noted in La Crosse Co. this week. Expect more adult rootworms to appear after July 4th. Beetle emergence increases at about the same time corn is in the silk stage, usually sometime during late July to mid-August, and persists through fall. Between mating and laying eggs, the beetles will clip corn silks and feed on the foliage, and in some areas may reach levels high enough to disrupt pollination. Look for symptoms of larval injury such as lodging to become evident after storms or periods of high speed winds, and prepare to begin scouting for adults late next week.

Corn earworm - Low numbers of migrant moths continue to drift into the state. Captures at pheromone trapping sites ranged from 0-16 moths this week. The consistent capture of moths since early June means females are laying first generation eggs in any fields where fresh silks are available, particularly early sweet corn.

Female corn earworm moths usually deposit a single egg per ear on corn silks because the larvae of this species are cannibalistic. After the egg hatches, the larva crawls down the silk channel and into the ear to feed. While first generation larvae may cause damage in very early sweet corn, the second generation that appears in late August is almost always the most damaging. Host plants besides corn include tomatoes, lettuce, peppers, and snap beans.

Corn earworm activity is best monitored using wire mesh Hartstack trap baited with Hercon brand pheromone lures, Pheromone trap catches of 5-10 moths per night may warrant treatment in silking fields. Treatment timing on sweet corn is critical since larvae quickly develop and move into the ear where they are invulnerable to conventional insecticides. For treatment recommendations see UWEX publication titled *The Corn Earworm* at <http://s142412519.onlinehome.us/uw/pdfs/A3655.PDF>.

Corn Earworm Pheromone Trap Counts

	21-Jun	22-Jun	24-Jun	26-Jun	27-Jun	29-Jun
Southwest						
Lancaster	0			0		13
Reedsburg						trap up
South central						
Mazomanie	6			0		5
Arlington						
West Arlington						
Southeast						
Sturtevant		9				6
Janesville	4		1	3	0	
West central						
Sparta	3			8		0
Coon Valley		5				2
Chippewa Falls		trap up				
Central						
Wausau						trap up
Marshfield						trap up
East Central						
Manitowoc		trap up		16		

Soybeans

Soybean aphid - Low densities of aphids were the standard again this week in Wisconsin and neighboring states. In most west central and south central fields no more than 30 aphids per plant on 5-20% of the plants were documented in the last reporting period. In one Columbia Co. field, aphids were detected on 9% of the plants, with a high of 27 aphids per

plant. Greg Kerr of Kerr Agronomics, Inc. found soybean aphids in St. Croix, Pierce, Dunn, Clark Cos. late last week, and some counts as high as 250 per plant (but patchy throughout the field). He reported an average count 30-50 aphid per plant in fields where aphids were detected. While counts are generally low, Greg's observations indicate heavy densities are starting to establish in some fields.

Soybean aphid reports from Wisconsin and other Midwestern states are as follows:

- **Wisconsin** (Eileen Cullen, University of Wisconsin): Counts of soybean aphids have been mostly zeroes. The largest numbers in any fields have been 10 to 20 aphids on scattered plants.
- **Illinois** (Kevin Steffey, University of Illinois): Low numbers of soybean aphids exist in most fields, with some larger numbers on a few plants.
- **Indiana** (Christian Krupke, Purdue University): Densities of soybean aphids are very low.
- **Iowa** (Marlin Rice, Iowa State University): Densities of soybean aphids have declined from the previous week, from an average of about one per plant to less than one.

(Reports above are from **The Bulletin: Pest Management and Crop Development Information for Illinois, An Inventory of Field Crop Insect Issues in the Midwest No. 14 Article 1/June 30, 2006** by Kevin Steffey).



Soybean aphids

Krista Hamilton DATCP

Bean leaf beetle - Feeding by bean leaf beetles was visible in all the soybean fields surveyed this week, but no more than 5-10% defoliation was detected in any of the La Crosse, Monroe, Columbia, Dodge, or Vernon Co. fields visited. This pest does not appear to be adversely affecting soybeans at this time.

Fruit

Apple maggot - Recent rain showers and adequate soil moisture conditions mean apple maggot emergence is likely to increase in the week ahead. Research has demonstrated that soil moisture of 20% is most favorable for the emergence of apple maggot flies. The action threshold for apple maggot on an unbaited red ball trap is one fly per trap per week. The threshold increases to five flies per trap per week when red ball traps are baited with a fruit volatile or ammonia attractant. The same threshold applies to yellow sticky boards.

In conventional spray programs, the first insecticide spray should be applied 7-10 days after the first apple maggot fly is caught on a yellow board or immediately after the first female fly is captured on a red ball. Subsequent sprays are applied every 14-21 days or as trap catches of apple maggot are continuous and heavy, spray intervals should be shortened to 14 days. Timing of apple maggot sprays should correlate with those for codling moth.

The growing degree day model for apple maggot is provided below. Emergence occurs later for apple maggot relative to other pests (900 GDD base 50F), and usually occurs after a rainfall since apple maggot flies have strict soil moisture requirements. There is only one generation of apple maggot per year in Wisconsin.

Spotted tentiform leafminer - Cooperating orchards reported higher counts of spotted tentiform leafminer moths this week ranging from 4-1,620 as peak flight approaches in southern and central Wisconsin. Apple growers should plan to scout for second generation sapfeeders on the undersides of leaves one week after a peak flight is registered. The action threshold for second generation STLM is one mine per leaf.

Codling moth - Expect the second flight of moths to get underway between 873-1,296 GDD (base 50F) and to peak around 1577 GDD. The offspring of this second flight are usually the most damaging to developing apples. Watch traps closely next week for the beginning of the second sustained flight of moths. The action threshold for codling moths remains five moths per trap per week.

Weeds

Crops have grown significantly across the state in recent weeks and many weed species are no longer able to compete with the larger, more mature plants. This was quite apparent in waist-high corn fields surveyed earlier this week, however, some soybean fields are still showing heavy weed densities in places. Though weeds may not be a prominent issue for growers right now, it is good to be alert to patchy areas within fields where crops may not have emerged, or where weeds continue to tower over crops. If just one plant is allowed to mature and go to seed, the seedbank can be restocked for years to come.

Common milkweed - Common milkweed was observed flowering in some regions of the state this week. This perennial forb displays a pink to purple ball of hood-like flowers and produces a white latex that can be observed

when the stem is broken. Few plants were observed within field boundaries this week, but when present, it can be difficult to control. Common milkweed reproduces by seed and rhizomes, grows quickly, and holds its ground against many chemical control measures.



Common milkweed flower

www.beelab.osu.edu

Foxtail barley - This perennial grass was observed in many roadside ditches during surveys this week. Foxtail barley can be problematic in pastures or when mixed with forage. The 'nodding spike' inflorescence can cause sores in the mouths of grazing animals. The spike can be 2-5" long and up to 3" wide.



Foxtail barley

www.agf.gov.ba.ca

Gypsy Moth

Gypsy moth trapping program - Trappers are expected to finish setting a majority of traps by July 7. A few northern counties may have to be completed during the following week. As of June 28, trappers have set 27,085 traps in central and western Wisconsin, or 79% of the expected total.

Once all traps are deployed, trappers will begin spot checking to help determine where and when the moth flight of male moths has begun. Once the moth flight is underway, trappers will do routine trap maintenance and check traps one time to get preliminary moth counts. Computer modeling of gypsy moth activity indicates moth flight should begin in southern Wisconsin on or about July 19.

DATCP gypsy moth program staff sincerely appreciates landowner cooperation in allowing us to set traps on their properties. Trappers will return to check traps one time and takedown is scheduled for later this summer.

Forest and Landscape

Yellowheaded spruce sawfly (*Pikonema alaskensis*) - Found on Black Hills Spruce in Sawyer Co.. This defoliator of conifers feeds on all spruce species and is found throughout the United States. The eggs are deposited in the current year's needles and hatch in 4-12 days depending on weather conditions, typically in May to mid-June. The larvae feed for 10-21 days. Young larvae prefer new needles, but the older larvae will eat needles from the previous season when new foliage is scarce. If complete defoliation occurs, larvae may feed on current shoots. Consecutive years of significant defoliation can kill trees. Once the larvae stop feeding in mid-summer, they drop from the tree, enter a period of dormancy, and eventually pupate in late winter. The adults emerge anytime from mid-May to mid-June.

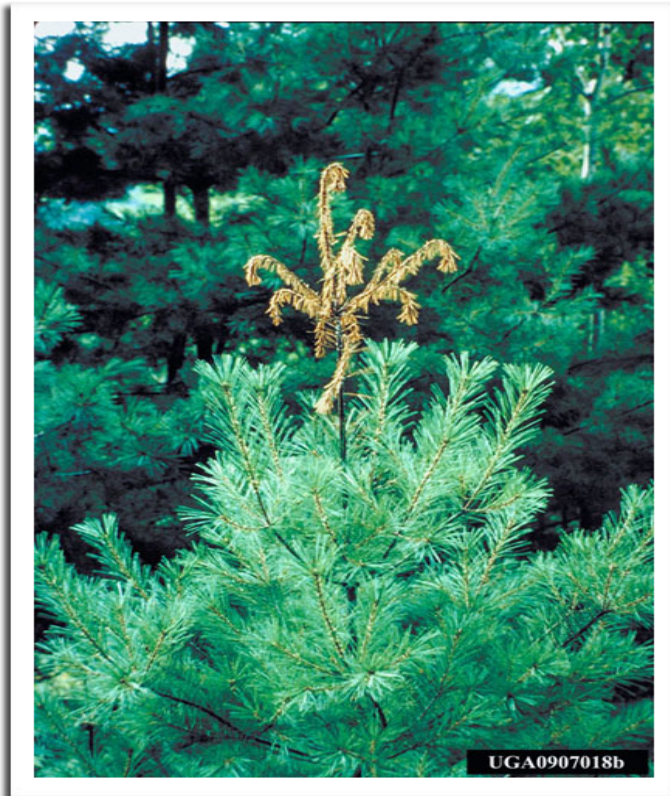
To control the yellowheaded spruce sawfly, begin by selecting sites that are less prone to sawfly infestations. The sawflies prefer sites with full sun, so a light overstory above the plantation significantly reduces the chance of an outbreak. Also avoid sites with poor drainage or heavy, clay soils. Planting a variety of trees also reduces potential infestations. Regular scouting and monitoring should be done to detect the spruce sawfly populations before significant damage occurs. For a direct control, insecticides can be used. Insecticides should be applied as soon as larvae are found, before defoliation becomes significant. For the young larvae an insecticidal soap is most effective. Use a residual insecticide against large numbers of older larvae.



Yellowheaded spruce sawfly larva

www.pfc.forestry.ca.bmp

White pine weevil (*Pissodes strobi*) - Found on White Pine in Sawyer Co.. This species is known to attack a wide variety of pines and spruce, and has also been found to attack Douglas fir. The adults overwinter in leaf litter on the ground, then emerge in spring to mate. The females deposit the eggs in the leader of the tree. The eggs hatch and the larvae feed inside the bark, killing the leader of the past year and causing the new year's leader to grow into a "shepherd's crook" and then die. When the larvae are done feeding they burrow under the bark to pupate. The new adults emerge in late summer and feed somewhat on twigs before dropping to the litter to overwinter in late fall. The adults can live up to four years.



White pine weevil damage

Forestryimages.org

To minimize the likelihood of white pine weevil problems, begin with proper site location. Adult weevils tend to avoid laying eggs on shaded white pine with small diameter terminals. A light overstory above the plantation reduces the chance of a weevil outbreak. Corrective pruning also helps. Pruning can be done anytime, but the best time is in mid-July to mid-August, when the weevils are present in the dead terminals. Prune out and destroy the dead terminals to correct the injury and to reduce next year's weevil population. The infected leaders should be cut back at the level of the topmost whorl of unaffected branches. The new leader will straighten out over the next few years. Another option is to spray insecticide when the adults are active in early to mid spring and then again in late summer when the new adult population emerges.

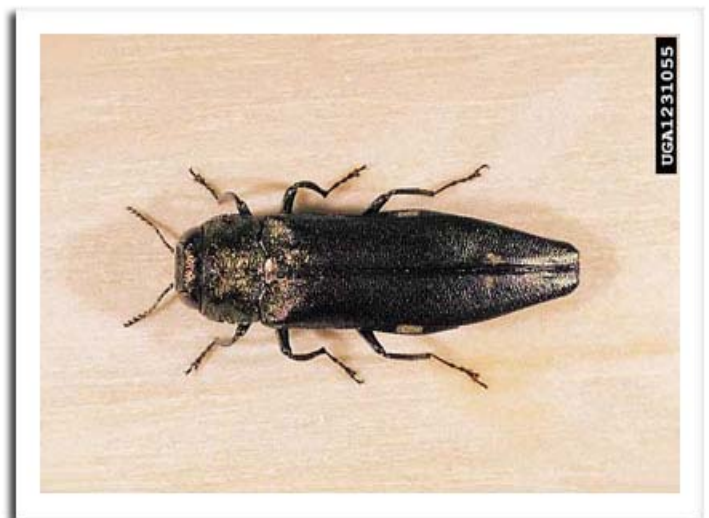
Other nursery inspection finds this week include:

- **Northwestern region:** lurla needlecast fungus, twig aphid, and fir/fern needle rust on balsam fir, rhizosphaera needlecast, Spruce needle drop, spidermite feeding on white spruce.

- **Northeastern region:** Sphaeropsis canker, phytophthora root rot, and pythium root rot on colorado blue spruce, tobacco rattle virus on bleeding heart.
- **East central region:** tobacco rattle virus on peony and astilbe, cytospora canker, phyllosticta on maple.
- **Southeastern region:** scab on crabapple, pseudomonas syringae on ornamental pear, botrytis on geranium, stem canker on phlox, powdery mildew on rose, septoria on spirea and dogwood, cercospora on hydrangea, alterneria on impatiens, anthracnose on oak, pythium root rot on delphinium, nipple galls on hackberry, cedar hawthorn rust on hawthorn, asteroma on linden.
- **Southwestern region:** scab on crabapple, powdery mildew on rose, anthracnose on oak, potato leafhopper burn on amur maple, cedar apple rust and cedar quince rust on thornless cockspur hawthorn, anthracnose on river birch, phyllosticta on mountain ash.

Exotic Pest of the Week

Oak splendour beetle (*Agrilus biguttatus* Fabricius) - A close relative of the dreaded emerald ash borer, the oak splendour beetle is not known to occur in the United States. Unlike its cousin *A. planipennis* Fairmaire (EAB), the oak splendour beetle attacks oaks and not ash trees. In its native range, the beetle is regarded as a secondary invader of stressed and weakened trees, but does appear to be contributing to decline of oaks in Europe.



Oak splendour beetle. *Agrilus biguttatus*

Symptoms of attack on oak are similar to those of EAB on ash—dieback, epicormic branching, winding, frass-filled larval galleries and D-shaped exit holes.

Adult beetles are 9-12 mm long, and metallic green. The posterior third of the elytra have two distinct white marks on their interior edge.

The genus *Agrilus* contains a number of species native to North America, so careful expert examination is necessary for a positive ID. To report a possible OSB infestation, or any other exotic pest find, please call 1-800-462-2803.

Weekly Apple Insect Trap Counts (June 23-30, 2006)

County	Site	Date	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM red ⁵	AM yellow ⁶
Bayfield	Erickson	6/23-6/29	1,620	0	5	78		
Bayfield	Atkins	6/20-6/26			7	21		
Bayfield	Carlson 1	6/23-6/30	830	0	9	44		
Bayfield	Carlson 2	6/23-6/30			14			
Bayfield	Gellerman	6/19-6/26	9	0	0	0		
Bayfield	Olsen 1	6/23-6/29	876	0	6			
Bayfield	Olsen 2	6/23-6/29	897	0	4			
Bayfield	Lobermeier	6/23-6/29	39	1	1	20		
Brown	Oneida	6/19-6/26	240	6	7	4		
Dane	Deerfield	6/23-6/29	457	5	0	1		
Dane	Stoughton	6/23-6/29	29.5	143	6	6	0	0
Dane	W Madison	6/22-6/28	52	8	0	0		
Dodge	Brownsville	6/23-6/29	30	15	0	3	0	0
Fond du Lac	Malone	6/23-6/29	220	8	3.5	3.5		
Fond du Lac	Rosendale	6/19-6/29	65	23	4	1	0	0
Grant	Sinsinawa	6/23-6/29	38	12		7		
Iowa	Dodgeville	6/23-6/29	243	34	58	0	1	0
Kenosha	Burlington	6/23-6/30	230	21	3	6		
Marquette	Montello	6/19-6/27	4	17	1	1	0	0
Marinette	Wauzaukee	6/23-6/30	115	0	1	3		
Ozaukee	Mequon	6/23-6/29	250	10	1.6 (range 0-5)	2	0	0
Pierce	Spring Valley	6/23-6/30	118	18	0	0		
Racine	Rochester	6/23-6/29	450	14	3.88	5	0	0
Racine	Raymond	6/23-6/29	1,400	69	22	26	0	0
Richland	Hill Point	6/21-6/28	840	80	2	10	0	0
Sheboygan	Plymouth	6/23-6/30	880	0	2	11	0	0
Waukesha	New Berlin	6/23-6/29	600	16	5	7	0	0

¹ Spotted tentiform leafminer; ² Redbanded leafroller; ³ Codling moth; ⁴ Obliquebanded leafroller; ⁵ Apple maggot red ball trap;

⁶ Apple maggot yellow ball trap.

GDD (base 50F)	Apple maggot event
900	first adult emergence
1,100	first eggs laid
1,600	peak adult emergence
1,750	peak egg laying
2,800	end of adult emergence



Apple maggot flies

vegedge.umn.edu

Apple maggot growing degree day model

Weekly Black Light Trap Counts

	Date	BCW ¹	CabL ²	Cell ³	CE ⁴	DCW ⁵	ECB ⁶	FA ⁷	TA ⁸	ForL ⁹	SCW ¹⁰	VCW ¹¹	AifL ¹²	WBCW ¹³
Southwest														
Reedsburg	6-22 to 6-29	-	-	-	-	-	21	-	-	-	-	-	-	-
Lancaster	6-22 to 6-29	1	0	4	0	0	2	0	1	0	6	0	0	1
South central														
Mazomanie	6-23 to 6-29	0	0	0	0	2	4	0	4	0	2	0	0	2
Arlington Station	6-21 to 6-28	0	1	0	1	0	0	0	0	0	0	0	0	-
W. Arlington	6-22 to 6-29	1	0	4	0	0	6	0	0	0	3	0	0	-
Southeast														
East Troy	6-22 to 6-29	1	0	0	0	10	0	0	0	0	0	0	0	-
West central														
Sparta	6-22 to 6-28	0	2	1	0	0	3	0	0	0	3	0	0	-
Chippewa Falls	6-23 to 6-29	0	2	0	0	18	7	0	0	0	0	0	0	-
Central														
Marshfield	6-22 to 6-29	0	0	4	0	6	20	0	9	0	29	1	0	-
Wausau	6-26 to 6-29	0	0	1	0	0	7	0	2	0	38	0	0	-
East Central														
Manitowoc	6-22 to 6-28	1	0	4	0	0	3	0	4	0	16	0	0	-

¹ Black Cutworm; ² Cabbage Looper; ³ Celery Looper; ⁴ Corn Earworm; ⁵ Dinky Cutworm; ⁶ European Corn Borer; ⁷ Fall Armyworm;

⁸ True Armyworm; ⁹ Forage Looper; ¹⁰ Spotted Cutworm; ¹¹ Variegated Cutworm; ¹² Alfalfa Looper, ¹³ Western Bean

Black light
trap

CATCH
of
the
WEEK



Western bean cutworm, *Richia albicosta* (Smith)



Dinky cutworm, *Feltia ducens* Walker



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Web Site of the Week

Invasive Plants Association of Wisconsin

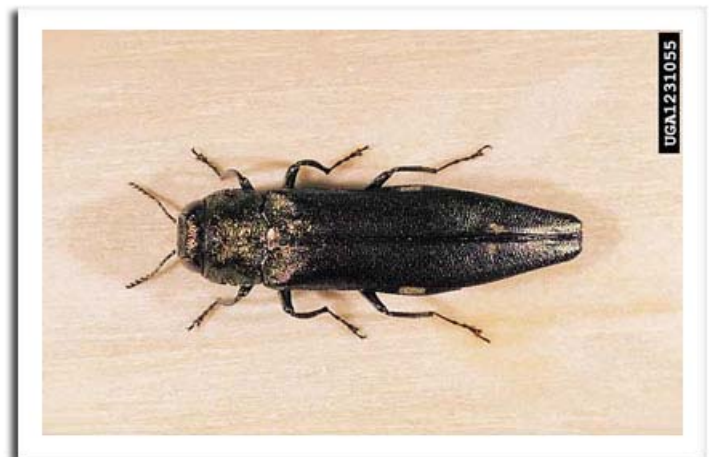
On this last day of *Invasive Species Awareness Month*, what else could we suggest but IPAW? Learn, join, help.

<http://www.ipaw.org/index.htm>

Quote of the Week

Hay moved the greatness of Rome to Paris and London.

-- Freeman Dyson (b. 1923)



Oak splendour beetle, *Agrilus biguttatus*

EXOTIC Pest of the Week

Oak splendour beetle, *Agrilus biguttatus* (Fabricius)