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WISCONSIN PEST BULLETIN

Timely crop pest news, forecasts, and growing season conditions for Wisconsin

STATE OF WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION PLANT INDUSTRY BUREAU
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WEATHER & PESTS

Mild, mostly dry weather allowed for continued planting progress and harvest of the spring alfalfa crop. High temperatures were near normal for early June and ranged from the 60s to low 80s, except near Lake Michigan where readings were 5-15°F below normal. Nightly low temperatures were in the 40s and 50s. Moderate to heavy rain developed across southeastern Wisconsin early in the week, but conditions over most of the state were generally dry and overcast. Planting of corn, oats and potatoes advanced to 92-95% complete and more than half of the state's corn and soybean crops have emerged, with 81% of planted acres in good or excellent condition statewide. At this point last year, only 55% of corn acres fared as well. Based on degree-day totals as of June 11 (modified base 50°F), the growing season is now 1-6 days ahead of 2013, though still 3-12 days behind the 30-year normal, depending upon the region of the state. Temperatures across Wisconsin have been widely variable this spring and the warmest location (Beloit) is currently 411 degree days, or about 27 days, ahead of the coolest location (Bayfield).

LOOKING AHEAD

TRUE ARMYWORM: Minor feeding damage to corn has been noted in Crawford, Juneau, Richland and Sauk counties. Small grains, corn and other susceptible crops are under a low to moderate threat of larval infestation this month and should be monitored for developing problems.

CODLING MOTH: A substantial flight is under way in most apple orchards. Moths have become very abundant in the past two weeks and a definite potential exists for damaging populations if treatments are not applied on time. Counts for the period of June 5-11 ranged from 0-27 moths per trap, with high counts registered in Dane and Pierce counties.

ALFALFA WEEVIL: Larval counts are generally less than one per sweep and leaf feeding damage is still below the 40% economic threshold in most remaining first crop alfalfa fields, but this may change in the week ahead now that the weevil larvae are larger and capable of consuming more foliage. Continued scouting is recommended through first harvest and early second-crop regrowth.

EUROPEAN CORN BORER: The spring flight continued for the second consecutive week and is expected to peak by June 15 in the south-central and southwestern counties, June 21 in the southeastern and central areas, and July 1 in the north. Moths are appearing in very low numbers in black light traps and egg deposition is occurring in locations where 450 degree days (modified base 50°F) have accumulated.

SOYBEAN APHID: Colonization of VE-V1 soybeans was documented for the first time this season on June 10 in Sauk County. Surveys found aphids in two fields, one near Ironton and the other near Reedsburg. Densities were extremely low at 2-6 aphids per infested plant on only 1-2% of the plants examined. This observation confirms that dispersal to soybean plants has started in southern Wisconsin.

Soybean aphids Krista Hamilton DATCP

FORAGES & GRAINS

ALFALFA WEEVIL: Larval counts remain low in both first and second crop alfalfa. The average this week was 0.3 per sweep (or 13 per 50 sweeps) in 48 alfalfa fields sampled from Iowa County in the southwest to Calumet County in the east-central area. Leaf tip feeding was below 25% in all surveyed fields, but failure to harvest the first cutting in the week ahead could result in avoidable damage by the larger and more destructive third- and fourth-instar larvae. Alfalfa should be regularly scouted through harvest and until new growth of the second crop is established.

POTATO LEAFHOPPER: Surveys in the southern and east-central areas yielded very low counts of 0-0.1 leafhoppers per sweep. Economic populations of 1.0 per sweep for alfalfa 8-11 inches and 2.0 per sweep for alfalfa 12 inches or taller have not been detected in any field sampled as of June 11. Nymphs were collected from two of 48 sites surveyed this week.

PLANT BUG: Nymphs have become more abundant than the adults in most fields. Combined counts of the tarnished and alfalfa species range from 0.2-1.5 per sweep and average 0.6 per sweep, a considerable increase over 0.2 per sweep last week but still well below the 5.0 per sweep threshold for plant bugs in alfalfa. The high count of 1.5 per sweep was found near Random Lake in Sheboygan County. The tarnished plant bug continues to be the more common of the two species.

PEA APHID: Densities have increased sharply since early June and counts now vary from 0.2-19.5 per sweep. The average is about 2-3 per sweep. Counts of this level are considered non-economic in alfalfa, but aphid populations can escalate rapidly when natural enemies are eliminated by alfalfa weevil insecticide sprays. Harvesting fields on time, thus reducing the need for insecticidal control, is important for preserving natural enemies.

ALFALFA BLOTCH LEAFMINER: The distinctive comma-shaped leaf mines caused by this insect were noted on 2-10% of alfalfa trifoliates in a few alfalfa fields in Iowa, Juneau, Monroe, Richland and Sauk counties. These

DEGREE DAYS JANUARY 1 - JUNE 11

LOCATION	50°F	2013	NORM	48°F	40°F
Dubuque, IA	685	609	737	709	1140
Lone Rock	636	583	—	661	1081
Beloit	702	686	747	713	1171
Sullivan	504	604	683	532	909
Madison	617	580	708	644	1062
Juneau	547	534	—	582	960
Racine	465	476	—	507	887
Waukesha	504	516	—	532	909
Milwaukee	472	460	586	505	876
Hartford	504	487	—	532	909
Appleton	480	462		514	876
Green Bay	424	408	588	464	815
Big Flats	559	483	—	568	920
Hancock	559	488	695	568	920
Port Edwards	529	457	675	538	883
La Crosse	627	513	785	646	1053
Eau Claire	530	460	693	550	917
Cumberland	437	403	620	456	758
Bayfield	291	256	—	285	502
Wausau	439	417	605	462	772
Medford	417	419	543	441	743
Crivitz	402	372	—	428	732
Crandon	381	386	484	393	660

Method: ModifiedB50; SineB48; ModifiedB40 as of Jan 1, 2014. NORMALS based on 30-year average daily temps, 1981-2010.

percentages are very low in comparison to the economic threshold of 30-40% of leaves with pinholes or mines.

Alfalfa blotch leafminer mine *Krista Hamilton DATCP*

CORN

EUROPEAN CORN BORER: Moth emergence continued for the second week, but numbers in black light traps were still very low. Counts of 1-14 moths per trap were reported from Janesville to Chippewa Falls during the period of June 5-11. The European corn borer degree day model suggests that the spring flight should peak by June 15 in the southern counties, June 21 in the central counties, and approximately one week later in northern Wisconsin. Since most corn is less than 18 inches tall and cannot support larval development, oviposition is likely occurring on peas, peppers, potatoes, snap beans and various weed hosts.

BLACK CUTWORM: Conditions remain favorable for localized cutworm outbreaks this month. Crop advisors and growers should continue to inspect fields for another two weeks or until corn plants have reached the five-leaf (V-5) stage, particularly sites affected by spring flooding or with previous grassy weed problems. Signs of cut-worm activity have been encountered in a very small percentage of surveyed fields this month, but significant injury has not been reported or observed as of June 11.

TRUE ARMYWORM: Minor infestations in corn were noted in eight of 54 fields sampled this week. Larvae ranging in length from ¾-1 inch were found in six fields. Although observed infestation rates were very low, actual populations may be larger and more widespread than indicated by our surveys. Continued scouting of corn and wheat is advised. A rescue treatment is justified if 25% of plants are infested with two or more small larvae (¾ inch or shorter) or 75% of plants are infested with larvae of any size.

True armyworm larva *Krista Hamilton DATCP*

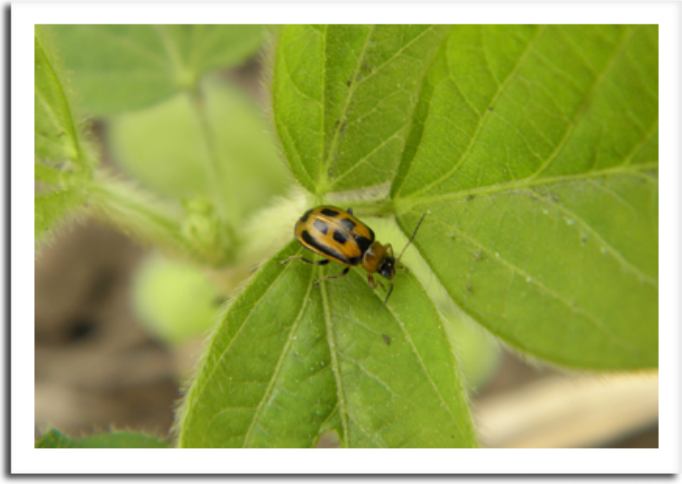
SOYBEANS

SOYBEAN APHID: This insect has begun to colonize soybeans in southern Wisconsin. Alates (winged aphids) and nymphs were detected on 1-3% of the plants in six of 13 fields surveyed in Crawford, Richland and Sauk counties from June 5-11. Densities were extremely low at 1-6 aphids per infested plant. Forty-six additional fields examined in Calumet, Dane, Green, Fond du Lac, Jefferson, Juneau, Kenosha, Manitowoc, Racine, Rock, Sheboygan, Walworth and Winnebago counties had no detectable aphid population.

According to a May survey by research entomologists Drs. Dave Hogg and Dave Voegtlin, aphids were found in only two of seven locations sampled in Illinois, Indiana, Iowa, Michigan, Ohio, and Wisconsin and densities on common buckthorn (the primary host) were lower than in the previous two years. These results indicate potentially lower initial soybean aphid populations for the Midwest this season.

BEAN LEAF BEETLE: Surveys conducted across the southern half of the state found light defoliation in 14 of 52 (27%) soybean fields. Less than 5% of the plants were affected and beetle counts were very low, ranging no higher than 1-2 per 25 feet of row. Treatment for this pest during the vegetative stages should be considered only if defoliation levels exceed 40% or if populations of

39 or more beetles per foot of row are observed. Economic damage directly attributable to this pest has never been documented in Wisconsin soybeans.



Bean leaf beetle Krista Hamilton DATCP

FRUITS

CODLING MOTH: Large flights were registered for the second week, with 16 of the 30 monitoring locations registering economic counts of five or more moths per trap. Egg deposition has intensified and a strong potential exists for damaging larval populations if treatments are untimely or ineffective. Apple orchards that established the biofix from May 26-30 are approaching the 250 degree day point at which insecticidal controls should be applied.

SPOTTED TENTIFORM LEAFMINER: Moth counts were very low again this week and ranged from just 0-100 per trap, with an average of 14 per trap. These low counts signal most apple orchards are between flights and populations consist primarily of late-instar tissue feeder larvae. Counts are expected to increase abruptly in the next two weeks as the second flight begins. The economic threshold for STLM increases from 0.1 to 1.0 mine per leaf for the second generation of sapfeeder larvae.

REDBANDED LEAFROLLER: Counts of this pest also remained low during the June 5-11 reporting period. The first flight peaked approximately two weeks ago and relatively few moths have been collected since then. The second flight should start at most orchard locations by late June. Apple growers are reminded to replace pheromone lures for both RBLR and STLM in preparation for the second flights.

OBLIQUEBANDED LEAFROLLER: The spring flight continued for the second week with the capture of moths as far north as Beldenville in Pierce County. Late-instar larvae and rolled leaves are still evident at some sites, indicating that moths should continue to emerge over the course of several weeks. The recommended scouting procedure for OBLR is to begin checking terminals for small larvae 7-10 days after the first moths are captured. Although there is no direct correlation between trap counts and larval populations, scouting is important since orchards that register even low counts (< 5 moths per trap) can develop significant larval problems a few weeks after a flight has occurred.

GRAPE PHYLLOXERA: The DATCP grape survey specialist reports that first generation phylloxera leaf galls are appearing on foliage in Brown, Door and Kewaunee counties, on the varieties Frontenac and Frontenac gris. The galls were observed in four of 11 vineyards surveyed in the previous two weeks at the rate of 2-6 galls per leaf. The early appearance of galls suggests that monitoring for egg hatch should begin. Control of the first generation is usually ineffective once the galls have formed, but scouting for the mobile crawlers will help to determine the timing and need for management of the second and third generations later this season. A 10x hand lens is required to view the crawlers.

Grape phylloxera galls universitydisplaygardens.com

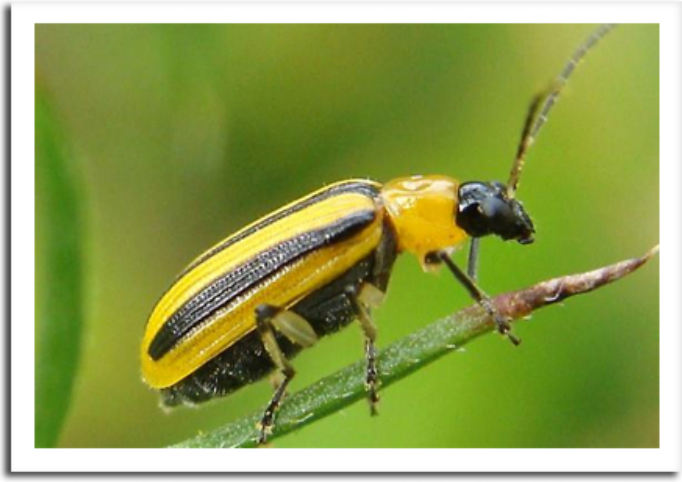
VEGETABLES

COLORADO POTATO BEETLE: Oviposition has started across southern and central Wisconsin. The bright orange-yellow eggs deposited by the females should be apparent on the undersides of leaves in the week ahead.

At normal June temperatures, the eggs hatch in 4-8 days and larvae mature to the third instar stage in another 5-9 days. These early individuals are usually less destructive than the summer generation. Treatment is justifiable for pre-flowering, 6-8 inch potatoes when defoliation of exceeds 20-30%.

VARIEGATED CUTWORM: Larvae were found in counts of 2-4 per 100 plants in two Sauk County cornfields. This sporadic pest, which appeared in record numbers in field, forage and vegetable crops in 2012, is one of the most damaging cutworms on beans, potato and tomato. The larvae noted near Reedsburg were approximately one-inch long on June 10.

STRIPED CUCUMBER BEETLE: Adults are expected to become increasingly abundant by late June. Growers of cucurbits should begin inspecting plants for these yellow and black striped bacterial wilt vectors. The beetles infect cucumbers, melons and squash through feces or contaminated mouthparts. The first symptom of bacterial wilt on cucumber and melon is a distinct flagging of lateral and individual leaves. Early beetle control may be justified in home gardens and larger commercial muskmelon or cucumber plantings for populations of 4-5 beetles per 50 plants.



Striped cucumber beetle *Yurika Alexander buggide.net*

NURSERY & FOREST

HOLLYHOCK RUST: Nursery inspectors observed this rust disease on hollyhock 'Chater's Double Mix' and mallow 'Zebrina' at a garden center in Washington County. Symptoms include numerous light yellow spots on the upper leaf surfaces and orange-brown rust pustules on the leaf undersides. Hollyhock rust worsens throughout summer, killing most of the foliage on infected plants by early fall. Disease spread occurs by windborne spores, splashing water or infected transplants and is favored by warm, humid weather. The disease cycle can be broken by cutting stalks back to ground-level in fall and destroying all infected plant material.

Hollyhock rust *Liz Meils DATCP*

COLUMBINE LEAFMINER: Leaf mines caused by the larval stages of this insect were noted this week on columbine at a nursery in Barron County. The serpentine mines are formed as the larvae eat their way through the leaf tissue and initially appear whitish in color, eventually turning tan or brown later in the season. Removing and destroying infested leaves in the fall will reduce this aesthetic problem.

Columbine leafminer *Tim Boyle DATCP*

BROAD MITES: Mite infestations were found on Impatiens 'Spellbound Pink Splash' and 'Spellbound Royal Purple'

and wishbone flower 'Rose Moon' and 'Yellow Moon', in a Dodge County greenhouse. The toxic saliva produced by these tiny (0.3 mm) mites results in curling, hardening and twisting at growing points of the plant, symptoms similar to herbicide damage. Broad mites are best managed by isolating and treating infested plants with an appropriate miticide.

ERINEUM MITES: Grape vines (Valiant variety) infested by these microscopic mites were found last week in Sawyer County. Erineum mites are just 0.2 mm in size and require high magnification to observe. They form hemispherical galls on the underside of leaves that initially have a velvety-white appearance due to a multitude of dense, long leaf hairs. Opposite the galls are conspicuous bumps on the leaf surface.

Adult mites overwinter under bud scales and move in the spring to new shoots. They can produce multiple generations per year. Damage to mature vines is rare unless all leaves are heavily infested or other stresses combine with mite feeding to put a greater strain on the plant. Removing galled leaves can control light infestations. Heavier infestations may require chemical or biological control treatments.

Erineum mite on grape 'Valiant' *Tim Allen DATCP*

LEAF BLISTER MITES: Bartlett pear trees at a nursery in Dodge County were exhibiting foliage with leaf blisters caused by this mite pest of apples and pears. Blister mites overwinter as mature females at the bases of buds or under the bud scales and oviposit on developing leaf tissue in spring. Feeding by the adult females and their offspring results in the formation of light green blisters on new growth, which eventually turn brown as the leaf tissue dies. Blister mites also attack the fruits, causing scarring that renders fruits unmarketable. For severe problems, these arthropods can be controlled with a fall miticide application directed against adult female mites as they migrate from the blisters to the terminal buds to overwinter.

GYPSY MOTH: As of June 10, all Btk and Gypchek applications were completed in Wisconsin, marking the conclusion of the first phase of the 2014 treatment season. Counties receiving Btk treatments were: Barron, Bayfield, Douglas, Dunn, Eau Claire, Grant, Green, Jackson, La Crosse, Lafayette, Polk, Richland, Rusk, Sawyer and Trempealeau. Thirty-one sites totaling just over 17,600 acres were treated with Btk, most of which received two applications. Eight sites in Eau Claire County totaling about 3,600 acres were treated with Gypchek. The first phase of the program targeted gypsy moth larvae; the second phase, which utilizes a pheromone mating disruptor, will target the gypsy moth in its adult stage. Mating disruption treatments should begin in late June or early July.

The annual moth trapping survey continued, with 7,458 traps set, just over 56% of the estimated total, as of June 11. All pheromone traps intended for Columbia, Jefferson, Marathon, Oneida, Richland, Waukesha and Wood counties, and the Port of Superior, have been set. The remaining 44% of traps are expected to be in place by the first week of July to catch the earliest emerging moths.

Gypsy moth aerial treatment in Iowa County *Chris Whitney DATCP*

APPLE INSECT & BLACK LIGHT TRAP COUNTS JUNE 5-11

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	AM RED[5]	YELLOW[6]
Bayfield	Keystone	0	6	1	0		
Bayfield	Orienta	21	9	—	—		
Brown	Oneida	100	4	10	0		
Columbia	Rio	—	—	5	0		
Crawford	Gays Mills	2	0	4	16		
Dane	Deerfield	26	2	19	16		
Dane	McFarland	0	0	0	0		
Dane	Mt. Horeb	1	0	4	19		
Dane	Stoughton	2	1	18	8		
Dane	West Madison	0	0	27	11		
Fond du Lac	Campbellsport	20	11	0	0		
Fond du Lac	Malone	1	2	2	1		
Fond du Lac	Rosendale	41	16	0	0		
Grant	Sinsinawa	40	—	6	13		
Green	Brodhead	0	0	0	0		
Iowa	Mineral Point	0	0	12	8		
Jackson	Hixton	27	16	1	1		
Kenosha	Burlington	15	0	12	30		
Marathon	Edgar	28	16	0	0		
Marinette	Niagara	27	0	0	0		
Marquette	Montello	21	0	5	0		
Ozaukee	Mequon	5	1	11	0		
Pierce	Beldenville	0	6	27	0		
Pierce	Spring Valley	0	8	20	0		
Racine	Raymond	16	6	9	0		
Racine	Rochester	0	2	15	2		
Richland	Hillpoint	—	—	—	—		
Sheboygan	Plymouth	16	12	16	0		
Walworth	East Troy	0	4	0	1		
Walworth	Elkhorn	2	5	0	0		
Waukesha	New Berlin	5	2	11	1		

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller; [5]Apple maggot red ball; *Unbaited AM trap; **Baited AM trap; [6]Apple maggot yellow board.

COUNTY	SITE	BCW[1]	CEL[2]	CE[3]	DCW[4]	ECB[5]	FORL[6]	SCW[7]	TA[8]	VCW[9]	WBC[10]
Chippewa	Chippewa Falls	0	3	0	0	4	0	0	0	0	0
Crawford	Prairie du Chien	0	0	0	0	14	0	0	0	0	0
Dane	Mazomanie	0	2	0	0	5	2	0	4	2	0
Fond du Lac	Ripon	0	1	0	0	3	4	0	0	0	0
Manitowoc	Manitowoc	0	3	0	0	0	5	0	8	0	0
Marathon	Wausau	1	7	0	0	0	1	0	6	0	0
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Portage	Plover	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	1	0	0	1	1	1	11	0	0
Vernon	Coon Valley	1	3	0	0	8	0	0	8	0	0
Walworth	East Troy	0	0	0	0	0	0	0	0	0	0
Wood	Marshfield	0	2	0	0	0	0	0	3	0	0

[1]Black cutworm; [2]Celery looper; [3]Corn earworm; [4]Dingy cutworm; [5]European corn borer; [6]Forage looper; [7]Spotted cutworm; [8]True armyworm; [9]Variegated cutworm; [10]Western bean cutworm.