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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

A second week of summer-like weather favored a rapid planting pace across much of the state. Daytime highs were above-average and reached the upper 80s on several days, while overnight lows remained warm in the 50s and 60s. Scattered showers and storms produced locally heavy rainfall over downtown Madison and other southern and west-central locations on May 27, but drier conditions returned for the latter half of the week. The overall warm, sunny weather spurred alfalfa growth and emergence of corn, and provided ample time for fieldwork. Corn, soybean and oats planting progress increased by double digits again this week to surpass last year's pace, though progress for all three crops still lags behind the five-year averages.

LOOKING AHEAD

BLACK CUTWORM: Delayed planting, late weed control and a substantial spring moth migration may contribute to localized black cutworm problems in the next 2-3 weeks. The start of the primary corn cutting period is predicted for May 29 in far southern Wisconsin and June 2 in the central counties, based on degree day accumulations (modified base 50°F) since the first significant moth flight occurred on May 1. Close inspection of corn (including Bt hybrids) for evidence of cutworm feeding is recommended from emergence until the V-5 stage.

TRUE ARMYWORM: Larvae were collected in low numbers from alfalfa in Dane and Monroe counties this week. The ¼-½ inch caterpillars are the offspring of migrants that arrived earlier this month. Black light traps also registered minor moth flights from May 22-28, indicating growers should anticipate more larvae appearing in corn and wheat fields next month.

POTATO LEAFHOPPER: Migrants are distributed in low numbers across the southern half of the state. The average count in the past week was four leafhoppers per 100 sweeps, with a high count of 12 per 100 sweeps noted near East Troy in Walworth County. Nymphs may begin appearing in sweep nets by the second week of June if warm weather continues.

EUROPEAN CORN BORER: Degree day accumulations in portions of southern Wisconsin have surpassed 374 (modified base 50°F) and conditions are now suitable for moth emergence. Black light traps should capture the first moths of the season next week, although the majority of first brood moths are unlikely to emerge before mid-June.

SOYBEAN APHID: Colonization of the earliest emerging soybeans could occur next week. Reports indicate egg

hatch on buckthorn has been under way for several weeks and the spring dispersal of winged aphids is expected to start as soon as soybean plants are available.

Soybean aphids Krista Hamilton DATCP

FORAGES & GRAINS

GRASS SAWFLY: Low numbers of these pale yellow, striped larvae have been found in scattered alfalfa fields. The caterpillar-like worms are the immature form of the grass sawfly, an insect belonging to the bee and wasp order, Hymenoptera. The larvae, which should not be mistaken for armyworms, are suspected of feeding on grasses and pose no threat to alfalfa.

Grass sawfly larva Krista Hamilton DATCP

ALFALFA WEEVIL: Larval counts remain unusually low for late May. Alfalfa surveyed in Columbia, Dane, Dodge, Grant, Iowa, Jefferson, Lafayette, Rock, Sauk and Walworth counties contained only 1-4 weevils per 100 sweeps, and 46% of fields sampled still had no apparent larval population. Based on the low number of larvae collected and since alfalfa harvest has started, significant damage should not develop before most first-crop alfalfa is cut, except in rare fields or if harvest is postponed beyond the first or second weeks in June. Regular sampling for larvae and leaf tip feeding should begin at this time and continue through harvest or until the weevil season has passed.

PEA APHID: Surveys conducted in the southern half of the state yielded 42-288 aphids per 100 sweeps. The average count for the period of May 22-28 was 159 per 100 sweeps, a marked increase from 30 per 100 sweeps the week before.

PLANT BUG: Representative counts are low and range from 2-28 per 100 sweeps. Small nymphs of the tarnished and alfalfa plant bug species are likely to appear in sweep net collections by early June.

DEGREE DAYS JANUARY 1 - MAY 28

LOCATION	50°F	2013	NORM	48°F	40°F
Dubuque, IA	447	411	517	455	771
Lone Rock	401	384	—	409	716
Beloit	468	467	526	474	805
Sullivan	309	397	471	314	587
Madison	389	378	497	398	703
Juneau	330	341	—	339	613
Racine	288	299	—	306	582
Waukesha	309	329	—	314	587
Milwaukee	286	286	395	298	565
Hartford	309	306	—	314	587
Appleton	268	289		276	534
Green Bay	230	248	399	247	494
Big Flats	340	316	—	333	574
Hancock	340	318	486	333	574
Port Edwards	312	299	473	305	537
La Crosse	380	336	553	383	675
Eau Claire	311	299	485	317	569
Cumberland	242	256	423	242	441
Bayfield	154	136	—	146	274
Wausau	244	274	416	243	450
Medford	235	274	368	237	435
Crivitz	213	224	—	220	420
Crandon	203	251	334	200	365

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

MEADOW SPITTLEBUG: The first nymphs and spittle masses in alfalfa were observed on May 27. Populations are currently less than two per 100 stems.

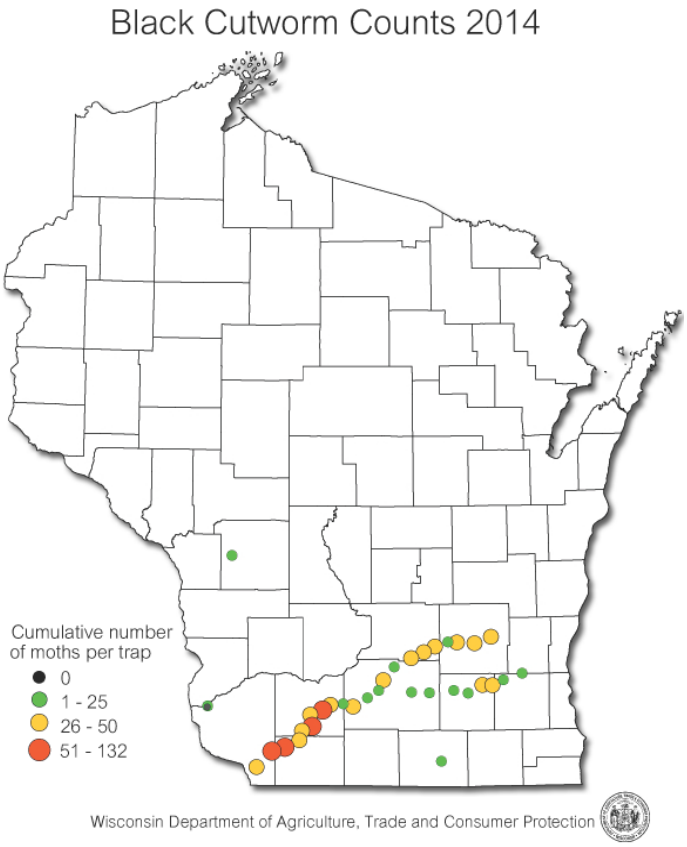
Meadow spittlebug spittle mass *Krista Hamilton DATCP*

WHEAT DISEASE: Survey observations in 14 fields in Kenosha, Racine and Walworth counties in the last week found only low levels of disease pressure, with traces of Septoria and tan spot, except in two fields which appeared to be wheat on wheat, where the incidence of Septoria was near 100% and lower leaves had severities in the 2-3% range. Powdery mildew was notably absent from most fields, though two sites showed significant disease pressure. No aphids or cereal leaf beetles were detected in the surveyed fields.

CORN

BLACK CUTWORM: Larvae resulting from the spring migration are now in the destructive late-instar cutting stages and could be encountered in emerging corn. Signs of cutworm activity, such as small, irregular holes in the leaves and cut plants, should become evident in the week ahead. Much of the state's corn acreage is at increased risk of infestation this season as a result of delayed planting, late weed control and the large April-May moth migration. All cornfields should be closely monitored for cutworm feeding until the five-leaf (V-5) stage. Early detection of cutworm problems is critical for insecticide treatments to be effective and economical. The threshold for corn is when 3% of plants are damaged.

Summarized in the accompanying map are moth counts for the seven-week period from April 13-May 28. The spring trapping survey resulted in the capture of 1,068 black cutworms in 34 traps, with a high count of 132 moths near Platteville in Grant County.



TRUE ARMYWORM: No significant moth flights have been documented this month, but moths are common in grassy vegetation and egg deposition is expected to be heavy at this time. Crop consultants and growers should anticipate larval armyworms appearing in cornfields by mid-June.

True armyworm larva *Krista Hamilton DATCP*

CORN EARWORM: A few early migrants arrived on southerly winds in the last two weeks. One moth was captured in the Janesville pheromone trap on May 20 and two others were collected from May 22-27. These very early moths pose no threat since the vast majority of the state's corn acreage (79% as of May 25) has not yet emerged.

FRUITS

PLUM CURCULIO: Apple growers are advised to continue examining early-blooming varieties for crescent-shaped oviposition scars and adult weevils. Recent warm temperatures may have caused the beetles to move beyond the perimeter trees, so scouting farther into orchard interiors will be necessary. An insecticide application directed against the adults at petal fall is the conventional form of control when the economic threshold of one oviposition scar or one adult weevil is exceeded. Organic options include PyGanic (pyrethrin) applied to the outer rows and Surround WP (kaolin) on the interior trees. Any treatment targeting the plum curculio should be applied on a warm night when the weevils are most active to maximize efficacy and reduce exposure to pollinators.

Plum curculio crescent-shaped oviposition scar *leereich.blogspot.com*

SPOTTED TENTIFORM LEAFMINER: The lower numbers of moths captured during the May 22-28 reporting period signals most apple orchards are in between the first and second flights. Populations in the southern half of the state consist mostly of the early-stage sapfeeder larvae. The recommended scouting procedure is to sample 10 terminals and fruit spurs per tree on 2-3 trees per orchard block 10-14 days after a peak flight has occurred. Sapfeeder mines should be noticeable on the undersides of leaves. The action threshold is one mine per 10 leaves.

CODLING MOTH: Low to moderate numbers of moths were registered in pheromone traps for the second consecutive week. Reports of activity were received from 13 of 24 reporting apple orchards, with a high count of 20 moths per trap near Mineral Point in Iowa County. The spring biofix was set from May 26-28 in several southern Wisconsin monitoring locations.

OBLIQUEBANDED LEAFROLLER: The first flight of moths is expected to begin by early June. Apple growers who have experienced late-season OBLR problems in recent years should consider setting additional traps now to identify problem areas and help determine where to direct sampling efforts.

Obliquebanded leafroller moths *Shawn Steffen Utah State University*

VEGETABLES

IMPORTED CABBAGEWORM: Larvae are emerging in areas of the state where 300 degree days (simple base 50°F) have been surpassed. Cabbageworms chew large, irregular holes in leaves, bore into heads, and drop brown fecal pellets that contaminate the marketed product. Cole crops can tolerate considerable defoliation at the thinning or transplanting stages, but frequent sampling is recommended to assess populations and to avoid insecticide treatments that disrupt biological control. The biological insecticide, *Bacillus thuringiensis* (Bt) is very effective against early-instar caterpillars and is an organically acceptable form of control for infestations affecting 30% or more of plants during the transplant to cupping stages.

SPOTTED CUCUMBER BEETLE: Migrants were collected in Iowa, Lafayette and Vernon County alfalfa late last week. These distinctive yellowish-green beetles with black spots do not overwinter in Wisconsin, but arrive around early June on storms fronts originating in the southern United States. Both the spotted species and the striped cucumber beetle are efficient vectors of bacterial wilt of cucumbers, muskmelons and watermelons. The first sign of bacterial wilt on cucumber and melon is a distinct flagging of lateral and individual leaves.

Spotted cucumber beetle *imarsman flickr.com*

ONION MAGGOT: Emergence of first generation flies continued across south-central and southwestern Wisconsin. Peak emergence is anticipated in the Eau Claire, Fond du Lac and Hancock areas next week, following the accumulation of 680 degree days (base 40°F). Flies of this spring generation are usually the most abundant and damaging, especially at sites where onions are grown in succession. Preventative soil insecticides should be considered if maggot damage to the last season's crop exceeded 5-10%. Home gardeners are advised to rotate this year's onion plantings as far as possible from last year's to reduce the probability of damage.

HOP DOWNY MILDEW: This hops disease has been verified by the UW-Madison Plant Pathology Department in Dane and Portage counties, representing the first confirmed cases in Wisconsin this year. The causal agent is a fungus-like microorganism that overwinters in infected buds and crowns. Early signs are characteristic diseased shoots emerging from the crown, called "basal spikes". The spikes are stunted and chlorotic, with downward-curled leaves. Later symptoms include necrosis or browning of leaves from the ground up and angular lesions on leaf surfaces with gray mycelial growth on the leaf undersides.

Hop downy mildew basal spike *www.ontariohopgrowersassociation.com*

Hops growers may submit samples suspected of being infected with hops downy mildew for diagnosis to: Amanda Gevens, 1630 Linden Dr. Rm. 689, Plant Pathology Dept., University of WI, Madison, WI 53706

NURSERY & FOREST

GYPSY MOTH: Aerial spraying for gypsy moth caterpillars started May 22 in Green and Rock counties and continued with treatments as follows: May 23, Lafayette and La Crosse counties; May 27, Richland County; May 28, Grant, Jackson, La Crosse, Lafayette and Richland counties; and May 29, Dunn, Eau Claire and Trempealeau counties. During this first phase of the 2014 spray season, planes are applying *Bacillus thuringiensis* var. *kurstaki* or Btk, a biological insecticide acceptable for organic use. Later this summer, select blocks will be treated with a pheromone-based mating disruptor. Larvae are predominantly in the second to third instars in the southern part of the state and first to second instars in the central Wisconsin. Egg hatch has not yet started in the northern tier counties.

The annual moth trapping survey is also under way, with 2,899 traps set as of May 28, which is 22% of the estimated total for 2014. Three counties are already complete: Marathon, Waukesha and Wood. Trap setting will continue for the next four weeks, with all traps expected to be in place by the first week of July. According to the WI-MN GMPhen model, adult moths should start emerging in the southern part of the state in mid-July.

CEDAR-APPLE RUST: Several 'Autumn Brilliance' serviceberries at a garden center in Eau Claire County were infected with this rust disease, characterized on rosaceous hosts by bright yellow-orange, circular leaf spots. Cedar-apple rust alternates between junipers and rosaceous plants and requires both hosts to complete its life cycle. On juniper, the disease causes the formation of irregularly-shaped brown galls. The bright orange, gelatinous tendrils that emerge from these galls release spores which can infect apples and related fruit trees up to three miles away. Removal of the galls before sporulation is recommended to limit spread of the disease to the alternate hosts, apple, crabapple, hawthorn, quince, pear and serviceberry.

Cedar-apple rust on serviceberry *www.outlawgarden.com*

CROWN RUST: The orange-yellow cluster cups which produce spores capable of infecting oats, rye and other grasses are appearing on buckthorn leaves in southern Wisconsin. Heavy amounts of rust inoculum on the buckthorn host may indicate greater rust potential for oats this year if suitable conditions for infection continue.

BLACK SPOT DISEASE OF ROSE: Symptoms of this common fungal disease were observed on rose 'Sunshine Daydream' at a garden center in southeastern Wisconsin. Diagnostic features are small, round black spots with feathery margins on the leaf surface which enlarge and cause leaves to turn yellow and drop prematurely. The black spots first appear on lower leaves during wet weather as leaves are expanding, but eventually spread to the entire plant. Development of this rose disorder is favored by humid, wet conditions due to rain or overhead watering and can be alleviated by increasing air circulation and removing infected leaves and debris.

Black spot on rose *Liz Meils DATCP*

BRONZE BIRCH BORER: Nursery inspections in Eau Claire County found a severe infestation of this wood-boring beetle in 'Royal Frost' birch trees. Adult bronze birch borers infest trees weakened or stressed due to drought, disease, sun exposure or nutrient deficiency. Larval feeding beneath the bark girdles branches and stems, resulting in thinning or dieback of foliage in the top one-third of the tree canopy. Infested trees also show characteristic swellings or bumps on the trunk around the feeding tunnels, and D-shaped exit holes after the beetles emerge in late spring or early summer. Immediate removal and destruction of infested birch is recommended since this insect kills its host within just a few years.

Bronze birch borer exit holes and trunk damage *Tim Boyle DATCP*

APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 22 - 28

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	AM RED[5]	YELLOW[6]
Bayfield	Keystone	15	11	0			
Bayfield	Orienta	3	0				
Brown	Oneida	975	72	4			
Columbia	Rio	95	2	0			
Crawford	Gays Mills	51	15	2			
Dane	Deerfield	131	9	1			
Dane	McFarland	55	24	0			
Dane	Mt. Horeb	7	21	2			
Dane	Stoughton	31	36	6			
Fond du Lac	Campbellsport	125	37	0			
Fond du Lac	Malone	23	35	1			
Fond du Lac	Rosendale	23	57	1			
Grant	Sinsinawa	—	—	—			
Green	Brodhead	3	6	4			
Iowa	Mineral Point	14	16	20			
Jackson	Hixton	30	6	0			
Kenosha	Burlington	40	23	10			
Marathon	Edgar	546	86	0			
Marinette	Niagara	90	3				
Marquette	Montello	243	31	0			
Ozaukee	Mequon	45	15	0			
Pierce	Beldenville	108	76	0			
Pierce	Spring Valley	31	52				
Racine	Raymond	58	48	4			
Racine	Rochester	80	33	3			
Richland	Hillpoint	—	—	—			
Sheboygan	Plymouth	155	87	0			
Walworth	East Troy	15	30	0			
Walworth	Elkhorn	10	109	0			
Waukesha	New Berlin	17	4	5			

[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	—	—	—	—	—	—	—	—	—	—
Columbia	Arlington	—	—	—	—	—	—	—	—	—	—
Crawford	Prairie du Chien	0	2	0	0	0	6	1	3	0	0
Dane	Mazomanie	1	1	1	0	0	0	0	1	0	0
Fond du Lac	Ripon	0	4	0	0	0	0	0	3	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	0	7	0	0
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Portage	Plover	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	17	0	0	0	4	0	37	1	0
Vernon	Coon Valley	1	2	0	0	0	0	0	8	0	0
Walworth	East Troy	6	0	0	0	0	0	0	5	0	0
Wood	Marshfield	1	1	0	0	0	1	0	5	2	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.