Volume 62 No. 05 May 25, 2017

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
2811 Agriculture Dr. Madison, WI 53718 • http://pestbulletin.wisconsin.gov

WEATHER & PESTS

Rainy and cool weather dominated the state for much of the week. After a short-lived warm spell that allowed farmers to plant one-third of this year's intended corn, oat and potato crops, fieldwork stalled as chilly conditions and soaking rain returned. Below-normal temperatures continued, with highs mainly in the 50s to around 70°F, and lows ranging from the mid-30s to lower 50s. Weekly precipitation amounts of ½ to 2 inches were common statewide. The additional surplus rain disrupted alfalfa harvesting, brought excess moisture to already saturated fields, and left planting of the final oat and potato acres incomplete. Only 5% of first-crop alfalfa was harvested as of May 22, compared to 23% last year and a five-year average of 15%. Most alfalfa fields must be cut during the next available rain-free period to prevent alfalfa weevil damage. Corn planting was 65% complete at the start of the week, but some acres intended for corn may be planted to soybeans or could go unplanted if the wet weather persists into June.

LOOKING AHEAD

BLACK CUTWORM: The primary damage period for corn is now open and much of the state's acreage is under a high threat of larval infestation. Significant planting delays, late weed control, and a substantial spring moth migration are expected to contribute to localized black cutworm outbreaks in the next 3-4 weeks. Close inspection of cornfields, including Bt hybrids, for evidence of cutworm feeding is recommended from emergence until the five-leaf (V5) stage. A rescue treatment is justified if 3% of plants are damaged.

EUROPEAN CORN BORER: Degree day accumulations in warmer southern locations have surpassed the 450 heat units (modified base 50°F) required for egg deposition to begin. Due to corn planting and emergence delays, no acreage is currently tall enough to support larval development, therefore alternate vegetable and weed hosts will be used for oviposition until corn taller than 18 inches becomes available. The spring flight is forecasted to peak during the week of June 4-10 near Beloit, La Crosse, Lancaster, Spring Green and other advanced sites. Black light traps should capture the first moths of the season next week.

ALFALFA WEEVIL: Leaf tip damage will become more pronounced and severe next week as a greater proportion of the larval population transitions into the larger and most destructive third and fourth-instars. Alfalfa should be harvested as soon as possible to limit larval feeding and to avoid the need for insecticidal control.

CODLING MOTH: Emergence of spring moths continued for the second week and the biofix was set at several

monitoring sites. Controls directed against first generation larvae are most effective when applied at approximately 250 or 350 degree days (modified base 50°F) after biofix, which is the equivalent of 17 or 23 calendar days at daily highs of 75°F and daily lows of 55°F. Exact treatment dates will vary by location and with early June temperatures.

TRUE ARMYWORM: Moth flights have been registered on warmer nights since early April and small larvae are appearing in low numbers in alfalfa sweep net collections. Small grains, corn and other susceptible crops should be monitored next month for developing problems.

True armyworm moth Krista Hamilton DATCP

FORAGES & GRAINS

ALFALFA WEEVIL: Larval populations are increasing in first-crop alfalfa. Counts now range from 1-140 larvae per 100 sweeps and average 26 per 100 sweeps, compared to an average of 10 per 100 sweeps last week. Surveys indicate leaf tip feeding damage is still low at 5-10%, but this is likely to change as larvae transition into the larger and most destructive third and fourth instars, or if wet weather continues to delay harvest. Any first-crop alfalfa that is not cut by early June could be severely degraded. Management plans at this time should include harvesting fields during the next rain-free period and monitoring regrowth for carryover of weevil larvae.

PEA APHID: This insect continues to be abundant in most alfalfa fields. Densities currently range as high as 1,200 per 100 sweeps (12 per sweep) and average 160 per 100 sweeps. The heavy rain of the past two weeks may promote the spread of fungal pathogens that regulate pea aphids and could cause a mid-June population collapse.

DEGREE DAYS JANUARY 1 - MAY 24

LOCATION	50°F	2016	NORM	40°F
Dubuque, IA	536	453	469	1082
Lone Rock	473	430	—	951
Beloit	492	461	479	1008
Sullivan	423	326	425	891
Madison	444	395	449	919
Juneau	410	334	—	861
Racine	375	300	—	826
Waukesha	393	326	—	847
Milwaukee	367	292	356	812
Hartford	388	326	—	835
Appleton	327	302	—	734
Green Bay	321	257	356	717
Big Flats	395	382	—	813
Hancock	347	382	439	734
Port Edwards	340	368	425	730
La Crosse	446	459	500	926
Eau Claire	379	417	436	804
Cumberland	245	371	377	604
Bayfield	122	248	—	415
Wausau	269	305	371	632
Medford	249	304	330	610
Crivitz	292	243	—	650
Crandon	214	274	300	547

Method: Modified B50; Modified B40 as of January 1, 2017. NORMALS based on 30-year average daily temps, 1981-2010.

POTATO LEAFHOPPER: Migrant adults are widely distributed over the southern half of the state, from St. Croix County east to Fond du Lac County. Surveys this week found low counts of 1-12 per 100 sweeps in 26 of 56 sampled fields.

PLANT BUG: Nymphs of both the alfalfa and tarnished plant bug were collected from alfalfa for the first time this season on May 22. The tarnished plant bug is the more numerous of the two species.

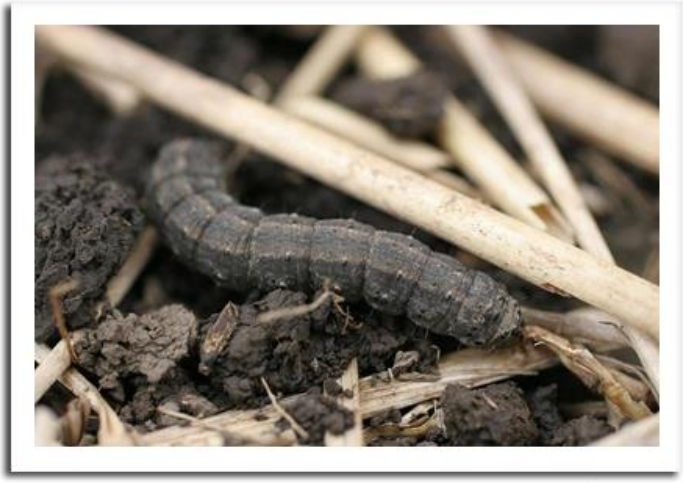
GRASS SAWFLY: Low numbers of these striped larvae have been found in scattered alfalfa fields. The caterpillar-like worms are the immature form of the grass sawfly, an insect belonging to the bee and wasp order, Hymenoptera. The larvae, which resemble true armyworms, feed on grasses and are not considered economically important.

MEADOW SPITTLEBUG: Nymphs and their characteristic frothy spittle masses were observed in alfalfa this week. Populations are currently less than three per 100 stems.

Meadow spittlebug spittle mass *Krista Hamilton DATCP*

CORN

BLACK CUTWORM: Larvae resulting from flights in late April and early May have grown large enough to cut emerging corn plants. Field conditions are highly favorable for infestations this spring and localized problems are expected. Corn with pre-plant broadleaf weed infestation, fields with cover crops that were terminated late, and sites with heavy crop residue (especially soybean residue) are at greater risk of infestation and should be routinely checked from emergence though the V5 stage. A threshold of 3% cutting of plants has traditionally been used as the point at which growers should consider a rescue treatment. Early and timely detection of cutworm infestations is critical for controls to be effective.



Black cutworm larva *Roger Schmidt UW-Madison*

EUROPEAN CORN BORER: The corn borer phenology model suggests that egg deposition has started in areas of the state where 450 degree days (modified base 50°F) have accumulated, including Beloit, Lone Rock, Madison and La Crosse. If average temperatures prevail early next month, the first flight could peak from June 4-10 in the southwestern, south-central and west-central counties, June 11-17 in the southeastern and central areas, and a few days later in the north.

WIREWORM: This soil pest, which can bore into the base of corn plants and destroy the growing point, has been found in corn in the west-central area of the state. It is not uncommon for both wireworms and black cutworms to occur in the same field at the same time. Accurate identification is imperative since rescue treatment for wireworms is ineffective once damage is observed.

Wireworms *www.omafra.gov.on.ca*

SLUGS: Minor leaf feeding has been observed in damp, weedy cornfields in Monroe and Sauk counties. Slugs may become increasingly prevalent if fields remain wet, particularly in no-till or reduced-till systems with heavy residue and little soil disturbance.

CORN EARWORM: Although only one early migrant was captured in the Janesville pheromone trap from May 18-24, others are likely to have arrived in the state on southerly winds. These very early moths pose no threat to emerging corn.

SOYBEANS

SOYBEAN APHID: Colonization of Wisconsin soybeans could begin by early June if milder weather predicted for

next week spurs soybean emergence. During the last decade, the first recorded aphid observations have ranged from as early as May 24 in 2007 to as late as June 9 in 2009. In most years, aphids are detectable by the time soybeans reach the V1 stage.

Soybean aphids DATCP Pest Survey Program

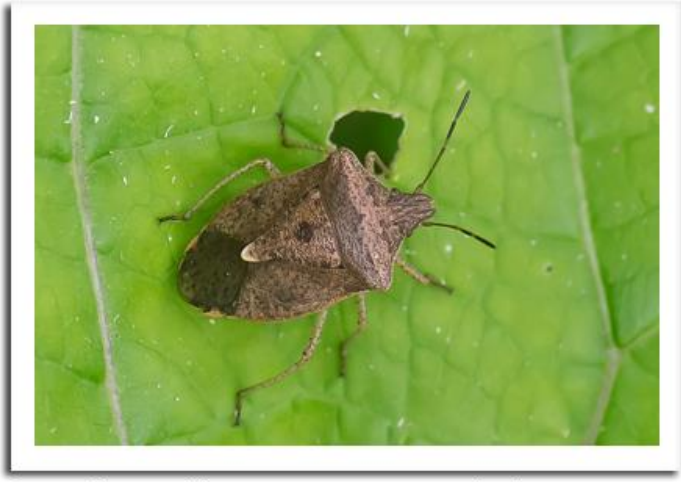
BEAN LEAF BEETLE: Adults overwintered from last season have been found in only three of 192 alfalfa fields sampled as of May 24. The beetles were collected from two fields in Grant County and one in Sauk County. The very low number of beetles noted this spring signals a low risk of early soybean defoliation in June.

FRUITS

CODLING MOTH: Despite below-normal temperatures, the spring biofix has been set in some southern Wisconsin orchards and growers should make preparations to apply controls at 250 or 350 degree days (modified base 50°F) from their specific biofix date. A first larvicide application made at 250 degree days from the biofix may be considered for orchards that captured higher counts of 5-15 moths last week. Counts in this range suggests there will be enough hatch at 250 degree days to necessitate an earlier CM larvicide treatment. Orchards that register a small and inconsistent early flight, with a larger flight one or two weeks after the biofix, can delay the first spray until 350 degree days and still eliminate most newly-hatched larvae before they enter fruits.

OBLIQUEBANDED LEAFROLLER: The first moths are appearing in orchard traps. The adult stage of this insect emerges later than other fruit pests monitored by the DATCP network, around 490 degree days (simple base 43°F). In contrast to the spotted tentiform leafminer and redbanded leafroller, which overwinter as pupae and quickly become moths ready to take flight in April, the obliquebanded leafroller overwinters in the early larval stages and must complete development before moths emerge in late May or early June.

NATIVE BROWN STINKBUG: This insect is unusually common this spring and has been collected from about 40% of the alfalfa fields sampled in the last two weeks. A consultant's report indicates that overwintered stink bugs are also appearing on trees in western Wisconsin apple orchards. All of the specimens collected to date have been the native common brown stink bug and not the invasive brown marmorated species. The abundance of stink bugs suggests that eggs are being laid on apple trees and developing fruits could be damaged by feeding nymphs next month.



Common brown stink bug jeanbrodeur.smugmug.com

SPOTTED TENTIFORM LEAFMINER: Moth numbers were mostly low again this week. Counts ranged from 0-161 per trap and averaged 48 per trap, with the exception of a high capture of 400 moths reported from Brown County. The overall low counts signal that apple orchards are between STLM flights and populations consist primarily of late-instar tissue feeder larvae. Numbers are expected to increase sharply in the next two weeks as the second flight begins.

TARNISHED PLANT BUG: Nymph production has started in the south-central and southwestern counties. Strawberry plants beginning to bloom should be checked weekly for both adults and nymphs. Sprays applied against the small, first and second instar stages are very effective and can eliminate the need for a second treatment. The

economic threshold for this insect in strawberries is four adults per 20 sweeps at first flower bud formation or one nymph in four flower clusters.

Tarnished plant bug nymph *Jeff Hahn UMN*

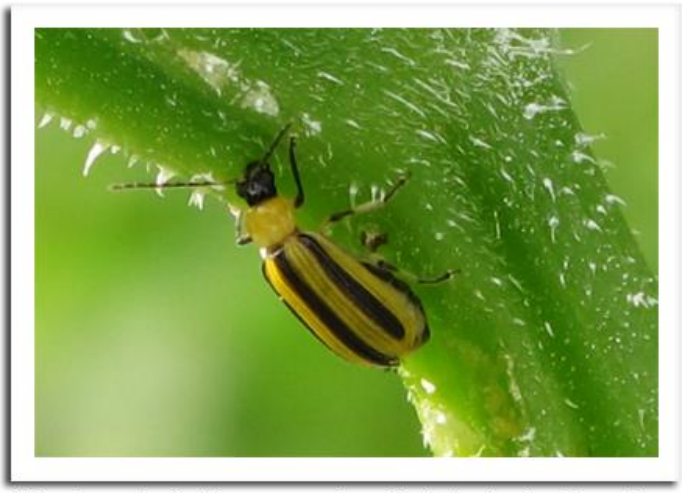
OYSTERSHELL SCALE: Egg hatch and the onset of the first-generation nymph or "crawler" period was noted on May 18 in Trempealeau County. The appearance of the dispersal stage indicates that treatments for control of oystershell scale in orchards should begin promptly. For smaller infestations in yards or on ornamental trees, the old scale coverings and crawlers can be destroyed by scrubbing the bark with a soft plastic pad. Very heavily infested branches may need to be pruned. Activity by the mobile stage extends only for 1-2 weeks before the crawlers settle onto branches and develop protective waxy covers. Apple growers in central and eastern Wisconsin should begin scouting for crawlers in the week ahead.

Oystershell scales and crawlers *Krista Hamilton DATCP*

PLUM CURCULIO: Weevil migration into orchard edges continued this week and feeding and oviposition scars are appearing on apples and plums. Growers who applied a PC petal fall treatment should be aware that recent wet weather likely degraded efficacy of insecticides and a perimeter application may be needed 7-10 days following a petal fall spray to prevent further migration of PC into the orchard.

VEGETABLES

STRIPED CUCUMBER BEETLE: Beetle emergence has started and is expected to increase by mid-June. Protecting seedling and transplanted cucurbits with floating row covers, screens or cones can reduce the risk of bacterial wilt and is recommended for highly susceptible cucurbits such as cucumbers and melons. Any covering must be removed once plants begin to flower to permit pollinator access and ensure fruit set. A count of one beetle per plant for melons, cucumbers, and young pumpkins and five beetles per plant for less susceptible cucurbits (watermelon, squash, older pumpkins) signals a high risk of bacterial wilt if the beetle population is not controlled. Seedlings are more vulnerable both to feeding damage and disease and should be monitored at least twice weekly.



Striped cucumber beetle *missouribeginningfarming.blogspot.com*

BLACK CUTWORM: Routine inspection of seedling and recently transplanted vegetables for evidence of black cutworm infestation is advised during establishment now that larvae have reached the damaging late-instar stages. Cutworms feed on the stems of young plants at the soil line and can be extremely destructive where transplants are planted through black plastic or a similar weed barrier. Heat that accumulates under the plastic

may attract and provide a protective covering for cutworms, making them more difficult to control. Beans, cabbage, carrots, celery, corn, lettuce, peas, peppers, potatoes and tomatoes are all at risk of larval injury.

Minor cutworm feeding can usually be tolerated and damaged plants replaced. Insecticide rescue treatment using either sprays or granules in home gardens is usually impractical. Physical barriers such as tin cans or paper cups with bottoms removed are effective. Economic thresholds have been established for the following vegetables:

SNAP BEANS: two larvae per row foot

POTATOES: four larvae per row foot

LEAFY GREENS: 3% of stand affected

COLORADO POTATO BEETLE: Adults are emerging in greater numbers and colonizing potato fields. Systemic insecticides applied at planting or emergence typically provide adequate control of the overwintered adults and first generation of larvae, but a foliar spray may also be needed if scouting indicates that early-season CPB pressure is high. The first of two foliar applications of an insect growth regulator or the biological insecticide Bt should be made at egg hatch and again 7-10 days later.

Colorado potato beetles *Krista Hamilton DATCP*

IMPORTED CABBAGEWORM: First-generation larvae are appearing on cabbage transplants in west-central Wisconsin. Home gardens and larger cabbage plantings should be checked weekly for the yellow eggs laid singly on plants and for velvety green caterpillars with a yellow longitudinal stripe. The economic threshold for this pest in cabbage is 30% infestation at the transplant-to-cupping stages.

NURSERY & FOREST

OAK CLEARWING BORER: Evidence of this borer, which causes significant damage to ornamental trees and shrubs, was found on pin oaks at a nursery dealer in Eau Claire County. The clearwing borer typically attacks the lower trunk. Visual signs of infestation include stem cankers and bulges in the bark where the larvae are feeding. The caterpillars are purplish-gray with a black head capsule, while the wasp-like adults are yellow and black with a ½ inch wingspan. Controls include utilizing a stiff wire to kill larvae and pupae in their tunnels or applying an insecticide to bark during the brief period between egg hatch and the borers' entry into the tree.

Oak clearwing borer damage on pin oak *Shanon Hankin DATCP*

VIRUS ON PEONY: 'Sarah Bernhardt' peonies in a Barron County nursery were exhibiting distinct light green, ring-like mosaic patterns consistent with ringspot mosaic virus. Several viruses can infect peonies, most of which reduce plant vigor, slow growth and cause weak flowering. There are currently no treatments for virus in peony. Infected plants should be removed and destroyed.

BRONZE BIRCH BORER: Nursery inspections in Rock County found an infestation of this wood-boring beetle in river 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 hole *Shanon Hankin DATCP*

DAYLILY LEAF STREAK: A daylily at a nursery dealer in Marathon County was infected with this fungal disease that overwinters in infected lily foliage and sporulates in spring with the onset of warm weather. Symptoms include yellowing at the leaf tips and along the vascular tissue that can progress to a brownish-red leaf necrosis. This disease varies in pathogenicity, sometimes being a cosmetic issue, but in severe cases causing plant mortality. Suggested management actions include removal of infected plants and dead leaves to eliminate the source of the leaf streak fungus.

Daylily leaf streak *Timothy Allen DATCP*

DAYLILY LEAFMINER: Mines caused by the larvae of this newly-established Asian fly were found on daylilies in a Barron County nursery. Daylily leafminer (DLM) larvae feed between the upper and lower leaf surfaces, creating long, white mines that run parallel to leaf veins. The adult is a small black fly. Daylilies are generally not killed by DLM, but infested plants are unmarketable. Removal and destruction of infested foliage is advised to reduce the spread of this exotic pest.

Daylily leafminer *Marcia Wensing DATCP*

APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 18 - 24

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	OFM[5]	LPTB[6]	DWB[7]	AM RED[8]	YELLOW[9]
Bayfield	Keystone	17	0	0	—	—	—			
Bayfield	Orienta	5	0	—	—	0	—			
Brown	Oneida	400	31	2	0	0	0			
Columbia	Rio	4	0	0	0	0	0			
Crawford	Gays Mills	55	8	1	0	0	0			
Dane	DeForest	—	—	—	—	—	—			
Dane	Mt. Horeb	7	0	0	0	0	2			
Dane	Stoughton	9	22	1	0	0	0			
Fond du Lac	Campbellsport	57	41	0	—	0	—			
Fond du Lac	Malone	6	6	0	0	0	0			
Fond du Lac	Rosendale	41	11	3	2	0	0			
Grant	Sinsinawa	—	—	5	2	—	—			
Green	Brodhead	3	2	3	0	—	0			
Iowa	Mineral Point	24	15	6	0	0	—			
Jackson	Hixton	39	15	1	0	1	0			
Kenosha	Burlington	95	3	1	—	0	—			
Marathon	Edgar	6	3	0	0	0	0			
Marinette	Niagara	30	0	0	0	0	0			
Marquette	Montello	161	3	0	0	0	0			
Ozaukee	Mequon	30	12	9	—	0	0			
Pierce	Beldenville	18	3	0	0	0	0			
Pierce	Spring Valley	16	9	0	0	0	1			
Racine	Raymond	3	0	4	0	0	0			
Racine	Rochester	20	23	8	0	0	0			
Richland	Hill Point	55	16	0	0	0	0			
Sheboygan	Plymouth	68	10	1	—	10	0			
Walworth	East Troy	—	—	—	—	—	—			
Walworth	Elkhorn	6	2	0	3	2	0			
Waukesha	New Berlin	2	1	1	0	0	1			

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller; [5]Oriental fruit moth; [6]Lesser peachtree borer; [7]Dogwood borer; [8]Apple maggot red ball; *Unbaited; **Baited; [9]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]
Columbia	Arlington	0	0	0	0	0	0	0	11	0	0
Columbia	Pardeeville	0	0	0	0	0	2	0	2	0	0
Dodge	Beaver Dam	0	0	0	0	0	0	0	1	0	0
Fond du Lac	Ripon	2	0	0	0	0	0	0	14	0	0
Grant	Prairie du Chien	0	0	0	0	0	1	0	0	0	0
Manitowoc	Manitowoc	2	0	0	0	0	0	0	15	0	0
Marathon	Wausau	1	0	0	0	0	0	0	2	0	0
Monroe	Sparta	0	0	0	0	0	0	0	6	0	0
Rock	Janesville	0	1	1	0	0	1	1	43	0	0
Walworth	East Troy	—	—	—	—	—	—	—	—	—	—
Wood	Marshfield	0	0	0	0	0	0	0	6	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.