

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

Cloudy, occasional rainy weather continued for a second week. Daytime highs ranged from the 60s to 70s for most of the state, while overnight lows were generally in the 40s and 50s. Scattered showers and storms produced light to moderate rain over southern Wisconsin, before drier, warmer conditions returned mid-week. According to the USDA NASS, corn, soybean and oats planting progress increased by double digits and about 56% of the state's corn had been planted at the start of the week, a significant advancement over the 30% in the ground last week. Full-scale soybean planting began across the southern and central counties, and 33% of this year's expected acreage has now been sown, six points ahead of 2017 but two points behind the 5-year average. An influx of heat, with afternoon highs approaching 90°F in some areas, is expected to improve conditions for planting, crop emergence, and harvesting of the first alfalfa crop across the state.

LOOKING AHEAD

BLACK CUTWORM: The primary damage period for corn is now open and much of the state's acreage is under an elevated threat of larval infestation. Significant planting delays and a sizeable spring moth migration are expected to contribute to localized black cutworm problems 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 near Beloit, La Crosse, Lone Rock, Madison and Platteville have surpassed the 374 units (modified base 50°F) required for moth emergence to begin, though peak flights are not expected for another two weeks. Black light trap contents should be closely inspected in the week ahead for early moths.

CODLING MOTH: Emergence of spring moths began in southern Wisconsin apple orchards this week. Two cooperating sites reported very high counts of 23 and 63 moths, although most did not register a sustained flight. Codling moth flight occurs consistently between 6:00 and 11:00 pm in Wisconsin, and winds must be between 3-5 mph with temperatures above 62°F without rain for mating to occur. Since evening temperatures will be highly favorable for moth activity early next week, daily monitoring is suggested until the biofix is determined.

PLUM CURCULIO: Very warm temperatures forecast for next week will provide favorable conditions for plum curculio migration into orchards and egg laying. The first oviposition scars have become evident in orchards past

petal-fall. Apple growers are advised to continue examining fast-sizing varieties for the crescent-shaped scars caused by plum curculio egg laying once fruitlets reach 5 mm.

JUNE BEETLE: Adult June beetles are emerging and populations could be heavy again this year. Reports from Grant, La Crosse and Monroe counties suggest that full-grown larvae are common in lawns and gardens. Black light trappers can also expect an increase in captures of these insects as local flights escalate this month.



June beetle, *Phyllophaga* sp.

Stephen Cresswell

TRUE ARMYWORM: Small flights of 27 and 32 moths have been documented near Janesville in the last two weeks, signaling egg deposition has started. Moths are common in grassy vegetation and a few larvae have been collected in alfalfa sweep net samples. Crop advisors and growers should anticipate armyworm caterpillars migrating into the margins of cornfields by mid-June.

FORAGES & GRAINS

PEA APHID: Surveys found a range of 5-85 aphids per 100 sweeps and an average of 40 per 100 sweeps, a nearly three-fold increase over the 14 per 100 sweeps average noted last week. Pea aphid populations increase most rapidly at temperatures around 65°F, and severe early-season infestations can cause stunting of the first crop and impact subsequent cuttings. This insect is also suspected of transmitting certain alfalfa virus diseases.

ALFALFA WEEVIL: Larval counts in the western area of the state remain low. Alfalfa surveyed in Buffalo,

DEGREE DAYS JANUARY 1 - MAY 23

LOCATION	50°F	2017	NORM	40°F
Dubuque, IA	473	530	469	917
Lone Rock	410	469	—	817
Beloit	395	488	479	796
Sullivan	331	418	425	688
Madison	380	442	449	769
Juneau	342	406	—	697
Racine	272	371	—	607
Waukesha	294	387	—	634
Milwaukee	291	362	356	635
Hartford	323	383	—	670
Appleton	314	325	—	629
Green Bay	299	320	356	609
Big Flats	360	393	—	709
Hancock	315	346	439	621
Port Edwards	322	338	425	633
La Crosse	419	442	500	818
Eau Claire	381	373	436	714
Cumberland	301	241	377	565
Bayfield	228	120	—	440
Wausau	293	266	371	572
Medford	286	247	330	554
Crivitz	315	290	—	594
Crandon	280	212	300	532

Method: Modified B50; Modified B40 as of January 1, 2018. NORMALS based on 30-year average daily temps, 1981-2010.

La Crosse, Monroe, Pepin and Trempealeau and Vernon counties contained only 1-4 newly-hatched weevils per 100 sweeps, and larvae still had not emerged in most fields. Routine scouting for this pest should be underway across southern Wisconsin and continue through early second-crop regrowth. Alfalfa sampling in the northern counties—Wausau area and northward—can begin next week.

TARNISHED PLANT BUG: Counts of this insect are low and range from 1-23 per 100 sweeps, with an average of 12 adults per 100 sweeps. The first small nymphs were collected from La Crosse County alfalfa on May 23.

GRASS SAWFLY: Low numbers of these green striped larvae have been found in scattered alfalfa fields. The caterpillar-like worms are the 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 earlier this week. Populations are currently less than four per 100 stems.



Meadow spittlebug spittle mass

Krista Hamilton DATCP

CORN

EUROPEAN CORN BORER: The corn borer degree day model suggests the first flight is beginning in areas of the state where 374 heat units (modified base 50°F) have been reached, including Beloit, Eau Claire, Madison, La Crosse and Platteville. Moth emergence could accelerate quickly with very warm weather predicted for the week ahead.



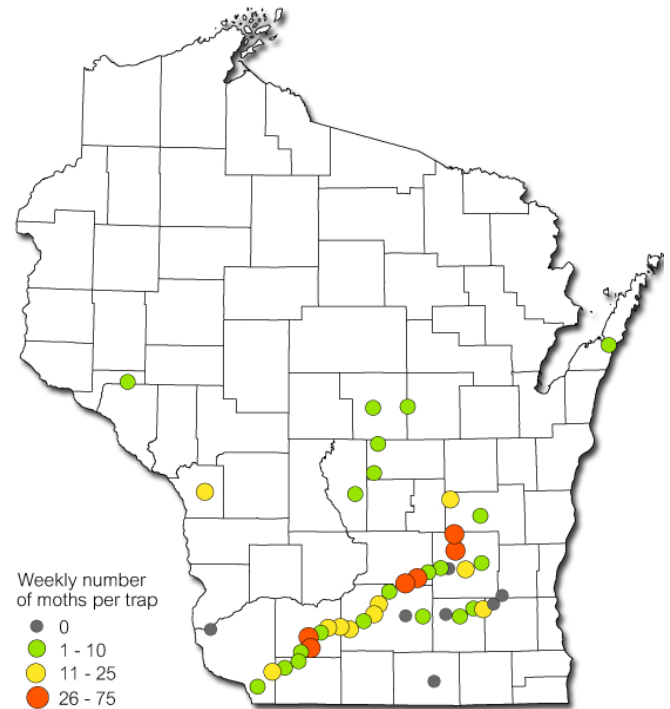
European corn borer

Jean Jacques Beaumont

BLACK CUTWORM: Larvae resulting from moth flights in late April and May have grown large enough to cut emerging corn plants. Although it may seem like an early start to the cutworm season, temperatures this month

have been favorable for rapid degree day accumulation, and the 300 GDDs required for larval to reach the destructive 4th instar have been surpassed in the most advanced southern and western Wisconsin locations since the first significant flights on April 30.

Black Cutworm Counts May 17-23, 2018



Weekly number of moths per trap
 ● 0
 ● 1 - 10
 ● 11 - 25
 ● 26 - 75

Wisconsin Department of Agriculture, Trade and Consumer Protection



Field conditions are 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 through the V5 stage. Cutworm larvae are capable of damaging corn protected with a Bt trait, usually in situations where larvae first develop on weeds or cover crops and are forced by late herbicide applications onto Bt corn when they are larger and less susceptible to Bt toxins. A threshold of 3% cutting of plants has traditionally been used as the point at which growers should consider a rescue treatment.

The annual trapping survey has to date captured 1,690 moths in 47 traps, with the season's highest weekly catch of 528 moths recorded in the past week, from May 17-23. The latest moth influx signals oviposition on corn and susceptible vegetables has increased.

TRUE ARMYWORM: The capture of 59 moths at the Janesville black light trap location during the past two weeks indicates a potential for larval infestations in small grains and corn early next month. Reduced-tillage corn following sod or a small grains cover crop, and fields with early-season grassy weed pressure, are candidates for armyworm problems. Damage usually appears first in the margin rows of fields, where the larvae enter when moving from another food source.

SOYBEANS

SOYBEAN APHID: Egg hatch on buckthorn began by early May, and aphid colonization of emerging soybeans could start next week. 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 on newest soybean growth Krista Hamilton DATCP

BEAN LEAF BEETLE: Overwintered beetles have been found in only four of 73 alfalfa fields sampled this month. The beetles were collected from two fields in Richland County, one in Sauk County, and one in Trempealeau County. The very low number of beetles collected thus far suggests only a minor threat of soybean defoliation in early June. However, the estimated 7% of soybean acres that have emerged as of May 20 are at increased risk of infestation by overwintered adults and should be checked for evidence of beetle feeding.

FRUITS

CODLING MOTH: Nine of 27 reporting apple orchards captured their first codling moths of the season between

May 17 and 23. Counts varied widely from 1-63 per trap, and only two locations registered a sustained moth flight. Growers should continue checking traps daily until the biofix is established, and 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 with high codling moth pressure. Orchards that register an inconsistent early flight, with a larger flight two weeks after the first biofix, can delay the first spray until 350 degree days post bio-fix. Treatment during these windows is intended to eliminate most of the newly-hatched larvae before they enter fruits.



Codling moths in pheromone trap

Steve Schoof NCSU

TARNISHED PLANT BUG: Nymphs were noted in alfalfa on May 23, indicating reproduction is underway. 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 per 20 sweeps.

ORIENTAL FRUIT MOTH: The first Oriental fruit moths (OFM) of the season also began emerging this week in southern Wisconsin apple orchards. OFM flight usually starts earlier than the codling moth flight.

SPOTTED TENTIFORM LEAFMINER: Moth emergence peaked in the last 1-2 weeks and is now declining. Populations in the southern two-thirds of the state consist mostly of first-generation sapfeeder larvae. The scouting procedure for STLM is to sample 10 terminals and fruit spurs per tree on 2-3 trees per orchard block. Sapfeeder

mines should be noticeable on the undersides of leaves. The economic threshold is one mine per 10 leaves.

PLUM CURCULIO: Adult migration into orchard edges continued this week and early feeding and oviposition scars are appearing on developing fruits. Perimeter applications can be used as an alternative to full cover sprays if injury is limited to the border rows. However, a cover spray is recommended if signs of PC extend beyond the first 4-5 rows of trees. Organic growers have the option of applying Surround® WP (kaolin clay) to orchard blocks. Another control strategy is to leave un-treated “trap rows” of early varieties that are treated with an insecticide (e.g. PyGanic) on a warm night when the weevils are most active. Monitoring PC activity is advised until 308 degree days (base 50°F) have accumulated from McIntosh petal fall. The majority of oviposition will have been completed by that point.



Plum Curculio oviposition scars

Peter Jentsch Cornell University

OBLIQUEBANDED LEAFROLLER: The spring flight has begun, with low numbers of moths registered in southern and western Wisconsin orchards. Late-instar larvae and rolled leaves are still evident at many sites, signaling 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 (< five moths per trap) can develop significant larval problems a few weeks after a flight has occurred. Control is warranted for populations averaging three or more larvae per tree.

VEGETABLES

COLORADO POTATO BEETLE: Beetles are likely beginning to disperse from hibernation sites. Oviposition on potatoes, tomatoes, eggplants and other host plants should begin before the end of the month. The bright orange-yellow eggs are deposited in clusters of 15-30 on the undersides of leaves. Egg hatch occurs in 4-9 days.



Colorado potato beetle eggs

ecotanjim.files.wordpress.com

ONION MAGGOT: Emergence of flies is underway in warmer southern and western areas (from La Crosse southward). Flies of the spring generation are expected to begin appearing next week across southeastern and central Wisconsin. Damage from the resulting first-generation maggots usually becomes evident around mid-June as onion seedlings start to wilt. Infested plants, when pulled, often break just below the rotting stem. Rotating this year's plantings as far away as possible from last year's onions is the most basic approach to onion maggot control. Preventative soil insecticides may be considered if 5-10% of last year's crop was damaged by onion maggot.

IMPORTED CABBAGEWORM: Larvae are emerging in southern areas of the state where 300 degree days (simple base 50°F) have been surpassed. Cabbage-worms chew large, irregular holes in leaves, bore into heads, and drop brown fecal pellets that contaminate cole crops. Regular sampling for eggs and small larvae is recommended during the transplant to cupping stages to assess populations and to avoid insecticide treatments that disrupt biological control. The biological insecticide *Bacillus thuringiensis* (Bt) is effective against early-instar caterpillars and is an organically acceptable form of con-

tol. Treatment may be warranted for infestations affecting 30% or more of plants.



Imported cabbageworm larva

UM Extension

NURSERY & FOREST

NR-40 INVASIVE SPECIES RULE: As of 2018, the phase-out period for selling herbaceous plants classified as 'restricted' in Wisconsin, has ended. DATCP inspectors recently found the restricted plant moneywort (green-leaved cultivar) at nursery dealers in Brown and Sawyer counties. Nursery managers are reminded to review the NR40 list of invasive species before purchasing plants, as restricted species will need to be removed and destroyed. Although the phase-out period for herbaceous plants classified as 'restricted' has ended, the phase-out period for shrubs and trees does not end until 2020.



NR-40 'restricted' plant moneywort for sale

Timothy Allen DATCP

POTYVIRUS: An undetermined potyvirus was confirmed in spiderwort plants from nursery dealers in Washington

and Kenosha counties. The symptom noticed by inspectors was severe light-green mottling on the foliage. Plant viruses may reduce plant vigor and spread to other plants of the same or different species. It is imperative to remove and destroy all virus-infected plants.

BLACK SPOT ON ROSE: Symptoms of this fungal disease were observed on the hybrid rose cultivar 'Top Gun' at a nursery dealer in Dane County. Diagnostic features are small, round black spots with feathery margins on the leaf surface that enlarge and cause foliage to turn yellow and drop prematurely. The fungus overwinters on leaf and cane litter infected the previous season, and the fungal spores spread during wet weather to initiate disease development on new growth. There are many rose cultivars that are resistant to this disease, such as the hybrid (*Rosa chinensis* x *R. multiflora*) 'Desmond Tutu'. Cultural management techniques include removal of diseased debris and avoidance of splashing water on the foliage. Approved foliar fungicide applications may be applied prior to disease development.



Black spot on rose

Shanon Hankin DATCP

POWDERY MILDEW: Dahlia plants in a greenhouse in Vernon County were infected with this very common fungal problem of ornamentals, characterized on most plants by its grayish white powdery dusting on the upper leaves. This disease is favored by high humidity and wet weather. Reducing humidity levels and increasing air circulation will help to alleviate the problem. Fungicidal control is usually not necessary as this disease is largely a cosmetic concern.

APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 17 - 23

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	DWB ⁵	LPTB ⁶	BMSB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	14	11	1	0		0			
Bayfield	Orienta	2	0	—	—		—			
Brown	Oneida	325	57	3	0		0			
Columbia	Rio	6	21	0	0		—			
Crawford	Gays Mills	73	46	—	3		0			
Dane	DeForest	9	15	2	0		0			
Dane	Mt. Horeb	23	15	0	0		0			
Dane	Stoughton	41	35	1	0		0			
Fond du Lac	Campbellsport	103	22	0	—		0			
Fond du Lac	Malone	20	25	0	0		0			
Fond du Lac	Rosendale	24	49	0	3		0			
Grant	Sinsinawa	—	—	63	—		—			
Green	Brodhead	17	12	2	2		0			
Iowa	Mineral Point	95	11	23	0		0			
Jackson	Hixton	102	14	0	0		0			
Kenosha	Burlington	50	17	1	0		0			
Marathon	Edgar	241	130	0	0		0			
Marinette	Niagara	41	11	0	0		0			
Marquette	Montello	162	122	0	0		0			
Ozaukee	Mequon	125	37	0	—		0			
Pierce	Beldenville	246	59	0	3		0			
Pierce	Spring Valley	264	33	0	0		1			
Racine	Raymond	40	1	0	2		0			
Racine	Rochester	140	44	3	—		—			
Richland	Hill Point	36	55	0	—		0			
Sheboygan	Plymouth	150	7	0	—		0			
Walworth	East Troy	30	16	—	—		0			
Walworth	Elkhorn	21	18	—	—		0			
Waukesha	New Berlin	49	2	0	0		0			

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Lesser peachtree borer; ⁶Dogwood borer; ⁷Brown marmorated stink bug; ⁸Apple maggot red ball; *Unbaited; **Baited; ⁹Apple 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	Pardeeville	1	1	0	0	0	0	0	4	0	0
Dodge	Beaver Dam	0	1	0	0	0	1	0	4	0	0
Fond du Lac	Ripon	0	1	0	0	0	0	0	0	0	0
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	1	3	0	0	0	0	0	0	0	0
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	0	0	0	0	0	3	0	2	0	0
Rock	Janesville	0	1	0	0	0	0	0	32	0	0
Walworth	East Troy	0	1	0	1	0	1	0	2	0	0
Wood	Marshfield	0	0	0	0	0	3	0	4	0	0

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