Volume 64 No. 02 May 9, 2019

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

Cool weather with frequent showers persisted in Wisconsin, slowing crop emergence and prolonging fieldwork delays. A window of dry, sunny weekend weather offered growers a brief planting opportunity, but a Sunday cold front brought soaking rain and an end to the short-lived warm spell. The below-normal temperatures and widespread rain that prevailed mid-week halted corn planting and brought excess moisture to already-wet ground. Spring tillage advanced on the drier days in fields that could be accessed, but little additional progress was made. Meanwhile, corn planting was only 7% complete at the start of the week, nine days behind the five-year average and four days behind last year. Conditions for planting are not expected to improve dramatically in the week ahead, as the extended weather forecasts calls for a continuation of the current cool, rainy weather pattern.

LOOKING AHEAD

BLACK CUTWORM: Survey traps collected the largest weekly total count of the season from May 2-8, with 267 moths registered at 44 sites. Additional significant captures of nine moths in two nights were recorded at monitoring locations in Columbia, Dane, Dodge, Grant and Iowa counties. Based on the first major BCW migration event on April 12 and the expected slow accumulation of degree days over the next two weeks, the earliest peak corn cutting window will not open until May 27 near Beloit. The peak seedling corn damage period is forecast to open by May 29 near Madison and June 4 near Hancock. The late start to 2019 planting season and the consistent moth migrations documented since mid-April indicate a high risk of BCW damage to vegetative corn this spring.

GYPSY MOTH: Larvae began emerging from overwintered egg masses on May 6 in Dane County. Phenological indicators of gypsy moth egg hatch include beginning bloom of eastern redbud and saucer cup magnolia petal fall. Larval emergence is anticipated next week in central Wisconsin.

CODLING MOTH: Evening temperatures in the week ahead (May 10-15) may be suitable for emergence of the first spring moths. Males fly and seek mates only if dusk temperatures are above 62°F. Daily monitoring of pheromone traps is suggested once the first moth appears and until the biofix, the date of a sustained moth capture on consecutive nights, is determined.

SEEDCORN MAGGOT: Cool, moist soil conditions prevalent statewide are less than optimal for rapid seed germination and highly favorable for seedcorn maggot (SCM) infestation. Seedling injury and stand establishment problems are likely for many corn, soybean and vegetable crops later this month. Peak fly emergence

theoretically occurred last week across southern Wisconsin with the accumulation of 360 degree days (sine base 39°F), and is forecast for the Appleton, Hancock and Tomah areas of central Wisconsin in the week ahead. If SCM infestation is suspected, dig up apparent seed skips in the row and examine seed for evidence of damage. Cutworms, wireworms, and white grubs are other insects that can contribute to stand loss.

COMMON ASPARAGUS BEETLE: Emergence of overwintered adults is expected to begin by May 17 in southern Wisconsin and the La Crosse area. Scouting for the bluish-black beetles with cream-colored spots should begin just after asparagus plants emerge, or following the accumulation of 150 degree days (simple base 50°F). The most appropriate time to look for the beetles is in the afternoon when they are most active.

Common asparagus beetle macrophotoplaisirpassion.blogspot.com

FORAGES & GRAINS

WINTERKILL: Alfalfa acreage throughout the state is showing widespread, varying levels of winterkill. A wet fall season combined with ice sheeting in December and lack of snow cover until late January were the leading contributing factors. Evaluating stands for winterkill is recommended when spring growth reaches 6-10 inches tall. Healthy stands have more than 55 stems per square foot, regardless of stand age. If the stem count is below 40 stems per square foot, replacing the field may be the most productive approach.

ALFALFA WEEVIL: Spring egg deposition in alfalfa stems is likely underway, although no adults were found during this week's surveys. The first appearance of larvae is forecasted for May 19 across far southern Wisconsin and May 26 in central fields.

DEGREE DAYS JANUARY 1 - MAY 8

LOCATION	50°F	2018	NORM	40°F
Dubuque, IA	216	263	289	522
Lone Rock	215	234	—	491
Beloit	202	236	295	475
Sullivan	182	190	254	423
Madison	192	218	276	467
Juneau	155	192	—	377
Racine	138	173	—	354
Waukesha	169	175	—	404
Milwaukee	144	177	215	367
Hartford	158	185	—	380
Appleton	117	167	—	319
Green Bay	105	161	205	305
Big Flats	153	196	—	381
Hancock	139	167	262	350
Port Edwards	138	169	258	347
La Crosse	175	237	306	445
Eau Claire	145	206	260	373
Cumberland	99	148	213	260
Bayfield	58	45	—	205
Wausau	98	149	214	258
Medford	91	147	185	244
Crivitz	98	169	—	280
Crandon	89	141	170	242

Method: Modified B50; Modified B40 as of January 1, 2019. NORMALS based on 30-year average daily temps, 1981-2010.

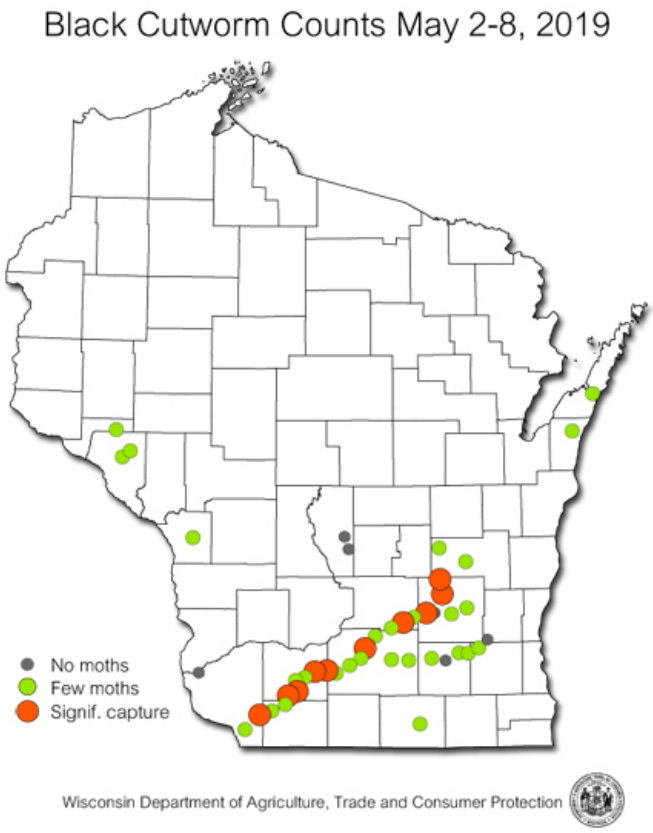
PEA APHID: Egg hatch was observed in Dodge and Washington counties, where nymphs were collected at the very low rate of 1-2 per 100 sweeps. Alfalfa sampled in La Crosse and Monroe counties contained no aphids as of May 7.

TARNISHED PLANT BUG: Adults were swept from alfalfa earlier this week, suggesting this fruit pest is active and will soon begin feeding on flower buds in Wisconsin apple orchards and strawberry plantings.

CORN

BLACK CUTWORM: A weekend storm front on May 5-6 brought additional flights of black cutworms northward into the state. DATCP's 44 monitoring locations collected 267 moths, with 10 sites registering significant counts of

nine or more moths in two nights. The highest trap count for the week was 20 moths near Hampden in Columbia County. Pheromone traps have captured a cumulative total of 758 specimens since the first migrant moth appeared on April 4.



The black cutworm counts recorded this spring are considered moderate in comparison to captures in high-moth years, though delayed spring field preparation and early-season weed growth have provided highly favorable egg laying habitat for female moths arriving over the past 4-5 weeks. Based on the April 12 first significant capture or biofix, the peak corn cutting window is forecast to open in Rock County on May 27. However, the second wave of significant captures recorded in the past week signals the cutting period could be protracted, with a second peak damage period starting around June 6.

SEEDCORN MAGGOT: Emergence of first-generation flies from overwintered pupae has peaked across the southern and west-central areas of the state with the accumulation of 360 degree days (sine base 39°F). Peak emergence is expected to occur next week from Green Bay to Osseo and northward. Heavy egg laying is likely during this time, increasing the risk of maggot damage to susceptible crops such as corn and soybean seeds and seedlings. Planting as close as possible to the 'fly-free' period between the first and second generations can reduce risk and is the primary cultural control for this spring soil insect pest.

SOYBEANS

PAINTED LADY BUTTERFLY: Adult butterflies were observed on May 5 and 6 in La Crosse County, probably immigrants from farther south that arrived with earlier weather systems. The larvae produced by these spring butterflies often become noticeable in soybeans in July. In most years this species is inconsequential, although populations sporadically become high enough to cause economic defoliation, as was the case in some fields in 2017. The painted lady made headlines in California in March of 2019 when the state observed its largest butterfly migration since 2005, an event that coincided with abundant rain and the wildflower super bloom.

Painted lady butterfly *wildadirondacks.org*

FRUITS

EASTERN TENT CATERPILLAR: Egg hatch began around mid-April and small webbed tents are becoming noticeable on apple, ornamental crabapple and wild cherry trees. Removal of the small tents by hand or with a tool during the next two weeks is the suggested control. Insecticide use for tent caterpillars is not advised.

SPOTTED TENTIFORM LEAFMINER: Peak emergence of spring moths is approaching in southern and central Wisconsin. Apple orchard monitoring locations in Iowa, Marquette and Sheboygan counties reported very high

captures of 565-1,296 moths per trap for the week, while counts at other sites varied widely from 0-385 per trap. The number of moths captured during the period defined as a "peak flight" can be in the range of 600-1,300 per trap per week for orchards with moderate to high STLM populations.

Spotted tentiform leafminer *Peter Buchner www.lepiforum.de*

THRIPS: Apple orchards with a history of thrips damage should be checked in the week ahead for early signs of activity. The recommended scouting procedure is to examine buds on several different varieties in multiple locations, including the perimeter. A count of three or more thrips per fruit bud can cause abnormal leaf formation, leaf tatter, flower injury and reduced fruit set, and is considered an economic population. Spinosad (Entrust) is an organic option for controlling thrips.

Thrips on apple leaves *John Aue Threshold IPM*

GREEN FRUITWORM: Apple growers planning to apply a Bt product (i.e., Agree, Deliver, Dipel) for control of green fruitworm or other leaf-feeding caterpillars are reminded that most formulations persist on foliage for only a few days following application. Because Bt must be ingested by larvae to be lethal, it is imperative to confirm the presence of caterpillars through scouting terminals and blossoms and treat only if temperatures are warm enough for their activity. Spring lepidoptera populations in orchards are still very low at this time.

REDBANDED LEAFROLLER: Moth emergence accelerated from May 2-8, with counts ranging from 2-188 RBLR per trap and averaging 54 per trap. The average last week was 24 per trap. Peak flight activity, and corresponding high trap counts, may have or should occur soon in southern and central orchards. The first RBLR caterpillars generally appear around petal fall.

VEGETABLES

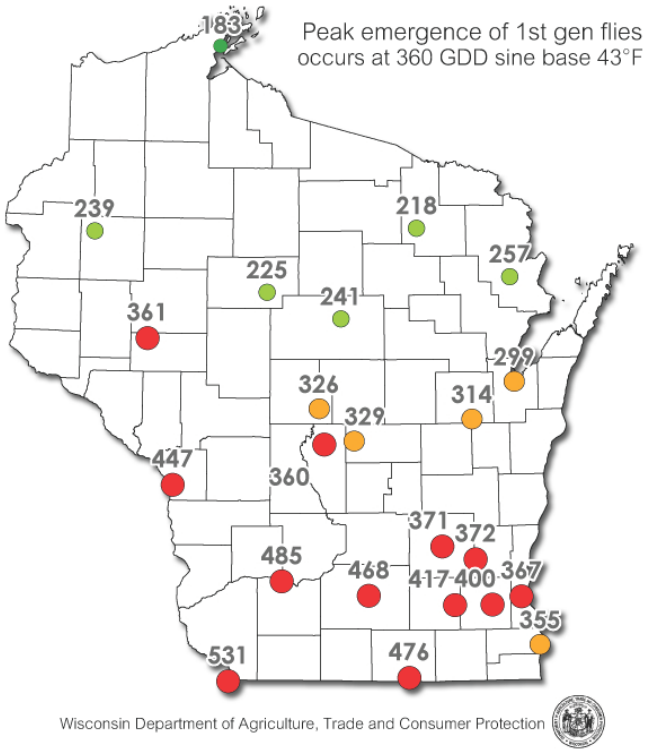
FLEA BEETLES: Spinach, chard, kale and other early-seeded and transplanted leafy vegetables should be inspected regularly for the initial two weeks after emergence (or transplant date) when young plants are most susceptible to flea beetle damage. Row covers, when installed early and properly, are effective at keeping beetles out of crops during the seedling stage. These barriers must be removed before the flowers develop to allow pollinating insects access to the plants.

Flea beetle defoliation *Krista Hamilton DATCP*

Established control thresholds for flea beetles vary by crop, but start at two beetles per plant for tomatoes and eggplant less than three inches. For cole crops and horseradish, control may be considered when the beetles cause stand reduction on small plants.

SEEDCORN MAGGOT: Vegetable growers are reminded that spring applications of compost should be incorporated at least two weeks prior to planting to avoid seed maggot (SCM) problems in spring-seeded crops. Any green manure or cover crops should also be plowed down two weeks prior to planting. Because field conditions are highly conducive for SCM damage this spring, growers may want to consider delaying planting until soils are adequately warm for rapid germination and early seedling growth. The map below shows SCM degree day accumulations as of May 9. Peak fly emergence is forecast for 360 degree days (sine base 39°F).

Seedcorn Maggot Degree Days May 8, 2019



COMMON ASPARAGUS BEETLE: Beetle emergence and the start of egg deposition on asparagus spears is forecast to begin late next week (by May 17) in southern Wisconsin. Examining plants for adults and eggs on warm, sunny afternoons when the beetles are most active is suggested. Control may be warranted if 5-10 beetles are found per 100 spears, or eggs are present on at least two of 100 of spears, ferns, or flower buds. Handpicking the adults early in spring, especially in small gardens, can be effective.

CABBAGE MAGGOT: The peak emergence window for first-generation flies will open around May 11 in the southernmost tier of counties, with egg laying expected to last approximately one week. This event coincides with full bloom of lilac and the accumulation of 300 degree days (simple base 43°F). Seedlings, transplants, or spring root crops available at the time of peak flights should be protected with row covers installed well before adults begin to emerge. Growers can monitor fly populations with yellow sticky traps or yellow plastic bowls filled with soapy water placed at 100-foot intervals along field edges and inspected every 4-6 days to determine if fly counts are increasing or decreasing. The same method is also effective for trapping seedcorn maggot flies. Transplanting cole crops one week before or after peak fly emergence is recommended to avoid the primary damage period. Cabbage maggot degree days as of May 8 are as follows: Beloit 285, Madison 277, Racine 191, La Crosse 261, Eau Claire 193, and Wausau 114.

Cabbage maggot larva *Ian Bedford GrowVeg.com*

NURSERY & FOREST

SEPTORIA LEAF SPOT: This common fungal leaf spot disease was found on native perennials at a greenhouse in Rock County in late April. Fungi in the genus *Septoria* are ascomycetes that cause leaf spots in a wide range of plants including forage crops, vegetables, ornamentals, and trees. Common native perennials affected by Septoria include species of aster, lobelia, penstemon, and verbena. The fungus overwinters in infected debris and favors extended periods of wet, humid weather. Cultural control methods that can reduce problems include removal of infected plant material, increasing airflow to lower humidity, and careful irrigation to prevent splash-dispersal of spores. Preventative fungicides may also be useful if the application is correctly timed.

WOODLAND FORGET-ME-NOT: Nursery inspectors found the invasive plant woodland forget-me-not (*Myosotis sylvaticum*, *M. sylvatica, M. oblongata*) for sale at several box store locations across the state this week. Woodland forget-me-not and the related aquatic forget-me-not (*Myosotis scorpioides*) are "restricted" plants under the Chapter NR40 Wisconsin invasive species rule. The phase-out period for these and other restricted herbaceous plants expired in May 2018. Accordingly, no further importation or propagation of these plants is allowed in Wisconsin. A similar phase-out period for several species of NR40-restricted trees and shrubs will end on May 1, 2020. A list of Wisconsin's "prohibited" and "restricted" plant species and more information on the NR40 Invasive Species rule can be found on the WI-DNR NR40 Invasive Plant List. Because invasive species rules vary from state to state, plant wholesalers and dealers should reference the National Plant Board's list for each states' regulated species before shipping any plant stock.

Invasive woodland forget-me-not *Konnie Jerabek DATCP*

RHIZOCTONIA BLIGHT: Rhizoctonia was confirmed as the primary cause of stem collapse and necrosis of impatiens species from a Pierce County greenhouse last week. The fungal pathogen, *Rhizoctonia solani*, is normally soil-borne, frequently existing as a thread-like growth and often attacking plant hosts in the early stages of development. Roots and lower stems are primarily affected, with infections often resulting in diseases such as collar rot, damping-off, and wire stem. Rhizoctonia produces sclerotia; durable, brownish-black structures that allow the fungus to survive for years in soil or infected plant tissue.

Controls for this disease include fungicide drenches and the following preventive cultural methods: using new containers or properly sanitizing reused containers, avoiding reuse of growing medium, removing diseased plants and residues from the growing area, minimizing plant stress, preventing injury entry points, watering in the morning to allow leaves and stems to dry before sunset, and increasing both airflow and plant spacing to reduce humidity levels.

Rhizoctonia blight on Impatiens *Tim Boyle DATCP*

POTYVIRUS: Potyvirus in the *Iris louisiana* species 'Bold Pretender' was diagnosed from mature plant samples from Holland-sourced root stock earlier this season. Viral symptoms typically begin as subtle light and dark green streaks or mottled patterns along the plant foliage, which eventually turn necrotic and increase susceptibility to other secondary diseases. Industry-wide attention to selecting and maintaining virus-free breeding stock, consumer education to recognize plant virus symptoms, and removal and proper disposal of infected plant materials are all imperative for virus control.

Potyvirus symptoms in Iris 'Bold Pretender' *Tim Boyle DATCP*

APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 2 - 8

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	DWB[5]	LPTB[6]	BMSB[7]	AM RED[8]	YELLOW[9]
Bayfield	Keystone	—	—							
Bayfield	Orienta	—	—							
Brown	Oneida	7	79							
Columbia	Rio	—	—							
Crawford	Gays Mills	—	—							
Dane	DeForest	0	78	0						
Dane	Mt. Horeb	24	167				0			
Dane	Stoughton	17	100	0	0		0			
Fond du Lac	Campbellsport	27	19	0	0		0			
Fond du Lac	Malone	0	11				0			
Fond du Lac	Rosendale	0	2							
Grant	Sinsinawa	0	0							
Green	Brodhead	10	20				0			
Iowa	Mineral Point	565	168							
Jackson	Hixton	52	7	0	0					
Kenosha	Burlington	—	—							
Marathon	Edgar	385	27							
Marinette	Niagara	—	—							
Marquette	Montello	1296	87	0	0					
Ozaukee	Mequon	5	35				0			
Pierce	Beldenville	40	52	0	0		0			
Pierce	Spring Valley	0	6							
Racine	Raymond	—	—							
Racine	Rochester	49	66							
Richland	Hill Point	20	105							
Sheboygan	Plymouth	675	33				0			
Walworth	East Troy	11	6							
Walworth	Elkhorn	40	20							
Waukesha	New Berlin	—	—							

[1]Spotted tentiform leafminer; [2]Redbanded leafroller; [3]Codling moth; [4]Obliquebanded leafroller; [5]Lesser peachtree borer; [6]Dogwood borer; [7]Brown marmorated stink bug; [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	1	0	0	0	0	0	0	1	0	0
Columbia	Pardeeville	0	0	0	0	0	0	0	2	0	0
Dodge	Beaver Dam	0	0	0	0	0	0	0	6	0	0
Fond du Lac	Ripon	0	0	0	0	0	0	0	2	0	0
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	0	0	0	0	0	0	67	0	0
Walworth	East Troy	0	0	0	0	0	0	0	0	0	0
Wood	Marshfield	0	0	0	0	0	0	0	4	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.

BLACK CUTWORM PHEROMONE TRAP COUNTS 2019

COUNTY	SITE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8
Adams	Brooks	—	0	—	0	0			
Adams	Grand Marsh	—	0	—	0	0			
Buffalo	Alma	0	0	0	0	3			
Buffalo	Gilmanton	0	0	1	0	2			
Columbia	Columbus	0	1	3	3	4			
Columbia	Hampden	1	12*	13*	7	20*			
Columbia	Leeds	0	6	0	3	4			
Dane	Blooming Grove	0	1	4	1	2			
Dane	Blue Mounds	1	0	2	3	1			
Dane	Cross Plains	7	1	0	5	8			
Dane	Deerfield	3	8	3	5	9			
Dane	Middleton	0	0	0	1	2			
Dane	Springfield	0	0	6	13*	15*			
Dane	Vienna	0	0	0	3	4			
Dodge	Beaver Dam	0	1	9	12*	12*			
Dodge	Calamus	0	9	5	3	12*			
Dodge	Hubbard	0	8	5	4	5			
Dodge	Lowell	0	3	5	1	0			
Dodge	Oak Grove	0	3	2	6	2			
Dodge	Waupun	0	7	7	13*	19*			
Door	Sturgeon Bay	—	—	1	5	5			
Fond du Lac	Lamartine	0	0	7	3	1			
Fond du Lac	Ripon	1	1	20*	9	11			
Grant	Dickeyville	0	0	6	7	2			
Grant	Platteville	1	0	3	15*	13*			
Grant	Prairie du Chien	0	0	0	2	0			
Iowa	Brigham E	0	0	1	3	14*			
Iowa	Brigham W	1	0	8	2	13*			
Iowa	Dodgeville E	1	1	2	14*	7			
Iowa	Dodgeville W	0	0	6	9	4			
Iowa	Mineral Point E	0	0	7	6	18*			
Iowa	Mineral Point W	0	0	3	5	14*			
Jefferson	Ixonia E	0	9	14*	13*	6			
Jefferson	Ixonia W	2	15*	2	4	7			
Jefferson	Johnson Creek	1	7	2	0	0			
Jefferson	Milford	0	3	0	2	3			
Kewaunee	Algoma	—	—	0	0	2			
La Crosse	West Salem	—	—	—	—	2			
Lafayette	Belmont	0	0	3	3	6			
Lafayette	Kendall	0	0	4	7	4			
Pepin	Durand	—	0	0	2	6			
Rock	Janesville	5	11*	3	3	4			
Washington	North Lake	1	6	0	0	0			
Waukesha	Oconomowoc	0	4	2	1	1			

Intense capture occurs when 9 or more moths are caught in a 2-night period. Week 1 (April 4-10), Week 2 (April 11-17), Week 3 (April 18-24), Week 4 (April 25-May 1), Week 5 (May 2-8), Week 6 (May 9-15), Week 7 (May 16-22), Week 8 (May 23-29).