

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

Brisk northwest winds behind a departing cold front brought cooler weather to the state this week. Afternoon high temperatures ranged from the lower 40s to mid-60s while evening lows plummeted to the mid- to high 20s. Sub-freezing temperatures and light winds resulted in areas of frost during the late night and early morning hours in most parts of the state. The lingering threat of frost damage has been of primary concern to fruit growers after rare and historic warmth in March coaxed fruit trees, grape vines and other sensitive plants into bloom more than a month ahead of schedule. Many apple growers will not know the full extent of damage for another 1-2 weeks, and some are estimating losses of 50-90% in early-blooming varieties. By contrast, Wisconsin corn growers are very optimistic about prospects for the 2012 growing season following an extremely mild winter and unprecedented heat last month. Full-scale planting is expected to begin in a matter of days now that the “earliest planting date” crop insurance provision has expired.

LOOKING AHEAD

BLACK CUTWORM: Migrants were detected in the state four weeks ago. The annual trapping survey has yielded 350 moths in 21 traps this month, with a cumulative high count of 55 per trap. An initial cutting date of May 15 is

anticipated based on the first major migration event on April 1. Black cutworm requires 300 growing degree days (base 50°F) beyond the first significant capture to develop from the egg to plant-cutting fourth instar stage.

ALFALFA WEEVIL: Larvae are appearing in alfalfa in the south-central counties. Sweep net counts during the period of April 9-11 were very low (<5 per 50 sweeps) and defoliation was not observed. The alfalfa weevil phenology model forecasts the first emergence of larvae for 300 degree days (sine base 48°F), or April 14 at Madison, April 24 at Eau Claire, and May 2 at Wausau.

EUROPEAN CORN BORER: Pupation of overwintered larvae is in progress throughout southern Wisconsin. On the basis of current degree day accumulations (base 50°F), the first moths of the spring flight could emerge as early as April 26 near Janesville and May 7 near Stevens Point. Results of the larval abundance survey last fall indicate a low risk for severe infestations of first generation borers in May, but early-planted non-Bt fields and Bt refuge areas will provide very suitable egg deposition sites next month. Black light trappers concerned about this insect should have their traps in operation by April 18.

GYPSY MOTH: Larval emergence from overwintered eggs was noted on April 3 in Vernon County. This event occurred by May 9 last year and April 9 in 2010. Annual

spray treatments directed against the first and second instar stages in the gypsy moth life cycle may begin during the final week of April this year. This would be the earliest start date in the 23-year history of the treatment program in Wisconsin.

CODLING MOTH: Emergence of the first spring moths is expected in the next two weeks at advanced locations. Before then, apple growers are advised to closely inspect traps for the look-alike, *Proteoteras aesculana*. This non-target species, also referred to as the maple tip borer, emerges one week earlier than the codling moth and is slightly smaller (8 mm in length).

FORAGES

ALFALFA WEEVIL: Larvae were collected from Dane County alfalfa on April 10, exactly 36 days earlier than last season and well ahead of their usual schedule. Alfalfa fields surveyed in Dane, Grant and Rock counties from April 10-11 contained very low counts of 1-5 per 50 sweeps. Systematic sampling for larvae and leaf tip damage should begin by April 18 and continue 1-2 times per week until fields are harvested, treated, or the weevil season has passed.



Alfalfa weevil adult

I. Altmann www.koleopterologie.de/gallery

PEA APHID: Nymphs can be found in most alfalfa fields in the southern and central areas of the state. The average count in the past week was 3 per 50 sweeps.

WINTER INJURY: Reports indicate most of the state's alfalfa acreage survived the winter without significant injury, although the possibility of spring frost damage remains a threat. Alfalfa can be injured after only four

DEGREE DAYS JANUARY 1 - APRIL 11

LOCATION	50°F	2011	NORM	48°F	40°F
Dubuque, IA	302	75	95	309	550
Lone Rock	299	62	—	298	526
Beloit	310	80	98	314	552
Madison	284	51	87	285	505
Sullivan	286	55	77	286	510
Juneau	262	45	—	261	478
Waukesha	232	38	—	233	443
Hartford	223	37	—	225	430
Racine	205	34	—	209	411
Milwaukee	194	32	72	198	398
Appleton	203	24	55	200	400
Green Bay	166	18	51	165	357
Big Flats	251	38	—	244	457
Hancock	239	35	73	232	444
Port Edwards	231	30	72	226	434
La Crosse	270	58	93	270	500
Eau Claire	221	38	68	219	428
Cumberland	180	31	47	179	378
Bayfield	116	18	—	109	271
Wausau	193	20	52	191	389
Medford	189	19	40	189	385
Crivitz	143	19	—	138	327
Crandon	151	16	34	149	335

Method: ModifiedB50: Sine48: ModifiedB40 as of Jan 1, 2012.
 NORMALS based on 30-year average daily temps, 1971-2001.

hours of exposure to temperatures of 28°F or lower. Many Wisconsin fields are showing signs of frost damage following several nights of frigid temperatures.

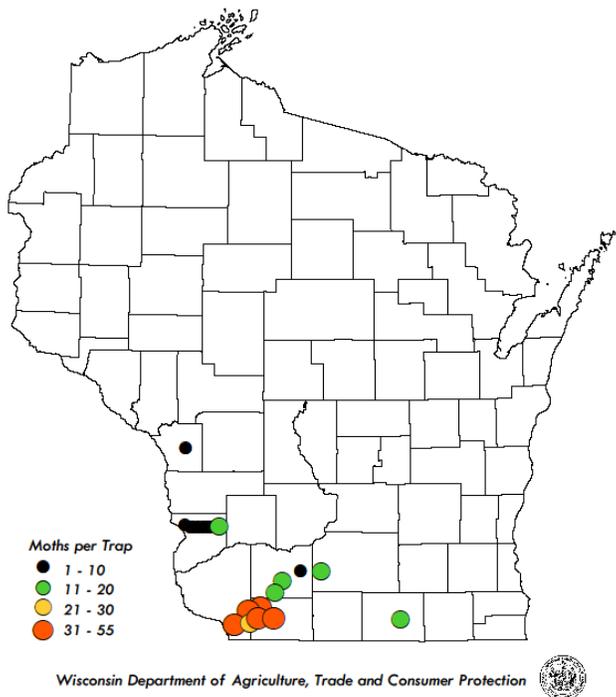
TARNISHED PLANT BUG: Surveys conducted in the southern and west-central areas since late March have found low counts of 1-9 per 50 sweeps, with an average of 2 per 50 sweeps. Plant bug populations rarely attain economic levels in alfalfa in spring but their relative abundance can be an indicator of potential problems for strawberries and other fruit and vegetable hosts.

CORN

BLACK CUTWORM: A spring migration that began four weeks ago has thus far yielded 350 moths in 21 traps. The moths originated in the southern U.S. and were blown into Wisconsin on storm fronts beginning March 19. Early migrations such as this one can be precursors to damaging cutworm populations in May and June in

years when corn planting and weed control are delayed. A cutting period starting May 15 is anticipated based on the biofix date of April 1. The accompanying map summarizes cumulative moth counts from March 20-April 10.

2011 Black Cutworm Trap Counts



TRUE ARMYWORM: The first indication of armyworm arrival was on March 22 near Janesville. Counts since then have ranged from 3-23 moths in two nights, with a cumulative total of 65 moths as of April 11. This spring migratory pest, like the black cutworm, could cause problems in field crops and gardens next month. Corn and wheat growers should be aware of this possibility.



True armyworm moth

freepages.misc.rootsweb.com

EUROPEAN CORN BORER: Pupation started near Beloit, Lone Rock, Sullivan and other advanced sites by March 30. Black light traps stationed in southern Wisconsin could register the first moths of the 2012 growing season by April 26. Survey findings from last fall indicate a very small spring flight again this year, but localized infestations in conventional corn fields and non-Bt refugia should be expected.

FRUITS

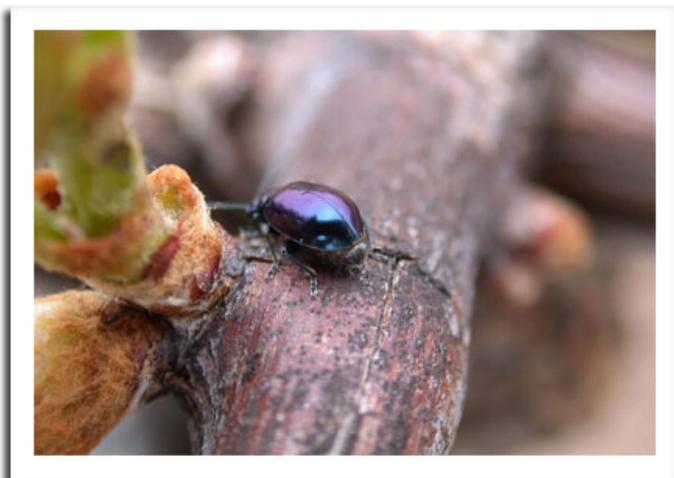
REDBANDED LEAFROLLER: First brood adults have been reported from the southern counties for four or more weeks and peak emergence has already occurred at some sites. A reliable sampling method for this insect is to monitor for larvae on foliage, particularly watersprouts, 10-12 days after the first moth is registered in pheromone traps. Pupae and older larvae can be located by searching for folded leaves. Two important characteristics of RBLR larvae that distinguish it from other leafrollers are the head capsule and thoracic shield (the hardened plate behind the head), which are the same pale greenish yellow color as the rest of the body. Other leafrollers, such as the OBLR, have black or darkened heads and thoracic shields.

SPOTTED TENTIFORM LEAFMINER: The first of three flights this season began by March 21 in southeastern Wisconsin. The apple orchards near Beldenville and Hillpoint reported 486-600 moths this week, but elsewhere counts were less than 151 per trap. Peak emergence of first brood adults is approaching and will likely occur next week or the following in southern and west-central Wisconsin orchards.

CODLING MOTH: Pheromone traps should be in place to capture the first spring moths expected to appear later this month at locations where 201-340 degree days (base 50°F) have been surpassed. This includes the southern and west-central counties. Daily trap checks are recommended after the first moth appears and until biofix has been established.

GRAPE FLEA BEETLE: Spring migration into vineyards from nearby wooded areas and fencerows is underway. Biweekly scouting is suggested through late April. Feeding by the overwintered adults may damage primary buds at this time of year, preventing shoot expansion and ultimately reducing grape yields. Plants on the margins

of vineyards are at greatest risk of injury. Treatment is justified if more than 5% of buds are damaged.



Grape flea beetle

www.vegedge.umn.edu/vegpest/grapes

PEAR THRIPS: Economic populations of this insect were reported last month from an apple orchard near Malone in Fond du Lac County. Counts of nine or more thrips per cluster were noted on March 21 and controls were applied five days later. According to the report, the insects were concentrated in orchard trees adjacent to wooded lots, but showed no preference for a particular tree variety. Large populations of thrips can cause abnormal leaf formation, leaf tatter, flower injury and reduced fruit set.

FIRE BLIGHT: Rainfall predicted for the nights of April 13-14 in combination with temperatures in the low 50s could result in fire blight outbreaks by Sunday, April 15. All pruning activities should cease by April 12 to ensure wounds heal before the bacterial growth period. Apple growers with fire blight concerns may apply streptomycin to susceptible varieties 24 hours before or after the forthcoming infection period, on April 13 or 15.

FROST AND FREEZE DAMAGE: Resident Orchard IPM Specialist, John Aue, recommends a foliar nutrient spray to reduce tree stress and accelerate recovery of apple trees damaged by frost this spring. A proposed nutrient formulation has been developed by Ed Stover of Cornell University: https://mywebspace.wisc.edu/armccullough/web/cias/resources/stover_et_alprebloom_foliar_1999.pdf.

WARNING: The products referenced in the article can be safely tank mixed with a current fungicide cover without toxicity or incompatibility issues, but other zinc

formulations such as zinc sulfate may not be compatible and could cause phytotoxicity.

VEGETABLES

CABBAGE MAGGOT: Cole crop transplants should be planted one week before or after peak fly emergence to avoid damage. According to the cabbage maggot degree day model, peak emergence occurred by April 1 in the La Crosse area, April 2 near Madison, and April 8 in Milwaukee. This event generally takes place at 300 degree days (base 43°F), as lilacs are in bloom. Near Green Bay and Wausau, peak emergence is expected from April 14-16. Broccoli and cauliflower plantings on light sandy soils are at highest risk of infestation and should be monitored closely this month for signs of cabbage maggot injury.

COMMON ASPARAGUS BEETLE: The phenology model for this asparagus pest forecasts the first appearance of adults from 150-240 degree days (base 50°F). The lower range of this threshold has been surpassed statewide.



Common asparagus beetle

DavidH-J flickr.com

IMPORTED CABBAGEWORM: The presence of these yellowish-white butterflies around field plantings and home gardens this spring signals eggs are being laid on early-planted broccoli, cabbage, kale and other cole crops. Although serious infestations are rare at this time of year, Btk products applied while the larvae are small can be very effective.

FLEA BEETLES: Growers of early-planted and transplanted leafy vegetables such as spinach and leafy greens are advised to take measures soon to prevent or delay flea

beetle invasion of spring crops. Most flea beetle damage is inflicted in the first two weeks post-emergence; therefore, plants should be inspected every 1-2 days during this period of susceptibility.

Adjusting planting dates, enclosing seed beds with floating row covers, and eliminating weed hosts are all strategies that can reduce flea beetle problems. Planting a mustard trap crop (1% of total acreage) 7-14 days in advance of the primary crop is another option, although research on trap cropping has produced mixed results.



Flea beetles feeding on cauliflower

www.omafra.gov.on.ca

WEEDS

CRABGRASS: The recommended treatment window for pre-emergent herbicides has expired across much of the state. Preventive crabgrass treatments must be applied prior to seed germination or at soil temperatures of 50-55°F. Average soil temperatures near Verona exceeded 50°F on March 16 and peaked at 57°F on March 23, leaving a very narrow window of opportunity for crabgrass prevention this season. Final pre-emergent herbicide applications should be made before 500 degree days (base 32°F). This threshold will be surpassed throughout Wisconsin in the weekend ahead.

WINTER ANNUALS: Common chickweed, field pennycress, shepherd's purse, yellow rocket and other winter annuals are flowering in southern Wisconsin. Winter annuals emerge in fall, survive the winter as low rosettes, and resume growth in spring. The extraordinary warmth last winter allowed these species to begin regrowing much earlier than normal, and will likely result in earlier seed production. Control of winter annuals prior to seed

set is critical for long-term management. These challenging weeds reduce the rate at which soil warms in spring, interfere with crop seeding depth and establishment, and offer oviposition sites for migrant black cutworm moths.

DANDELION: Controls for this perennial broadleaf weed can be applied in spring or fall as plants are flowering or when the fluffy, white, spherical seedheads are present. Research has shown fall herbicide treatments to be more effective. For small, manageable infestations, removal of the entire below-ground portion of the plant is the suggested form of control.

SUMMER ANNUALS: Summer annuals are off to an early start this spring and may prove even more difficult to control at planting if permitted to exceed maximum height specifications on herbicide labels. Common lambsquarters and velvetleaf are approaching 25% emergence in the southern counties, while emergence of common ragweed is now 50% complete. Fortunately, most herbicide applications are expected to be made on time next month as long as planting conditions remain favorable.

NURSERY & FOREST

NURSERY INSPECTION: Early-season greenhouse inspections were conducted in Brown and Kewaunee counties in the past week. The most common pests found were fungus gnats, shoreflies and thrips. Hosta Virus X was observed on 'Blue Angel', 'Paul's Glory', and 'Sum and Substance'. Tobacco Rattle Virus, another increasingly common viral disease in the nursery trade, was found on Dicentra. New Guinea impatiens were sampled for impatiens necrotic spot viruses and are undergoing testing at the Plant Industry Laboratory.

OAK WILT: Record-setting warmth last month was very conducive to early growth of fungal mats and activity by the insect vectors of oak wilt. It is strongly recommended that residents do not prune or injure oak trees from now through the end of the growing season in areas where the disease is established.

EASTERN TENT CATERPILLAR: Larvae have been active since March 22 and their tents are evident on apple, ornamental crabapple, wild cherry and other host trees. Removal of the webbing by hand or with a tool during the next two weeks will prove most effective in reducing defoliation. Do not attempt to burn the tents and cater-

pillars. This is a hazardous procedure that will seriously injure the tree.



Eastern tent caterpillars on 'Adirondack' crabapple Tim Boyle DATCP.

CONIFER NEEDLE LOSS: Black Hills spruce and other conifers in northwestern Wisconsin are exhibiting signs of desiccation due to lingering drought conditions, insufficient snowfall, and record warm winter temperatures. Several trees in a Dunn County nursery inspected last week showed heavy needle loss and dieback beginning at the tops of trees and progressing downward. Smaller trees with shallow root systems are particularly susceptible to winter desiccation.

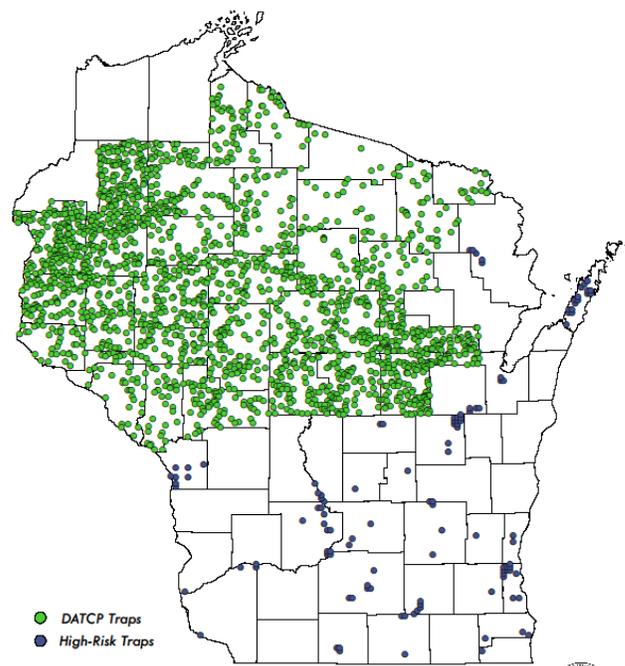


Black Hills spruce with severe needle loss Konnie Jerabek DATCP

trapping survey, scheduled to begin during the week of May 14, will include 19,000 traps in western Wisconsin and should reveal any noteworthy changes in the state moth population.

EMERALD ASH BORER: The green and blue symbols in the map below represent the 2,118 sites being trapped systematically by DATCP this season. Most of the purple traps will be distributed across the northern half of the state, from Trempealeau County east to Manitowoc County and northward. Another 118 traps will be set in southern Wisconsin at high-risk sites such as campgrounds, recreation areas and sawmills. Survey traps in Bayfield, Burnett, and Douglas counties will be placed by USDA-APHIS contractors and are not part of the DATCP program. Placement of the purple panel traps began on April 2.

2012 Emerald Ash Borer Trapping Survey



Wisconsin Department of Agriculture, Trade and Consumer Protection



GYPSY MOTH: Larval emergence was observed from April 3-6 in Green, Jackson, Lafayette and Vernon counties, although development has been suspended in the past week by cool temperatures. After an unusually mild winter, Gypsy Moth Program specialists expect populations to be elevated this summer. The annual

APPLE INSECT & BLACK LIGHT TRAP COUNTS APRIL 5 - 11

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	OBLR ⁵	AM RED ⁶	YELLOW ⁷	GDD 50°F
Bayfield	Keystone	—	—						
Bayfield	Orienta	—	—						
Brown	Oneida	—	—						
Chippewa	Chippewa Falls	5	58	0					
Dane	Deerfield	481	25						
Dane	McFarland	75	121						
Dane	Mt. Horeb	0	121						
Dane	Stoughton	11	42						
Dane	West Madison	87	204						
Dodge	Brownsville	4	55						
Fond du Lac	Campbellsport	—	—						
Fond du Lac	Malone	3	53						
Fond du Lac	Rosendale	0	0						
Grant	Sinsinawa	39	22						
Green	Brodhead	54	58						
Iowa	Mineral Point	111	163						
Jackson	Hixton	—	—						
Kenosha	Burlington	50	82						
Marathon	Edgar	57	63	0					
Marinette	Niagara	—	—						
Marquette	Montello	151	21	0					
Ozaukee	Mequon	—	—						
Pierce	Beldenville	486	182	0					
Pierce	Spring Valley	—	—						
Polk	Turtle Lake	0	72	0					
Racine	Raymond	108	69						
Racine	Rochester	*800	*163						
Richland	Hillpoint	600	143	0					
Sheboygan	Plymouth	140	86						
Walworth	East Troy	—	—						
Walworth	Elkhorn	—	—						
Waukesha	New Berlin	—	6						

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller EASTERN; ⁵Obliquebanded leafroller WESTERN; ⁶Apple maggot red ball; *Counts represent a two-week total, from March 28-April 11.

COUNTY	SITE	ECB ¹	TA ²	BCW ³	SCW ⁴	DCW ⁵	CE ⁶	CEL ⁷	WBC ⁸	FORL ⁹	VCW ¹⁰
Chippewa	Chippewa Falls										
Columbia	Arlington										
Grant	Lancaster										
Manitowoc	Manitowoc										
Marathon	Wausau										
Monroe	Sparta										
Rock	Janesville	0	7	0	0	0	0	0	0	0	0
Walworth	East Troy	0	3	0	0	0	0	0	0	0	0
Wood	Marshfield										
Vernon	Coon Valley										

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