Volume 59 No. 04 May 22, 2014

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

Mostly sunny skies, light winds and seasonable temperatures improved conditions for crop planting and emergence. An early-week storm system produced periods of scattered showers and thunderstorms, but the weather was otherwise dry. Daytime high temperatures climbed to the 70s and upper-80s, while nightly lows ranged from the 40s to lower 60s. Planting, tillage and other fieldwork resumed in full as farmers capitalized on the favorably dry conditions and a substantial percentage of the state's corn, pea and oat crops were sown. Soybean planting accelerated across the southern and central counties, and began in the north, where planting delays are especially pronounced this spring. Insect activity also increased in response to the warming trend, with alfalfa weevil larvae, codling moths, striped cucumber beetles and several other crop pests making their first appearance during the week.

LOOKING AHEAD

BLACK CUTWORM: The annual migration continued this week with the capture of another 162 moths in 34 traps. An initial corn cutting date of May 29 is anticipated for southern Wisconsin based on degree day accumulations (base 50°F) since the first significant moth flight occurred three weeks ago. Larvae resulting from the migration are expected to begin cutting corn seedlings by June 2 in the central counties and by June 6 and in the east-central and northern counties.

ALFALFA WEEVIL: Adults have become increasingly common and spring egg deposition is intensifying. Surveys to determine larval populations and assess defoliation levels should begin no later than May 27.

EUROPEAN CORN BORER: Most overwintered larvae are still in the pupal stage, but a few early spring moths could emerge before the end of the month in locations such as Beloit and Platteville where the 374 degree days (modified base 50°F) required for corn borer flight to begin are likely to be surpassed over the weekend of May 24-25. Black light trappers are advised to carefully examine trap contents during the next two weeks for early moths.

PLUM CURCULIO: Beetle activity has increased with the warmer weather. Apple growers should begin checking early-blooming cultivars and orchard perimeter trees for oviposition scars and feeding injury caused by this pest. Signs of infestation usually become evident in the first 10-14 days after petal fall.

CODLING MOTH: Emergence began this week in apple orchards in Green and Racine counties. Moth counts were very low and the "biofix", or first sustained male

moth capture, was not established. Codling moth flight occurs consistently between 5:00 and 10:00 pm in Wisconsin, and winds must be below three mph and temperatures above 62°F during these hours for mating to occur. Since evening temperatures will be conducive for moth activity early next week, daily monitoring is suggested for southern and central orchard locations until the biofix is documented.

Codling moth Shane Farrell ukmoths.org.uk

FORAGES & GRAINS

ALFALFA WEEVIL: Larvae were collected for the first time this season on May 19 in Richland County. Surveys conducted in the south-central and southwest areas found low counts of 1-3 per 100 sweeps in less than 10% of fields checked. Regular sampling for larvae and leaf tip feeding should begin at 300 degree days (sine base 48°F), or by May 23 near Madison, May 27 near Hancock and May 29 near Eau Claire.

POTATO LEAFHOPPER: The first distinct migration occurred last week and leafhopper adults are now distributed in low numbers across southern Wisconsin. Migrants were collected from 11 of 39 (28%) alfalfa fields sampled this week, as far north as Westby in Vernon County. This insect customarily appears in Wisconsin as the first alfalfa crop is harvested and under favorable conditions can rapidly increase to damaging levels in the second crop.

TARNISHED PLANT BUG: Adults are more numerous than last week, but counts in alfalfa remain low. Surveyed fields in Dane, Green, La Crosse, Richland, Rock and Vernon counties contained an average of nine per 100 sweeps compared to five per 100 sweeps last week. The economic threshold for plant bugs in alfalfa is extremely high at five per sweep (or 500 per 100 sweeps) and is seldom exceeded until July or August.

PEA APHID: Alfalfa sampled this week contained counts of 1-225 aphids per 100 sweeps. Reproduction has not yet started.

DEGREE DAYS JANUARY 1 - MAY 21

LOCATION	50°F	2013	NORM	48°F	40°F
Dubuque, IA	331	357	433	326	586
Lone Rock	287	332	—	285	536
Beloit	352	406	441	346	622
Sullivan	220	346	388	217	437
Madison	280	328	413	280	529
Juneau	230	298	—	230	449
Racine	210	268	—	221	442
Waukesha	220	292	—	217	437
Milwaukee	204	257	326	209	422
Hartford	220	272	—	217	437
Appleton	174	253		172	374
Green Bay	147	218	324	154	346
Big Flats	234	275	—	222	408
Hancock	234	277	402	222	408
Port Edwards	205	261	391	193	371
La Crosse	260	292	460	253	489
Eau Claire	200	257	400	198	394
Cumberland	144	216	343	137	283
Bayfield	73	108	—	67	150
Wausau	147	238	338	140	293
Medford	138	235	298	134	279
Crivitz	126	193	—	125	270
Crandon	111	217	273	104	217

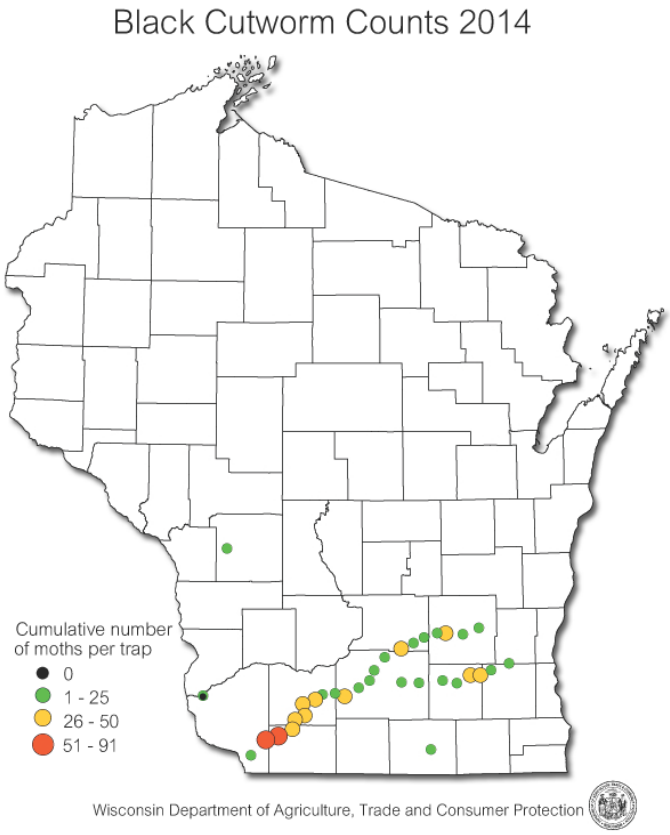
Method: ModifiedB50; SineB48; ModifiedB40 as of Jan 1, 2014. NORMALS based on 30-year average daily temps, 1981-2010.

CORN

EUROPEAN CORN BORER: Emergence of the first spring moths may start next week in advanced southern locations. Most overwintered larvae are in the pupal stage, which requires 10 days to complete at average daily temperatures of 65°F. Degree day accumulations near Beloit and Platteville, currently the warmest locations in the state, are expected to surpass the 374 units (modified base 50°F) required for moth emergence by May 25. Forecasted nightly temperatures above 60°F for much

of southern and central WI early next week should be appropriate for moth activity.

BLACK CUTWORM: Significant flights were again registered at monitoring sites in the southwestern counties. Another 162 migrants arrived from May 15-21, for a cumulative total of 813 moths in 34 traps since mid-April. The comparatively large number of moths collected during the migration suggests that certain fields are at high risk of black cutworm damage this season. Included in this category are poorly drained and low-lying fields, those next to areas of natural vegetation, and fields that are weedy or with reduced tillage. The start of the primary damage period has been predicted for May 29 in Rock and Grant counties, May 31 in Dane County and June 2 in Portage County, and June 6 in Brown County. Crop consultants and growers are advised to begin inspecting corn (including Bt hybrids) for evidence of this pest next week. Pinholes in the leaves are an early indicator of potential cutting.



SOYBEANS

BEAN LEAF BEETLE: Overwintered beetles have been found in only two of 129 alfalfa fields sampled this month. The first appearance of this insect was noted on May 21 in Vernon County. The very low number of beetles collected thus far suggests only a minor risk of early soybean defoliation next month.

Bean leaf beetle *Steve Scott bugguide.net*

SOYBEAN APHID: Egg hatch on buckthorn began by late April and the first soybean aphids of the growing season could begin to colonize Wisconsin soybeans by the first or second week of June. Documented first detection dates for the soybean aphid in Wisconsin range from May 24 in 2007 to June 9 in 2009.

FRUITS

REDBANDED LEAFROLLER: Larval emergence is expected to begin soon in locations where 228 degree days (base 50°F) have accumulated, including much of southern Wisconsin. The first RBLR caterpillars generally appear around petal fall, which is when scouting should commence. Controls applied at petal fall for other target pests usually provide satisfactory control of RBLR.

THRIPS: A Fond du Lac County apple grower has reported a recurrence of this insect in orchard blocks where problems were noted in past years. As was the case last season, the heaviest populations of 2-4 thrips per cluster are concentrated in perimeter trees adjacent to wooded areas. A count of three or more thrips per fruit bud is considered an economic population and can cause abnormal leaf formation, leaf tatter, flower injury and reduced fruit set.

SPOTTTED TENTIFORM LEAFMINER: Spring moths have been active for four or more weeks, and peak emergence

has now occurred at most-southern and central orchard locations. The optimal sample period for first generation sapfeeder larvae is 10-14 days after a peak capture is registered. Pheromone trap counts for the period of May 15-21 ranged widely from 0-1,215 moths, with the high reported from Montello in Marquette County. Other monitoring sites reported fewer than 431 moths, indicating the flight has peaked and populations are transitioning into the larval stages.

OBLIQUEBANDED LEAFROLLER: Larvae have resumed activity after overwintering under the bark of scaffold limbs and twigs. The ¼-inch, yellowish-green caterpillars with black head capsules are expected to feed for 2-3 weeks before pupating within leaf tubes. Pheromone traps should be placed at petal fall to detect the first OBLR moths of the season.

Obliquebanded leafroller moth *Ilona L. bugguide.net*

CODLING MOTH: The first sustained capture of moths, referred to as the "biofix", is anticipated in the next two weeks in southern and central orchards. The codling moth flight begins in Wisconsin from 201-340 degree days (base 50°F). According to the 50°F column in the degree day table on Page 19, the upper range of this threshold has been surpassed near Beloit in Rock County. Daily monitoring is recommended over the next two weeks to establish the biofix.

TARNISHED PLANT BUG: Nymphs are likely to appear by early June. 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.

VEGETABLES

IMPORTED CABBAGEWORM: Adults are emerging in greater numbers than in previous weeks and depositing eggs on cruciferous weeds and available early-planted cole crops. Close examination of transplants for eggs and small larvae is critical during the oviposition period. Infestation levels in cabbage should not exceed 30% at the transplant to cupping development stages.

ONION MAGGOT: As degree day accumulation approaches 680 units (simple base 40°F) in southern Wisconsin, peak emergence and egg laying by first generation flies should be anticipated. Damage by this pest can be avoided by planting onion sets one week before fly emergence is predicted. The accumulation using a simple base temperature of 40°F was 622 near Beloit, 539 at Madison, 489 near La Crosse and 408 in Hancock as of May 21.

COLORADO POTATO BEETLE: Overwintered adults are emerging from hibernation and dispersing to plants near field edges. The early colonizing population is rarely damaging to young potatoes protected with a systemic neonicotinoid, but beetle abundance should be monitored to ensure effectiveness of insecticide products. Egg deposition is likely to begin by early June and continue for 2-4 weeks. The orange-yellow eggs are deposited in clusters of 15-30 on the undersides of leaves.

Colorado potato beetle *www.toronto-wildlife.com*

SEEDCORN MAGGOT: Damage to susceptible vegetable crops such as beans, corn and cucurbits remains a definite possibility. Recent cool, wet weather has prolonged the adult emergence period and delayed seed germina-

tion, creating favorable conditions for maggot infestation. Seedcorn maggots burrow into seeds and prevent germination. Slow seedling emergence and poor stand establishment are early signs of maggot activity.

Seedcorn maggot larva www.extension.entm.purdue.edu

NURSERY & FOREST

APHIDS: Light to moderate colonies of aphids were noted on basil 'Pesto Perpetuo', English lavender, French tarragon, sedum 'Autumn Fire' and zinnia at retailers in southeastern Wisconsin. These insects can directly damage their plant hosts when densities are high, but in most instances aphids are an aesthetic problem. Of larger concern is the secondary growth of sooty mold which results from their honeydew production. Aphid populations should be monitored closely and chemically treated with an insecticide registered for aphid control in nurseries and greenhouses if necessary. Insecticidal soaps and horticultural oils kill by contact, so thorough coverage is required.

IRIS BORER: This serious pest of irises in Wisconsin was found on iris 'Avalon Sunset' during recent greenhouse inspections. The pinkish-white larvae emerge at this time of year and bore into iris leaves, causing water-soaked spots. Larval feeding continues downward through the leaves and into the below-ground rhizomes during the summer months until pupation occurs in the soil. Adult iris borers appear in late August and early September.

Control consists of manually removing and destroying the larvae or using an insecticide product containing permethrin, cyfluthrin bifenthrin, spinosad or imidacloprid. Treatments must be applied when new iris shoots are four to six inches long, before the larvae tunnel deep into plants. A second application is usually required 10-14 days later. Good fall sanitation including the removal of old plant debris is also recommended to reduce overwintering sites.

Iris borer larva dlang labs.russell.wisc.edu

IMPORTED WILLOW LEAF BEETLE: The larvae of this willow and poplar defoliator, which feed gregariously in rows and skeletonize leaves, should be visible by early June. Leaf injury caused by the willow leaf beetle is primarily an aesthetic problem and has little adverse effect on trees. In rare, high population situations, horticultural oils, *Bacillus thuringiensis* var. *tenebrionis*, or insecticidal soaps can be used against the early larval stages. Two generations occur annually in Wisconsin.

Imported willow leaf beetles www.toronto-wildlife.com

ROSE MOSAIC VIRUS: Rose bushes infected with rose mosaic virus (RMV) were found last week in Price County on stock originating from Tennessee. This virus disease,

caused by a complex of prunus necrotic ringspot virus and apple mosaic virus, may not necessarily kill plants, but infected roses can exhibit small, distorted flowers, poor flower production, early autumnal leaf drop, and reduced vigor and hardiness.

Symptoms include yellow or orange zigzag banding on the foliage that is usually most pronounced during periods of cool weather, similar to those experienced this spring. The chlorosis caused by RMV is unlike nutrient deficiency and can be a diagnostic feature.

Rose mosaic virus is believed to be spread through the use of infected root stock, cuttings and scionwood, or possibly through rare natural root grafts. It is generally considered to be non-contagious in the field. Infected plants should be destroyed as there is no cure.

Rose mosaic virus symptoms *Tim Allen DATCP*

COLD DAMAGE: Perennials and annuals continue to show the effects of exposure to low temperatures this spring. Symptoms such as water-soaked lesions, leaf mottling and chlorosis, and stunted growth have been reported from Oconto, Ozaukee, Price, Sheboygan, Washington and Waukesha counties, although the problem is common statewide. A wide variety of plants have been affected to some degree, including daylily 'Red Volunteer' and 'Corryton Pink', delphinium 'Belladonna', 'Black Knight', 'Blue Jay', 'Casa Blanca', 'Galahad', 'Guinevere', and 'Magic Fountains'. Aster, coreopsis, hibiscus, hosta, mandevilla, petunia, sedum, vinca and various tomatoes and peppers have also been injured. Much of the damage observed could have been prevented by keeping susceptible plants indoors until the threat of frost has passed.

PINE NEEDLE SCALE: Emergence of first generation crawlers has begun across portions of southern and central Wisconsin, where lilacs are in full bloom. Controls applied against this mobile stage shortly after egg hatch are most effective. The proper timing of insecticidal treatments should be determined by monitoring infested pines for newly emerged crawlers.

Pine needle scale *arbortech.biz*

GYPSY MOTH TREATMENT: Aerial spraying for gypsy moth caterpillars started on May 22 in Green and Rock counties. Two blocks in Green County, totaling approx.-imately 605 acres, and a single 29-acre block in Rock County were treated with *Bacillus thuringiensis* var. *kurstaki*, a biological insecticide acceptable for use in certified organic food production and handling. Applications will continue on May 23 in La Crosse and Lafayette counties, and resume following the Memorial Day holiday. Additional spray program updates, including information on treatment locations and progress, are available at gypsymoth.wi.gov.

APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 15 - 21

COUNTY	SITE	STLM[1]	RBLR[2]	CM[3]	OBLR[4]	AM RED[5]	YELLOW[6]
Bayfield	Keystone	0	0				
Bayfield	Orienta						
Brown	Oneida	250	17				
Columbia	Rio						
Crawford	Gays Mills						
Dane	Deerfield	266	0				
Dane	McFarland	55	44	0			
Dane	Mt. Horeb	33	30				
Dane	Stoughton	16	33				
Fond du Lac	Campbellsport	113	18	0			
Fond du Lac	Malone	5	8	0			
Fond du Lac	Rosendale						
Grant	Sinsinawa						
Green	Brodhead	4	8	1			
Iowa	Mineral Point	40	20				
Jackson	Hixton	80	7	0			
Kenosha	Burlington	83	61				
Marathon	Edgar	431	74				
Marinette	Niagara	21	5				
Marquette	Montello	1,215	9	0			
Ozaukee	Mequon						
Pierce	Beldenville	119	22	0			
Pierce	Spring Valley	0	25				
Racine	Raymond	15	4				
Racine	Rochester	210	33	1			
Richland	Hillpoint						
Sheboygan	Plymouth	135	40				
Walworth	East Troy	14	25	0			
Walworth	Elkhorn	13	2				
Waukesha	New Berlin	84	77				

[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	0	0	0	0	0	0	0	0	0	0
Columbia	Arlington	—	—	—	—	—	—	—	—	—	—
Crawford	Prairie du Chien	0	1	0	0	0	3	1	4	0	0
Dane	Mazomanie	0	0	0	0	0	1	0	5	0	0
Fond du Lac	Ripon	0	0	0	0	0	0	0	9	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Portage	Plover	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	2	0	0	0	2	0	2	0	0
Vernon	Coon Valley	—	—	—	—	—	—	—	—	—	—
Walworth	East Troy	1	0	0	0	0	0	0	6	0	0
Wood	Marshfield	2	0	0	0	0	1	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.