

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

Cold, rainy weather persisted most of the week, and an untimely spring snowstorm on April 28 interrupted plans for field work. After the first warm days with temperatures above 60°F occurred on April 30, farmers promptly took to their fields to begin planting corn, oats, peas, and potatoes. Most fields are still very wet and many have low areas with standing water. The season continues to fall behind last year and is now six to 14 days delayed. As of May 1, the degree day accumulation at Madison was 131 using a base of 50°F. The same number of heat units was surpassed by April 22 in 2007. Cool conditions have lowered the activity of most insects, while others were unaffected. Some aphids, for instance, increase rapidly under such conditions because they are more active than their parasites.

LOOKING AHEAD

GYPSY MOTH: Egg masses have begun to hatch in southern Wisconsin. Field observers documented the first emergence of larvae in Dane County on April 30. Gypsy moth egg hatch occurs as saucer cup magnolia petals begin to fall and serviceberries are in bloom. The first of two *Bacillus thuringiensis* (Bt) treatments will be applied when 20% of larvae have reached the second instar stage, an event projected to begin by May 16-17.

POTATO LEAFHOPPER: The first potato leafhopper of the season was detected in alfalfa in Richland County on April 30, which is an unusually early arrival date for this migratory pest. It is probable that this individual was directed into the state on air currents originating in the southern U.S. on April 24-25. More early adults could appear in scattered alfalfa fields next week if southerly winds prevail over the weekend, although the major influx is not likely to occur for another two or three weeks. Arrival of migrant leafhoppers in Wisconsin was first noted on May 9 last season.

CODLING MOTH: Pheromone traps should be in place to capture the first spring moths, expected after 200 degree days (base 50°F) have been reached. Before codling moths emerge, the close look-alike *Proteoteras aesculana* may appear in traps. This very similar species takes flight about one week in advance of the codling moth, but is visibly smaller, lacks bronze scales at the tips of the forewings, and has tiny black bumps on the wings. Accurate identification is imperative since thresholds and control treatments are based on the capture of five codling moths per trap per week.

EASTERN TENT CATERPILLAR: Larvae had emerged from egg cases and were feeding on opening crabapple buds on April 24 near DeForest in Dane County. By April 28-29, tents measured 2½-3 inches across in Sauk County

and about 4-5 inches across in Rock County. Larger, more conspicuous tents should be expected in the week ahead. Currently larvae are in the first and second instars in the south central and southwest counties.

Trees most affected are chokecherry, ornamental crab-apples and unsprayed apple trees. Control of this pest is best achieved while larvae and tents are still small.



Eastern tent caterpillars and webbing

Krista Hamilton DATCP

FORAGES

ALFALFA WEEVIL: Sampling in the south central and southwest districts detected very low numbers of adults, two per 50 sweeps or lower in Columbia, Richland, Rock, and Sauk counties. Based on current degree day accumulations above base 48°F, 124 degree days remain before overwintered eggs hatch and larval surveys should be initiated in the Janesville area. The first appearance of larvae is expected in southern fields by May 12, which is seven days later than the date projected in last week's bulletin.

CLOVER LEAF WEEVIL: The first clover leaf weevil larva was found in Richland County alfalfa in the past week. This insect is easily mistaken for the alfalfa weevil due to the close similarity between the young larvae. The clover leaf weevil larva is pale green with a brown head capsule, and is noticeably larger early on. Do not include counts of this insect when scouting for alfalfa weevil larvae in the coming weeks.

PEA APHID: Eggs hatched in Richland, Rock, and Sauk counties by April 30, and adult counts of 1-2 per 50 sweeps were noted in alfalfa fields. Although populations of this insect are developmentally behind last year,

DEGREE DAYS MARCH 1 - MAY 1

LOCATION	50°F	2007	DATE*	48°F	40°F
Dubuque, IA	141	265	04/20	147	356
Lone Rock	132	149	04/20	130	325
Beloit	173	242	04/22	176	395
Madison	131	217	04/22	131	315
Sullivan	161	207	04/25	160	369
Juneau	142	201	04/23	142	335
Waukesha	133	204	04/22	133	329
Hartford	125	199	04/22	126	314
Racine	106	191	04/20	108	295
Milwaukee	102	187	04/20	106	286
Appleton	105	185	04/22	103	262
Green Bay	85	158	04/22	85	240
Big Flats	120	216	04/20	111	270
Hancock	122	206	04/20	115	274
Port Edwards	114	208	04/20	105	249
La Crosse	119	258	04/17	115	294
Eau Claire	104	221	04/20	96	244
Cumberland	90	199	04/20	80	216
Bayfield	42	122	04/20	33	135
Wausau	98	179	04/21	90	219
Medford	84	175	04/20	75	198
Crivitz	80	138	04/22	115	219
Crandon	76	149	04/22	103	176

*Method: ModifiedB50; Sine48; ModifiedB40 as of March 1, 2008.
DATE: date current degrees days 50°F were surpassed in 2007.

cool weather conditions such as those occurring in the last week usually favor the development of pea aphids over its parasites. This factor, in combination with increased hatch of overwintered eggs, should result in higher populations by next week.

TARNISHED PLANT BUG: Adults are becoming increasingly more common in alfalfa fields, with individuals found at the rate of 1-4 per 50 sweeps in 13 of 20 fields sampled. Aside from indicating the general level of plant bug activity at this early stage in the season, these numbers are inconsequential for now. Once nymphs begin to appear later this month, populations should not exceed five adults or nymphs per sweep.

WINTER INJURY: Alfalfa acreage appears to have survived the winter reasonably well. The exceptions occurred in southern Grant and Lafayette counties where 75-100% loss was reported in some fields. An

occasional field showing low to moderate winterkill was noted in Columbia, Dane, Dodge, Green, Rock, Walworth, and Vernon counties, but these were insignificant in comparison to the injury reported in the far southwest. Older fields with sparse growth were not necessarily the most affected. A late fall harvest, uneven snow cover across fields, and ice sheeting were the probable causes of damage.



Alfalfa winterkill Rock County

Krista Hamilton DATCP

CORN

BLACK CUTWORM: Few degree days have accumulated since the first concentrated captures of 8-9 moths in two nights were registered in Iowa, Lafayette, and Rock counties late last week. At current temperatures, the cutting period is forecast to begin by May 21 in the south central counties and May 30 in the southwest counties. These dates reflect the start of the interval when corn is susceptible to cutting by 4th-instar black cutworm larvae, and are subject to change as temperatures increase in the month ahead.

Unfortunately, there are no reliable survey procedures upon which to base an objective damage prediction for black cutworm. Fields with grassy weed infestations and those affected by spring flooding should be watched for developing problems. Early detection and control is advised because later treatments are not very effective and herbicides may force larvae onto corn plants. Pheromone trap counts for the April 25-May 1 reporting period ranged from 0-3 moths.

WIREWORM: Adults were noted in numbers of about 2-7 per 50 sweeps in scattered alfalfa fields. Acres of sod

planted to corn this spring are at an increased risk for damage. Problems caused by these insects should become evident in a few weeks as corn emerges from the soil.

ARMYWORM: Captures of moths in black light traps have been extremely light so far. The earliest moths were reported in the black light trap at Janesville on the evenings of April 17-23, which was about the same time as the previous year. The principal factor influencing true armyworm counts in early spring is the frequency of southerly wind events that blow migrants into the state.

SOYBEANS

SOYBEAN APHID: On the basis of suction trap counts registered last fall, lower populations of soybean aphids are predicted for this summer. A network of seven traps in Wisconsin and 35 others distributed in the north central states documented the lightest fall migration of aphids on record in 2007. Wisconsin suction traps captured a total of just 11 soybean aphids, in comparison to 213 aphids in 2006. Outbreaks of soybean aphids appear to alternate ever other year, a pattern researchers attribute to late fall predation by ladybeetles in heavy aphid seasons. If this pattern continues, populations are not likely to reach outbreak levels this summer.

BEAN LEAF BEETLE: Survival of overwintered bean leaf beetles is forecast to be low due to extreme cold winter temperatures over most of the state. Winter survival estimates range from 40-48% in the southern counties to 31% in the northern counties. Less than half (42%) of the bean leaf beetles that entered the 2007-08 winter are expected to emerge this spring. The annual distribution and abundance survey scheduled to begin next week should substantiate these predictions.

SMALL GRAINS

ASTER LEAFHOPPER: Surveys for migrant leafhoppers in winter grains have been negative. These insects, much like potato leafhoppers and English grain aphids, arrive following the persistent southerly flow of warm air from the Gulf States. Aster leafhoppers are of primary interest to carrot, celery and lettuce growers for their role as vectors of aster yellows. The annual migration of leafhoppers into Wisconsin is monitored by University of

Wisconsin entomologists used to estimate infectivity rates and potential damage to crops.

ENGLISH GRAIN APHID: Winged migrants were detected in winter wheat in Rock County by April 29. Populations currently are very low in grain fields, with two per 50 sweeps being the maximum in the south central and southwest counties.



English grain aphid

Krista Hamilton DATCP

WEEDS

GIANT RAGWEED: Seedlings have started to emerge in the southwest and south central counties. This plant can grow up to thirteen feet tall and is often seen towering above the corn canopy by late summer. Giant ragweed is one of the most competitive and troublesome weeds in Wisconsin row crops, and due to its long germination period, timing effective control treatments can be difficult.



Giant ragweed seedling

Clarissa Hammond DATCP

COMMON RAGWEED: This smaller, less competitive variety of ragweed has begun to emerge in the south central and southeast districts. Common ragweed is an annual plant that flowers from July to September, and may produce thousands of seeds if left unmanaged.

YELLOW ROCKET: Surveys in Dodge County found plants in the early stages of flowering on April 30. This common perennial reproduces by seed, which means spread is best prevented by treating fields in the next week or two before plants go to seed.

DANDELION: Flowering plants were noted in Rock, Walworth, Dane and Dodge County fields by April 28-29, and the rosettes that had not yet flowered showed buds beginning to emerge. These observations signal that multitudes of the unmistakable yellow flowers will appear in fields, lawns, and over landscapes in the coming week.



Common dandelion

Clarissa Hammond DATCP

WILD PARSNIP: This harmful and invasive weed is appearing along roadsides in southern Wisconsin. Wild parsnip leaves contain a phototoxic substance called psoralen that makes skin sensitive to ultraviolet light and causes severe blistering.

SPREADING WEEDS: Several instances of unintentional spread of weeds by field equipment were noted during the past week. In most cases, seed dissemination probably occurred during harvest, although early season field work is also a common mode of introduction. The spread of weed seeds by equipment is of particular importance this spring since planting and cultivation have been delayed by uncooperative weather and surplus soil moisture. Bear in mind that seeds are easily transported

and spread between fields in the mud adhering to tires, particularly when moving from a no-till field where seeds collect on top of the soil. Cleaning field equipment between fields can help prevent new introductions and spread of existing species.

As evidence of weeds spread during harvest, in one field the edge rows showed dense growth of common lambsquarters, suggesting that combines had spread mature lambsquarters seed in rows at the end of the season. In another field, evenly spaced rows of quackgrass extending the length of the field indicated that harvesting debris contained quackgrass seeds or rhizomes, possibly thrown from a combine. In a third field, rows of quackgrass the width of tire tracks were noted. Quackgrass naturally spreads in a circular direction, not in a straight line as observed in these situations.



Weeds spread at harvest

Clarissa Hammond DATCP

CURRENT EMERGING WEEDS: In comparison to average first emergence dates documented at the Arlington research station weed garden, most weed species are emerging at the latter end of projected emergence intervals this spring. Phenological development of plants and insects is about one week later than last year. In the week ahead (May 2-9), the weeds expected to emerge are eastern black nightshade, common mallow, ladythumb smartweed, and giant foxtail. The following species were observed from April 26-May 1: Canada thistle (3"-4"), common lambsquarters (1"), common ragweed (<1"), curly dock (6"), dandelion (6"), giant ragweed (1"), pineapple weed (4" - 6"), velvetleaf (1/2" - 1"), wild mustard (1"), wild parsnip (14"-16"), and yellow rocket (12"-14").



Yellow rocket

Clarissa Hammond DATCP

FRUITS

SPOTTED TENTIFORM LEAFMINER: The first of three flights expected this season is progressing slowly, with numbers varying from 0-413 moths in the last week. Peak first flight activity and high trap counts should correspond with the passing of 150 degree days (base 50°F) around the early pink stage. This event may occur over the weekend near Beloit and Sullivan where 150 degree days were surpassed on April 30. Last season peak moth counts were first noted during the week of April 19-26 near Galesville in Trempealeau County. In this period of heightened flight activity, pheromone traps may fill up with hundreds or thousands of moths in one night and trap liners should be replaced as often as needed.

REDBANDED LEAFROLLER: Moths began appearing in southern pheromone traps by April 20, about one week later than last year. Generally egg hatch begins 10-12 days after the first moths are captured and the first larvae emerge between 167-228 degree days (base 50°F). Sprays applied at petal fall for other insects usually provide adequate control against the larval stages of this pest. Trap catches for the reporting period of April 25-May 1 ranged from 0-76 moths.

LIGHT BROWN APPLE MOTH: Traps and pheromone lures for this exotic species, *Epiphyas postvittana*, and the fruit tree tortrix, *Archips podana*, have been distributed to the DATCP network of 36 apple orchards. The traps should be placed by May 8 and checked on a weekly basis through September 4. Surveillance efforts

in Wisconsin orchards this season are part of a larger state-federal exotic pest detection program. To date, light brown apple moth has been found in 10 California counties and fruit tree tortrix moth is known to occur in one county in Washington State. Both of these invasive pests attack a very wide range of fruit trees and ornamental plants. Quarantines are in place to prevent populations from spreading to uninfested areas.

VEGETABLES

FLEA BEETLES: Surveys this week found an assortment of flea beetles in alfalfa and along field edges. Growers of early planted vegetable crops such as spinach and leafy greens should take measures soon to prevent feeding injury later this month. Planting a trap crop (1% of total acreage) 7-14 days in advance of the primary crop to lure beetles away from the main crop is one approach. It is important to prevent this insect from feeding on newly emerged plants, for this is when the most severe damage can occur.

SEED CORN MAGGOT: Emergence of adults from the soil began in southern counties by the week of April 20, following the accumulation of 200 degree days (base 39°F). This suggests some amount of egg laying has occurred in the last two weeks. Seedcorn maggot problems arise in years when plant emergence is delayed by cold, wet weather, allowing maggots to feed on germinating seeds and roots for a longer period of time. Conditions this spring are favorable for infestation by this insect, and corn, beans, soybeans, and peas should be closely watched for possible damage.

NURSERY & LANDSCAPE

ROSE MOSAIC VIRUS: The rose cultivars 'Fragrant Cloud', 'Mirandy', 'Climbing Piñata', 'Gypsy', 'Sun Flare' and 'Medallion' were infected with rose mosaic virus at nursery dealer locations in Brown and Iowa counties. Symptom expression varies by cultivar, and may include yellow banding or netting, unequal leaf margins, leaf distortion, poor winter hardiness, reduced flower production, reduced plant size, and reduced vigor. All forms of rose mosaic virus are transmitted by vegetative propagation and a few are transmitted by nematodes. Severely diseased plants should be removed and destroyed.



Rose mosaic virus

Anette Phibbs DATCP

EASTERN SPRUCE GALL ADELGID: Nymphs were feeding on the new needles of Colorado blue spruce in Juneau County on April 30. This insect produces the distinctive pineapple-shaped galls that form at the base of the new shoots in spring. Galls develop when the needles are injured by adelgid feeding and begin to swell. Nymphs move into the swollen needle bases to feed and continue gall formation. Eventually the gall dries, turns brown, and splits open, and the mature nymph inside emerges, usually between mid-August and October. Horticultural oil sprays applied prior to gall formation are effective in controlling this pest, but there is no good control measure once galls have started to form. Selecting resistant varieties is the best way to avoid problems with this pest.



Eastern spruce gall adelgid

Dave Hanson Univ. of MN

EASTERN TENT CATERPILLAR: First instar caterpillars were observed on an ornamental crabapple in Juneau County. Removal and destruction of the webs and larvae is the preferred control method.

LEAF SCORCH: Columbine plants in Dane County showed symptoms of this physiological problem, including yellowing or browning of leaf tissue between veins and along leaf margins. The onset of leaf scorch occurs when plants are stressed due to transplanting, soil compaction, nutrient deficiency, chemical injury, drought conditions, poor quality soil, or inadequate space for root growth. Affected plants usually recover if the variable causing stress is resolved.

SEPTORIA LEAF SPOT: Inspectors noted trace amounts of this common fungal leaf spot on Spirea 'Goldmound' in an Iowa County nursery. Diagnostic characteristics are the small leaf spots which first appear on the lower leaves and stems. Preventative measures such as increasing the spacing between plants to promote airflow and faster drying time are the best way to minimize the spread of Septoria leaf spot. Once symptoms appear, control is difficult to achieve.

UW PLANT DISEASE DIAGNOSTIC CLINIC: The UW-Extension/Madison Plant Disease Diagnostic Clinic (PDDC) receives many symptomatic plant samples from around the state. As of May 1, the following diseases or disorders were identified by plant pathologists at the PDDC: *Lirula* needle blight (*Lirula sp.*) on spruce from St. Croix County; *Rhizosphaera* needle cast (*Rhizosphaera kalkhoffii*) on spruce from Walworth and Waukesha counties; winter burn on spruce from St. Croix and Walworth counties; *Macrophoma* needle blight (*Macrophoma sp.*) on yew from Milwaukee County; hail injury on apple from Outagamie County; *Phomopsis* gall (*Phomopsis sp.*) on hickory from Dane County. For more information on plant diseases and their control, visit the PDDC website at pddc.wisc.edu.

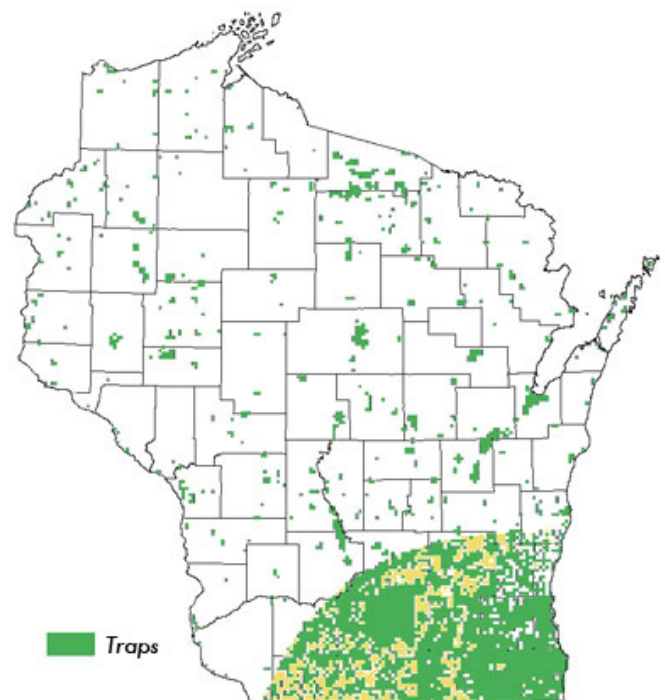
FOREST

EMERALD ASH BORER: Surveys to detect emerald ash borer will continue this spring and summer with the deployment of approximately 3,600 purple, sticky traps in ash trees across the state. The 'purple trap survey' is part of a nationwide effort that includes portions of 46 states and about 60,000 traps. Most traps will be placed in a grid pattern in 19 southern and southeastern counties, including Kenosha, Racine, Walworth, Rock, Green, Lafayette, Grant, Iowa, Dane, Jefferson, Waukesha, Milwaukee, Ozaukee, Washington, Dodge, Columbia, Sauk, Fond du Lac, and Sheboygan. State

researchers formerly used girdled ash trees to detect emerald ash borer in Wisconsin, but scientific studies have demonstrated beetles are attracted to the color purple and the traps offer a less destructive, lower cost option.

The purple traps will be hung from ash trees, out of the reach of pedestrians. Each three-sided trap measures about two feet tall and a foot wide on each side, and is coated with a sticky substance. A Manuka oil lure will also be placed within each trap to attract nearby beetles to the tree. The lure, derived from New Zealand's Manuka tree, is similar to the chemical compounds emitted by declining ash trees. Traps will be inspected after several weeks, with DATCP workers looking for emerald ash borer beetles and replacing the lure. In fall, when the beetles are no longer flying, the traps will be collected and reinspected.

2008 Emerald Ash Borer Purple Trap Survey



Wisconsin Department of Agriculture, Trade and Consumer Protection



APPLE INSECT COUNTS

COUNTY	DATE	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM RED ⁵	AM ⁶
Bayfield	4/24-4/30	Erickson Orchards	0	0				
Bayfield	4/25-5/01	Oriente Orchard						
Bayfield	4/25-5/01	Lobermeier	0	0				
Bayfield	4/25-5/01	Bayfield Apple Co.						
Brown	4/25-5/01	Oneida						
Chippewa	4/25-5/01	Chippewa Falls	3	0.3				
Crawford	4/25-5/01	Turkey Ridge						
Dane	4/25-5/01	Deerfield	413	76				
Dane	4/25-5/01	Stoughton						
Dane	4/25-5/01	West Madison						
Dodge	4/25-5/01	Brownsville	8	14				
Fond du Lac	4/25-5/01	Campbellsport 1	8	40				
Fond du Lac	4/25-5/01	Campbellsport 2	10	50				
Fond du Lac	4/17-5/24	Rosendale	0	0				
Fond du Lac	4/25-5/01	Malone	120	17				
Grant	4/25-5/01	Sinsinawa	48	37				
Green	4/25-5/01	Brodhead	0	8				
Iowa	4/25-5/01	Dodgeville						
Iowa	4/25-5/01	Mineral Point	0	54				
Jackson	4/25-5/01	Hixton						
Kenosha	4/25-5/01	Burlington						
Marquette	4/21-4/28	Montello	117	17				
Marinette	4/25-5/01	Wauzaukee						
Ozaukee	4/24-4/30	Mequon	2	0				
Pierce	4/25-5/02	Beldenville	0	0				
Pierce	4/24-5/01	Spring Valley	0	5				
Racine	4/25-5/01	Rochester	5	25*				
Racine	4/25-5/01	Raymond	27	5				
Richland	4/24-4/30	Hill Point	0	17				
Richland	4/25-5/01	Richland Ctr E						
Richland	4/25-5/01	Richland Ctr W						
Sauk	4/25-5/01	Baraboo						
Sheboygan	4/25-5/01	Plymouth	220	76				
Waukesha	4/25-5/01	New Berlin	160	1				
Walworth	4/24-4/30	East Troy	50	10				
Walworth	4/24-4/30	Elkhorn	15	10				

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Apple maggot red ball; ⁶Apple maggot yellow sticky board; *Unbaited red ball; **Baited red ball; *trap blown down.