

# 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

Rainfall diminished from the previous week and a warming trend began, favoring an acceleration of fieldwork throughout Wisconsin after significant early-season delays. Mild and mostly dry weather afforded growers a larger window for field activities compared to recent weeks, and both spring tillage and planting advanced as rapidly as could be expected. Despite improved temperatures and soil moisture conditions, planting progress for corn, oats, soybeans and vegetable crops remained well behind normal. At the start of the week, only 14% of the state's intended corn acreage had been planted, 11 days behind average and the slowest pace since 2013. Meanwhile, most farmers have yet to begin planting soybeans, with only 4% of this year's acres in the ground. A continuation of warm, dry weather is needed to offset spring planting delays, but the 10-day forecast calls for the opposite.

## LOOKING AHEAD

**BLACK CUTWORM:** Development of black cutworm larvae appears well synchronized with corn emergence this spring, and infestations are anticipated to begin in about two weeks. Based on the black cutworm degree-day model, 119 heat units (modified base 50°F), or about 10 calendar days, remain before larvae in the Beloit area of Rock County Wisconsin reach the damaging fourth-

instar stage. The peak corn-cutting window is now forecast to open by May 25 for south-central and southwestern Wisconsin, two days earlier than last predicted.

**ALFALFA WEEVIL:** Larvae are expected to emerge in advanced alfalfa fields in the week ahead. Regular scouting is advised beginning at 300 degree days (sine base 48°F), or by May 20 in the southern counties. Scouting should start on May 27 in the central counties, where May temperatures have been abnormally low.

**CODLING MOTH:** Apple growers in the DATCP trapping network are reminded to begin daily pheromone trap checks to determine the date of the first sustained capture of moths on consecutive nights, referred to as the biofix. This event is probable next week in parts of southern Wisconsin.

**GYPSY MOTH:** The first aerial treatments of the season are tentatively planned for May 21 in Green and Lafayette counties. Approximately 23,600 acres are scheduled to receive an application of *Bacillus thuringiensis* var. *kurstaki*, or Btk. Aerial spraying is weather-dependent. Conditions such as fog, high winds, rain predicted within four hours, or high humidity can delay spray plans.

**VIBURNUM LEAF BEETLE:** Newly-hatched larvae were collected last week from viburnum in Milwaukee County. Milwaukee is one of six Wisconsin counties in which

viburnum leaf beetle has been detected since 2009, in addition to Kenosha, Ozaukee, Waukesha, Washington and Winnebago. Gardeners, landscapers, nursery stock growers and retailers in southeastern Wisconsin should be on alert for the distinctive skeletonization of viburnum leaves caused by this insect and report sightings to DATCP or the UW Insect Diagnostic Lab.



Viburnum leaf beetle larvae

DATCP Nursery Program

**PLUM CURCULIO:** Degree day accumulations in the warmest southern areas of the state will soon be appropriate for weevil activity. A mean daily temperature of 60°F or more for 3-4 days prompts the spring emergence and migration of overwintered weevils into the orchard perimeter.

**EUROPEAN CORN BORER:** Pupation of carryover larvae from last season is beginning in south-central and southwestern Wisconsin. According to the results of 2018 ECB abundance survey, the fall larval population decreased to 0.01 borer per plant, the lowest state average recorded in 77 years. A very small spring moth flight should be expected next month.

## FORAGES & GRAINS

**ALFALFA WEEVIL:** Adults are appearing in very low numbers in alfalfa. The first small larvae should be detectable in advanced fields by May 20.

**PEA APHID:** Surveys this week found very low counts of 1-35 aphids per 100 sweeps. The average was 17 per 100 sweeps. Pea aphid development is favored by cool, dry weather, with populations increasing most rapidly at temperatures around 65°F. Heavy early-season aphid

## DEGREE DAYS JANUARY 1 - MAY 15

LOCATION	50°F	2018	NORM	40°F
Dubuque, IA	258	346	361	611
Lone Rock	262	303	—	578
Beloit	245	301	371	560
Sullivan	224	248	322	503
Madison	236	282	346	555
Juneau	195	250	—	456
Racine	168	220	—	426
Waukesha	208	226	—	486
Milwaukee	181	226	272	449
Hartford	196	238	—	457
Appleton	160	222	—	406
Green Bay	148	212	265	390
Big Flats	197	258	—	464
Hancock	179	223	334	430
Port Edwards	183	226	325	430
La Crosse	218	306	384	532
Eau Claire	198	269	330	464
Cumberland	142	203	278	341
Bayfield	90	72	—	269
Wausau	134	201	276	328
Medford	129	195	241	317
Crivitz	139	222	—	358
Crandon	124	188	222	310

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

density can cause stunting of the first crop and damage to subsequent cuttings. Pea aphids are also suspected of transmitting certain alfalfa virus diseases.

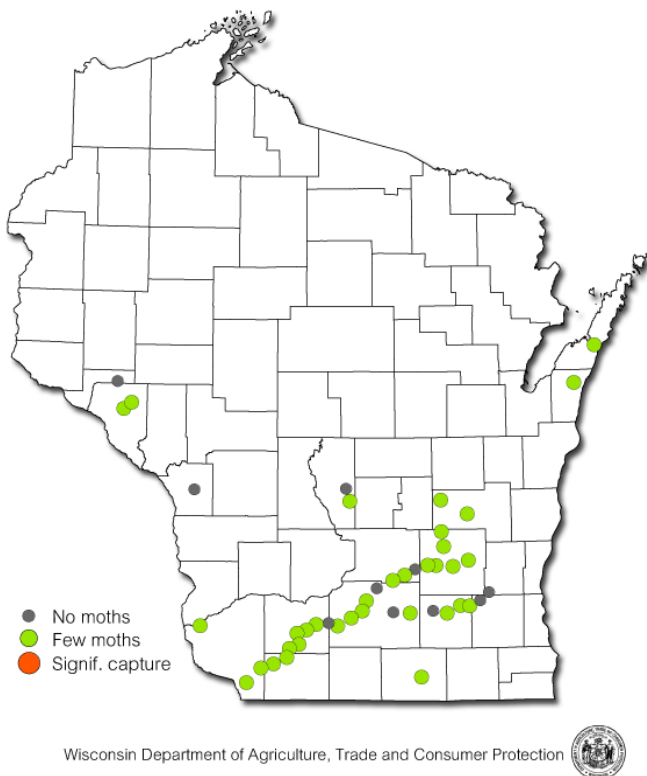
**TARNISHED PLANT BUG:** Alfalfa sampled in Columbia, Dane, Grant, Green, Iowa, Lafayette and Rock counties had low counts of 1-7 per 100 sweeps. Plant bug abundance in the first-crop alfalfa is an indicator of potential high populations in apples, strawberries and other fruits and vegetables.

## CORN

**BLACK CUTWORM:** Larvae produced by migrants that arrived in mid-April should grow large enough to begin cutting emerging corn plants by May 25 in advanced southern and western areas of the state. The cutting period is forecast to open by June 1 in central Wisconsin. A decrease in the number of moths captured in survey traps during the May 9-15 reporting period signals that

the migration has slowed, though weedy field conditions remain highly favorable for egg laying. The spring migration, which started around April 4, has to date yielded a cumulative count of 867 moths in 44 traps. Approximately 1,162 moths in 47 traps had been collected by this time last year. Based on significant planting delays, late weed control, and consistent, moderate moth flights, much of the state's corn acreage is considered to be at high risk of cutworm infestation this spring.

### Black Cutworm Counts May 9-15, 2019



**TRUE ARMYWORM:** Moths have been arriving for at least five weeks and continue to be collected in black light traps. The trap at Janesville in Rock County has reported significant weekly counts as high as 67 moths per trap since April 11. The recent capture of moths as far north as Marshfield confirms that the migration has extended into Central Wisconsin. First-generation armyworm larvae usually become noticeable in alfalfa fields by late May and in corn by early to mid-June. The success of the first generation will lay the foundation for the second generation in July.

**WIREWORM:** Corn planted into fields formerly in grassy alfalfa, pasture or sod is at an increased risk of wireworm damage, which is especially important to consider this spring as winterkilled alfalfa acreage is replaced with

corn. Wireworm larvae feed on the roots of grasses and germinating crop seeds. Symptoms are missing, wilted, or stunted seedlings and young plants. If wireworm damage is suspected, growers or consultants should dig up several ungerminated seeds or damaged plants along with a four to six inch core of surrounding soil to check for wireworms in and around roots, or in the underground portion of stems. Larvae may be extracted from soil by washing. Control options are limited and include disking up the affected portion of the field, treating with a soil insecticide and replanting.

## FRUITS

**PLUM CURCULIO:** Adult emergence and oviposition are forecast to begin in the week ahead. This weevil usually emerges around 250 degree days (base 50°F), and migrates into the orchard perimeter when temperatures consistently exceed 60°F. Central and northern orchards are still 60-120 degree days or about 5-10 calendar days from first emergence of plum curculio.



*Plum curculio weevil*

umaine.edu

**CODLING MOTH:** The spring moth flight is likely to start next week in locations where temperatures at dusk exceed 62°F. Frequent trap monitoring will be required to document the "biofix" or sustained capture of moths. Apple growers in northern Wisconsin can expect to see moths during the last week of May.

**SPOTTED TENTIFORM LEAFMINER:** Moths flights have been underway since mid-April and peak emergence has occurred at some sites. The most targeted scouting window for sapfeeder larvae is two weeks after a peak catch in pheromone traps. Counts during the week

ending May 15 ranged as high as 1,230 moths per trap, with the largest captures reported from Marquette and Marathon counties. These elevated counts (>1,000 moths) signal that the flight has probably peaked near Edgar and Montello.

**OBLIQUEBANDED LEAFROLLER:** Larvae have resumed activity after overwintering under the bark of scaffold limbs and twigs. The yellowish-green caterpillars with black head capsules typically feed for 2-3 weeks before pupating inside rolled leaves. Scouting should begin next week.



*Obliquebanded leafroller larva*

*whatcom.wsu.edu*

**REDBANDED LEAFROLLER:** Larvae are appearing in southern and central orchards where 228 degree days (simple base 45°F) have been surpassed. The cooperator at Hill Point in Sauk County confirmed that small larvae have been observed feeding on new foliage, while slightly larger caterpillars can be found in folded leaves. The first RBLLR caterpillars generally appear around petal fall, which is when scouting should start. RBLLR larvae, in contrast to OBLR larvae, are uniformly yellowish-green and do not have black heads.

**SPRING CATERPILLARS:** Development of resident orchard caterpillars has accelerated with warmer temperatures. Species commonly found on growing terminals and in blossoms at this time of year include the green fruitworm, obliquebanded leafroller (OBLR), redbanded leafroller (RBLLR), spring cankerworm, and variegated leafroller. Bt products such as Agree, Deliver or Dipel may be applied for control only if the weather is sufficiently warm for caterpillar feeding and blossoms are open. Because Bt must be consumed by the larvae to be effective, warm temperatures are required in the three-day post-spray period

to achieve satisfactory mortality. Preferred conditions for Bt applications are when the weather is consistently warm (~60°F) and sunny.

**EUROPEAN RED MITE:** The first hatch of European red mite (ERM) is expected soon. For orchards with past mite problems, scouting previous hotspots for young mites on spur leaves and eggs at the base of fruiting spurs is suggested. Apple trees with early ERM activity should be flagged and resampled in early June to determine if levels are above-threshold and a miticide treatment is warranted.

**ROSY APPLE APHID:** Early colonies should become apparent next week. Rosy apple aphids are cultivar-specific, therefore scouting efforts should focus on blocks or varieties with a history of aphid damage. Do not treat for aphids if trees are in bloom.



*Rosy apple aphids*

*Steve Schoof NCSU*

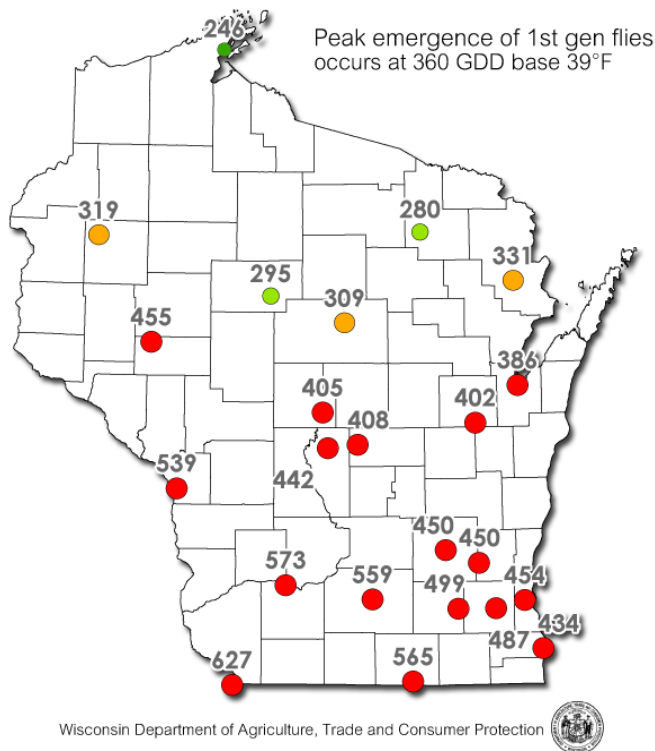
## VEGETABLES

**LATE BLIGHT:** Potato growers are reminded that Wisconsin Administrative Code (ATCP 21.15(2)) requires potato cull piles to be fed, disked in, or otherwise removed by May 20 to prevent late blight from developing on volunteer plants. This disease was significantly less prevalent last season than in 2017. Three counties—Adams, Marquette and Waushara—had confirmed cases in 2018 compared to 13 counties the year before.

**SEEDCORN MAGGOT:** First-generation fly emergence has peaked throughout the southern two-thirds of the state. Emergence should peak next week in areas north of Wausau, where 360 degree days (sine base 39°F) will

be surpassed. A key cultural control for SCM is to plant during “fly-free” pupal stage between generations, around 846 degree days. Beloit should reach the fly-free window by May 26, while flies in the Hancock area should begin pupating by June 2.

### Seedcorn Maggot Degree Days May 15, 2019



**ONION MAGGOT:** Flies of the first and most damaging generation will likely begin emerging next week in southern Wisconsin. Preventive measures, including crop rotation and removal of onion cull piles, are particularly important for minimizing risk of infestation. Granular furrow treatments offer good control, provided the rate is correct and the insecticide is properly applied in the furrow at seeding. Chemical control may be appropriate if maggot damage to the last season’s crop exceeded 5-10%. For home gardeners, rotating this year’s onion plantings as far as possible from last year’s is suggested to reduce the threat of maggot damage.

**WIREWORM:** The cool, wet soils prevalent this spring are favorable for wireworms, subterranean pests with a broad host range that includes beans, beets, cabbage, carrots, corn, lettuce, onion, peas, potatoes, radishes, sorghum, soybeans, as well as herbaceous ornamentals. Wireworm larvae feed on seeds and on the roots of plants, impairing germination and causing plants to wilt.

One indicator of wireworm activity is dead spots scattered throughout a planting. In situations where wireworm feeding is suspected, growers should dig up several un-germinated seeds or wilted plants from affected areas to verify wireworm larvae as the causal pest.



Wireworms

[www.omafra.gov.on.ca](http://www.omafra.gov.on.ca)

## NURSERY & FOREST

**CREEPING JENNY:** This invasive species was recently found by inspectors at two southwestern Wisconsin nursery dealers. Creeping Jenny, or moneywort, is a “restricted” plant under the Chapter NR40 Wisconsin invasive species rule. Restricted plants are defined as already established in the state and have caused or have the potential to cause “significant environmental or economic harm”. The cultivar creeping Jenny ‘Aurea’ and yellow and gold leaf forms are not considered invasive and are exceptions to the rule.



Invasive creeping Jenny

Shanon Hankin DATCP

**BOXWOOD BLIGHT:** This devastating fungal disease was found on “Korean” boxwoods earlier this month in a Dane County nursery. A Pest Abatement Order directing the removal and destruction of all boxwood plants of the same variety and from the same source was issued in response. This is the first Dane County interception of boxwood blight. The disease was previously found in a Kenosha County nursery last August.

Symptoms of boxwood blight are similar to other common boxwood diseases of such as *Volutella* blight, making laboratory diagnosis imperative. The brown spots that initially appear on the leaves eventually coalesce and lead to defoliation, while infected stems develop dark lesions. White fungal spores can also be seen without magnification on the undersides of infected leaves and on stem lesions. Spores may remain viable for six years on plant debris and in the soil.



*Boxwood blight lesions*

*Reba Gruber DATCP*

Movement of infected nursery stock, tools and equipment is the primary pathway by which the disease spreads. Purchasing boxwoods from clean sources that have been inspected or tested for boxwood blight is strongly advised. Newly-purchased plants or cuttings should be isolated and kept under observation for a minimum of four weeks. During this period, fungicides should not be used. If boxwood blight is suspected, contacting your county Extension office is recommended. Additional information is available on the DATCP Boxwood Blight page.

**VIBURNUM LEAF BEETLE:** Larvae of this relatively new pest to Wisconsin were reported to have hatched near Milwaukee during the week beginning May 5. This invasive defoliator has now been found in six southeastern counties since 2009, including Kenosha, Milwaukee,

Ozaukee, Waukesha, Washington and Winnebago. As its name suggests, the viburnum leaf beetle feeds exclusively on viburnums, completing one generation per year beginning with egg hatch in spring. The larvae now emerging will consume foliage until they pupate in the soil next month. The adults emerge in mid-summer. Viburnum leaf beetle is particularly damaging because successive feeding by larvae and adults pre-vents shrubs from refoliating and can kill healthy plants after 2-3 years of heavy infestation.



*Viburnum leaf beetle defoliation*

*Marcia Wensing DATCP*

## APPLE INSECT & BLACK LIGHT TRAP COUNTS MAY 9 - 15

COUNTY	SITE	STLM <sup>1</sup>	RBLR <sup>2</sup>	CM <sup>3</sup>	OBLR <sup>4</sup>	DWB <sup>5</sup>	LPTB <sup>6</sup>	BMSB <sup>7</sup>	AM RED <sup>8</sup>	YELLOW <sup>9</sup>
Bayfield	Keystone	0	0	—	—					
Bayfield	Orienta	0	0	—	—					
Brown	Oneida	43	51	0	—					
Columbia	Rio	0	125	0	0		0			
Crawford	Gays Mills	—	—	—	—					
Dane	DeForest	—	—	—	—					
Dane	Mt. Horeb	25	—	—	—		7			
Dane	Stoughton	10	40	0	0		0			
Fond du Lac	Campbellsport	21	24	0	0		5			
Fond du Lac	Malone	14	64	0	—		0			
Fond du Lac	Rosendale	1	17	—	—					
Grant	Sinsinawa	82	49	—	—					
Green	Brodhead	9	6	0	14		0			
Iowa	Mineral Point	223	46	0	2					
Jackson	Hixton	31	43	0	0		0			
Kenosha	Burlington	30	31	0	0					
Marathon	Edgar	1130	76	—	—		0			
Marinette	Niagara	0	7	—	—					
Marquette	Montello	1230	11	0	0		0			
Ozaukee	Mequon	4	9	0	12		0			
Pierce	Beldenville	212	30	0	0		0			
Pierce	Spring Valley	11	29	—	—					
Racine	Raymond	40	0	—	—					
Racine	Rochester	37	17	—	—					
Richland	Hill Point	32	28	0	—		0			
Sheboygan	Plymouth	615	37	—	—		0			
Walworth	East Troy	30	23	0	—					
Walworth	Elkhorn	15	45	0	—					
Waukesha	New Berlin	12	0	—	—					

<sup>1</sup>Spotted tentiform leafminer; <sup>2</sup>Redbanded leafroller; <sup>3</sup>Codling moth; <sup>4</sup>Obliquebanded leafroller; <sup>5</sup>Lesser peachtree borer; <sup>6</sup>Dogwood borer; <sup>7</sup>Brown marmorated stink bug; <sup>8</sup>Apple maggot red ball; \*Unbaited; \*\*Baited; <sup>9</sup>Apple maggot yellow board.

COUNTY	SITE	BCW <sup>1</sup>	CEL <sup>2</sup>	CE <sup>3</sup>	DCW <sup>4</sup>	ECB <sup>5</sup>	FORL <sup>6</sup>	SCW <sup>7</sup>	TA <sup>8</sup>	VCW <sup>9</sup>	WBC <sup>10</sup>
Columbia	Arlington	0	0	0	0	0	0	0	4	0	0
Columbia	Pardeeville	0	0	0	0	0	4	0	4	1	0
Dodge	Beaver Dam	1	0	0	0	0	0	0	2	0	0
Fond du Lac	Ripon	0	0	0	0	0	0	0	1	0	0
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	0	6	0	0
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	0	0	0	0	0	1	0	0	0	0
Rock	Janesville	0	0	0	0	0	0	0	15	0	0
Walworth	East Troy	0	0	0	0	0	0	0	4	0	0
Wood	Marshfield	0	0	0	0	0	0	0	4	1	0

<sup>1</sup>Black cutworm; <sup>2</sup>Celery looper; <sup>3</sup>Corn earworm; <sup>4</sup>Dingy cutworm; <sup>5</sup>European corn borer; <sup>6</sup>Forage looper; <sup>7</sup>Spotted cutworm; <sup>8</sup>True armyworm; <sup>9</sup>Variegated cutworm; <sup>10</sup>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	1		
Adams	Grand Marsh	—	0	—	0	0	0		
Buffalo	Alma	0	0	0	0	3	1		
Buffalo	Gilmanton	0	0	1	0	2	2		
Columbia	Columbus	0	1	3	3	4	0		
Columbia	Hampden	1	12*	13*	7	20*	4		
Columbia	Leeds	0	6	0	3	4	1		
Dane	Blooming Grove	0	1	4	1	2	0		
Dane	Blue Mounds	1	0	2	3	1	5		
Dane	Cross Plains	7	1	0	5	8	2		
Dane	Deerfield	3	8	3	5	9	2		
Dane	Middleton	0	0	0	1	2	1		
Dane	Springfield	0	0	6	13*	15*	7		
Dane	Vienna	0	0	0	3	4	0		
Dodge	Beaver Dam	0	1	9	12*	12*	1		
Dodge	Calamus	0	9	5	3	12*	7		
Dodge	Hubbard	0	8	5	4	5	1		
Dodge	Lowell	0	3	5	1	0	2		
Dodge	Oak Grove	0	3	2	6	2	4		
Dodge	Waupun	0	7	7	13*	19*	3		
Door	Sturgeon Bay	—	—	1	5	5	2		
Fond du Lac	Lamartine	0	0	7	3	1	3		
Fond du Lac	Ripon	1	1	20*	9	11	1		
Grant	Dickeyville	0	0	6	7	2	4		
Grant	Platteville	1	0	3	15*	13*	5		
Grant	Prairie du Chien	0	0	0	2	0	4		
Iowa	Brigham E	0	0	1	3	14*	0		
Iowa	Brigham W	1	0	8	2	13*	8		
Iowa	Dodgeville E	1	1	2	14*	7	6		
Iowa	Dodgeville W	0	0	6	9	4	4		
Iowa	Mineral Point E	0	0	7	6	18*	3		
Iowa	Mineral Point W	0	0	3	5	14*	3		
Jefferson	Ixonia E	0	9	14*	13*	6	4		
Jefferson	Ixonia W	2	15*	2	4	7	7		
Jefferson	Johnson Creek	1	7	2	0	0	1		
Jefferson	Milford	0	3	0	2	3	0		
Kewaunee	Algoma	—	—	0	0	2	4		
La Crosse	West Salem	—	—	—	—	2	0		
Lafayette	Belmont	0	0	3	3	6	3		
Lafayette	Kendall	0	0	4	7	4	1		
Pepin	Durand	—	0	0	2	6	—		
Rock	Janesville	5	11*	3	3	4	2		
Washington	North Lake	1	6	0	0	0	0		
Waukesha	Oconomowoc	0	4	2	1	1	0		

\*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).