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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 dry early May weather promoted a rapid pace of fieldwork in Wisconsin. Above-average weekend high temperatures in the 60s and 70s dropped sharply to the 40s overnight on May 3-4, and cooler conditions followed. Planting progress of corn, oats, peas, potatoes, and vegetables continued to advance approximately two weeks ahead of last year's pace and 5-6 days ahead of average. Soybean planting increased 12 percentage points during the previous week to 14% complete as of May 3, which according to USDA NASS, was the largest one-week increase since record-keeping began in 1980. Despite the threat of a hard freeze in the forecast, weather and soil conditions this spring have generally been very favorable for field activities. Degree day accumulation has been slow however, and currently trails last year by 1-6 days depending on location. Warmer temperatures and additional moisture would be welcome to promote crop germination and emergence.

LOOKING AHEAD

BLACK CUTWORM: Migrants arrived in moderate numbers during the week of April 30-May 6. Survey traps collected a total of 198 moths at 44 sites, and the first significant captures of nine moths in two nights were recorded at three monitoring locations in Grant, Green and Lafayette counties. Based on the first major BCW migration event on May 4 and the expected slow accumulation of degree days in the next week, the peak seedling corn damage period will not open until June 3 in far southern Wisconsin. The early start to the 2020 planting season and the relatively small moth migration documented since mid-April indicate a low threat of black cutworm damage to vegetative corn this spring.

COMMON ASPARAGUS BEETLE: Emergence of overwintered adults is expected to begin by May 19 in the Beloit, La Crosse, Madison and Platteville areas. Scouting for the bluish-black beetles with cream-colored spots is recommended just after asparagus plants emerge, or as 150 degree days (simple base 50°F) are reached. The ideal time to look for the beetles is in the afternoon when they are most active. Optimal control of this pest requires scouting and hand-picking the adults early in the season to prevent egg laying.

GYPSY MOTH: Larval emergence from overwintered egg masses on was noted on May 2 in Dane County. Phenological indicators that coincide with this early spring event include beginning bloom of eastern redbud and saucer cup magnolia petal fall. Egg hatch is anticipated next week in central Wisconsin.

SEEDCORN MAGGOT: Peak fly emergence occurred last week across southern Wisconsin as 360 degree days

(sine base 39°F) were surpassed, and is forecast for the Appleton, Hancock and Tomah areas of central Wisconsin in the week ahead. If seedcorn maggot infestation is suspected, digging up apparent seed skips in the row and examining seeds for evidence of damage is advised.

LILY LEAF BEETLE: This newly established invasive lily pest has been confirmed in Vernon County. The distinctive red beetles were identified by UW-Madison Entomologist PJ Liesch on May 1 from a photo submitted to his Insect Diagnostic Lab. Lily leaf beetle was detected in six new counties last season and, with the addition of Vernon County, has now been confirmed in 13 Wisconsin counties. Gardeners and homeowners are asked to be on the lookout for the invasive red lily leaf beetle (LLB) this spring and to take measures to prevent it from spreading.

Lily leaf beetle *Nancy Armstrong-Thomson flickr.com*

FORAGES & GRAINS

ALFALFA WEEVIL: Spring egg deposition in alfalfa stems is underway. Adult weevils were found in low numbers in Crawford, Dane, Dodge, Grant, Jefferson, Richland and Sauk counties during this week's surveys (<1-3 per 100 sweeps). The first appearance of larvae is forecast for May 21 across far southern Wisconsin.

PEA APHID: Alfalfa sampled this week contained counts of 1-39 aphids per 100 sweeps, with an average of 9 per 100 sweeps. Populations should increase gradually this month and peak by early June.

TARNISHED PLANT BUG: Adults are more common than last week, but counts in alfalfa remain low. The highest average recorded from April 30-May 6 was 22 per 100 sweeps in a Columbia County field. 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.

DEGREE DAYS JANUARY 1 - MAY 6

LOCATION	50°F	2019	NORM	40°F
Dubuque, IA	215	210	269	532
Lone Rock	182	210	—	471
Beloit	187	195	274	492
Sullivan	148	180	235	417
Madison	169	188	257	453
Juneau	125	153	—	360
Racine	111	136	—	362
Waukesha	133	168	—	388
Milwaukee	116	144	200	369
Hartford	116	157	—	347
Appleton	106	115	—	326
Green Bay	91	103	189	290
Big Flats	138	149	—	378
Hancock	115	136	243	334
Port Edwards	127	133	240	344
La Crosse	171	169	285	445
Eau Claire	169	138	241	420
Cumberland	104	94	197	281
Bayfield	52	58	—	201
Wausau	85	94	198	263
Medford	84	87	170	261
Crivitz	94	97	—	278
Crandon	70	84	155	225

Method: Modified B50; Modified B40 as of January 1, 2020. NORMALS based on 30-year average daily temps, 1981-2010.

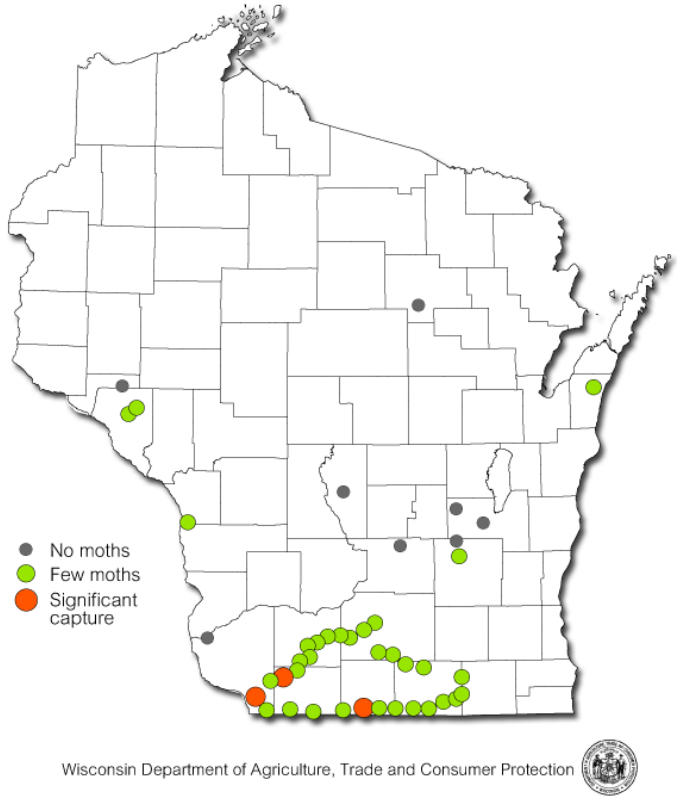
CORN

BLACK CUTWORM: A weekend weather system brought the first significant flight of black cutworms northward into the state. DATCP's 44 monitoring locations collected 198 moths, with three sites registering intense captures of nine or more moths in two nights. The highest trap count for the week was 20 moths near Dickeyville in Grant County. Pheromone traps have captured a cumulative total of 307 moths since April 8. Last season at this time, the count was 758 moths.

The black cutworm counts recorded this spring are considered low in comparison to captures in high-moth years, while early spring field preparation and planting

have reduced the amount of habitat attractive for egg laying female moths. Based on the May 4 first significant capture or biofix and the expected slow accumulation of degree days next week, the peak seedling corn damage window is not forecast to open until June 3 in the southern two tiers of Wisconsin counties.

Black Cutworm Counts April 30-May 6, 2020



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 Appleton to Tomah 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

BEAN LEAF BEETLE: The first beetles were collected from Vernon County alfalfa on May 6. The spring appearance of this insect indicates soybeans emerging later this month will be highly attractive to overwintered beetles and should be checked shortly after emergence for feeding injury to the cotyledons, stems, and unifoliate leaves.

PAINTED LADY BUTTERFLY: Adult butterflies were observed in the past week in Dane County, likely immigrants from farther south that arrived with recent 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 last spring when the state experienced an unusually large butterfly migration that coincided with abundant rain and a wildflower super bloom.

Thistle caterpillar *Krista Hamilton DATCP*

FRUITS

FROST-FREEZE THREAT: Frost and freeze conditions forecast for May 7-9 are expected to damage unprotected fruit crops and other sensitive vegetation. If winds are light and insufficient for air mixing to prevent an inversion freeze, running frost fans in orchards may be necessary to prevent damage to apple trees at pink or bloom. Orchards at pink are at a greater risk of crop injury whereas those still at tight cluster should fare better. Critical temperatures for fruit damage to trees at tight cluster are 27°F for a 10% bud kill, and 21°F for a 90% bud kill. If bud growth has reached pink, 28°F will result in a 10% kill and 24°F will result in a 90% kill (information provided by the IPM Institute of North America and UW-Madison). A recent Michigan State University article outlines strate-

gies for protecting fruit crops: https://www.canr.msu.edu/news/what-can-fruit-growers-do-if-a-freeze-is-coming.

REDBANDED LEAFROLLER: Moth emergence accelerated from April 30-May 6, with counts ranging from 0-127 RBLR per trap and averaging 44 per trap. The average last week was 27 per trap. Peak flight activity, and corresponding high trap counts, should occur soon in the southern half of the state. The first RBLR caterpillars generally appear around petal fall.

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 2-3 weeks is the suggested control. Insecticide use for tent caterpillars is not advised.

Eastern tent caterpillar webbing *greeksunshine flickr.com*

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, 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. If blossoms are still closed, a Bt application will not reach larvae that have tunneled into the blossoms. Spring lepidopteran populations in orchards are still very low at this time.

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 is considered an economic population that can cause abnormal leaf formation, leaf tatter, flower injury and reduced fruit set.

Thrips on apple leaves *John Aue Threshold IPM*

SPOTTED TENTIFORM LEAFMINER: The apple orchard monitoring location in Marquette County reported a high capture of 729 moths per trap for the week, while counts at other sites were markedly lower at 0-243 per trap. Moth emergence is expected to peak by the third week of May across much of southern and central Wisconsin.

VEGETABLES

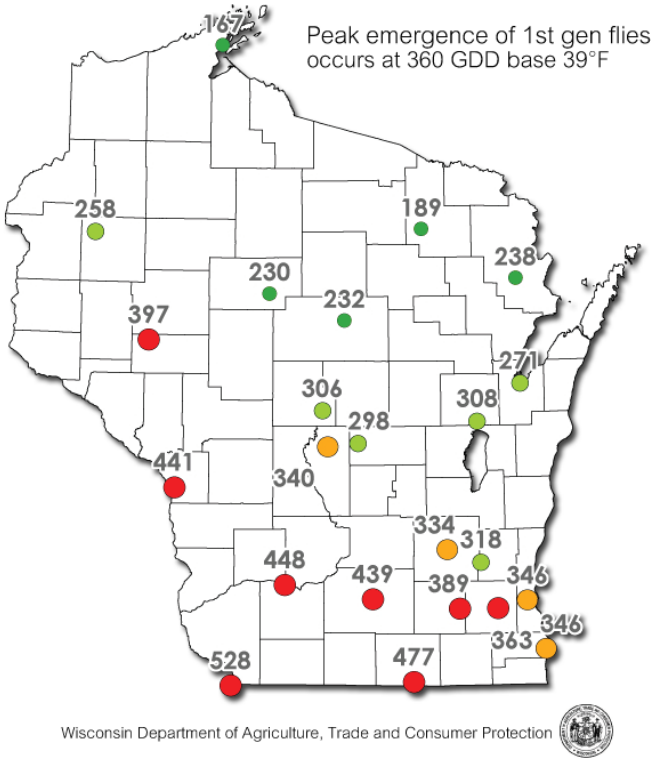
CABBAGE MAGGOT: Peak emergence of first generation flies is forecast for late next week in advanced areas of southern Wisconsin. This event coincides with full bloom of lilac and the accumulation of 300 degree days (simple base 43°F). Seedlings, transplants, or spring root crops available at the time of peak flights can be protected with row covers installed well before adults begin to emerge.

Growers may 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 6 were as follows: Beloit 251, Madison 221, Racine 145, La Crosse 241, Eau Claire 203, and Wausau 84.

Cabbage maggot flies on yellow sticky trap UMass Extension

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.

Seedcorn Maggot Degree Days May 6, 2020



Because field conditions are somewhat 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 6. Peak fly emergence is forecast for 360 degree days (sine base 39°F).

COMMON ASPARAGUS BEETLE: The first appearance of overwintered beetles and the start of egg laying on asparagus spears can be expected within the next two weeks across southern Wisconsin. The 150 degree days (simple base 50°F) required for emergence will be surpassed near Beloit in Rock County by May 19, while growers in the La Crosse and Viroqua areas can anticipate beetles appearing around May 22.

Common asparagus beetle DavidH-J flickr.com

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.

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.

NURSERY & FOREST

RALSTONIA WILT IN GERANIUM: On April 19, officials with the USDA APHIS Plant Protection and Quarantine issued an Emergency Action Notification to a Michigan greenhouse after the pathogen *Ralstonia solanacearum*

was confirmed in a Fantasia 'Pink Flare' geranium sample originating from a Guatemalan production facility. The notification immediately prohibited the sale or movement of all geraniums and other suspect plant material on the property, and resulted in a multistate trace-forward investigation to retrieve and destroy plant materials that had already been distributed, including over 2,450 plants destined for Wisconsin markets.

Ralstonia wilt in geranium *DATCP Nursery Program*

Regulatory specialists from DATCP worked quickly with APHIS to assemble supply-chain information and inspect all Wisconsin greenhouses that received the geranium cuttings. Efforts by inspectors over the past 10 days have resulted in recovery and destruction of over 90% of the imported Fantasia 'Pink Flare' geraniums before they were sold, as well as other potentially infected plants.

Ralstonia solanacearum is a usually-lethal bacterial pathogen that poses a serious agricultural threat to over 250 plants. The strain found in geranium (Race 3 biovar 2, or 'Rs R3bv2') is commonly referred to as 'Southern wilt,' and causes wilt diseases in several important crops including eggplant, pepper, potato and tomato.

Greenhouses that received the Guatemalan geranium plants have been instructed to disinfect areas using APHIS-approved methods, and to monitor existing stock for wilting, yellowing, and other bacterial-wilt type symptoms. Vascular discoloration of the lower stem and root browning can occur in advanced stages.

Growers and retailers with plants suspected of having *Ralstonia* wilt are asked to contact DATCP, their county UW-Extension agent, or the UW-Madison Plant Disease Diagnostics Clinic for assistance: https://pddc.wisc.edu/2020/05/01/ralstonia-wilt/.

NR40 RESTRICTED INVASIVE PLANTS PHASE-OUT: The 5-year phase-out period for invasive trees and shrubs listed as 'Restricted' under Wisconsin's Ch. NR 40, Wis. Admin. Code or Invasive Species Rule in 2015, ended on May 1, 2020. The NR40 Rule makes it illegal to buy, sell, give away, or barter any species listed under this rule.

This phase-out period was provided to allow Wisconsin nurseries who had newly NR40-listed trees and shrubs already in their inventory in 2015 to sell stock without penalty for a period of five years. After May 1, 2020, any plants on the NR40 phase-out list can no longer be bought into or sold out of a nursery's existing inventory. NR40 phase-out list plants that were not sold by May 1, 2020 must now be destroyed. DATCP is advising all nursery stock growers, retailers and consumers to review the complete list of invasive plants to ensure they are not buying or selling these plant species. (Note: several of the ornamentals do have exemptions for some of their cultivars, which allows for continued sale of those cultivars only.)

Invasive Autumn Olive 'Ruby' *DATCP Nursery Program*

To destroy remaining NR40 plants, double-bag both the plants and soil in garbage bags, tightly tie or seal the bags with zip-ties, label the bags "Invasive Plants," and landfill. Invasive species may also be burned, or buried beyond a minimum of 3 feet. DO NOT compost invasive material or put in cull piles. A summary of the Chapter NR40 Regulations for the Green Industry can be found on the Wisconsin DNR invasive species website https://dnr.wi.gov/topic/Invasives/classification.html.

APPLE INSECT & BLACK LIGHT TRAP COUNTS APRIL 30 - MAY 6

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	4	11							
Columbia	Rio	—	—							
Crawford	Gays Mills	—	—							
Dane	Mt. Horeb	16	15							
Dane	McFarland	2	7							
Dane	Stoughton	16	53							
Fond du Lac	Campbellsport	1	22							
Fond du Lac	Malone	0	17							
Fond du Lac	Rosendale	37	24							
Green	Brodhead	—	—							
Iowa	Mineral Point	38	176							
Jackson	Hixton	18	52							
Kenosha	Burlington	67	32							
Lafayette	Belmont	15	46							
Marathon	Edgar	78	15							
Marinette	Niagara	—	—							
Marquette	Montello	729	114							
Ozaukee	Mequon	—	—							
Pierce	Beldenville	243	10							
Pierce	Spring Valley	47	49							
Racine	Raymond	20	0							
Racine	Rochester	64	52							
Richland	Hill Point	56	127							
Sheboygan	Plymouth	—	—							
Walworth	East Troy	34	50							
Walworth	Elkhorn	90	25							
Waukesha	New Berlin	10	0							
Wood	Rudolph	—	—							

[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	0	0	0	0	0	0	0	0	0	0
Columbia	Pardeeville	0	0	0	0	0	0	0	0	0	0
Dodge	Beaver Dam	0	0	0	0	0	0	0	0	0	0
Fond du Lac	Ripon	0	0	0	0	0	0	0	0	0	0
Grant	Prairie du Chien	0	0	0	0	0	0	0	0	0	0
Langlade	Antigo	0	0	0	0	0	0	0	0	0	0
Manitowoc	Manitowoc	0	0	0	0	0	0	0	0	0	0
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	0	0	0	0	0	0	3	0	0
Walworth	East Troy	0	0	0	0	0	0	0	0	0	0
Waushara	Hancock	0	0	0	0	0	0	0	0	0	0
Wood	Marshfield	0	0	0	0	0	0	0	1	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 2020

COUNTY	SITE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8
Adams	Adams	0	0	0	0	0			
Buffalo	Alma	0	0	0	0	2			
Buffalo	Gilmanton	0	0	0	1	1			
Columbia	Pardeeville	0	0	0	2	0			
Dane	Blue Mounds	—	—	0	1	4			
Dane	Cross Plains	—	—	0	0	5			
Dane	Middleton	—	—	0	0	1			
Dane	Montrose	—	—	1	0	1			
Dane	Oregon	—	—	0	0	4			
Dodge	Beaver Dam	0	1	2	0	1			
Dodge	Waupun	0	0	0	0	0			
Fond du Lac	Lamartine	0	0	0	0	0			
Fond du Lac	Ripon	0	1	0	2	0			
Grant	Dickeyville	—	—	0	9	20*			
Grant	Hazel Green	—	—	3	7	7			
Grant	Platteville	—	—	0	2	9			
Grant	Prairie du Chien	0	0	0	0	0			
Green	Cadiz	—	—	0	6	6			
Green	Clarno	—	—	0	9	15*			
Green	Jefferson	—	—	1	1	7			
Iowa	Brigham E	—	—	0	0	1			
Iowa	Brigham W	—	—	0	0	5			
Iowa	Dodgeville E	—	—	1	0	9			
Iowa	Dodgeville W	—	—	1	4	7			
Iowa	Mineral Point E	—	—	0	1	1			
Iowa	Mineral Point W	—	—	0	2	7			
Kewaunee	Algoma	0	0	0	0	1			
La Crosse	La Crosse	—	0	11	6	12			
Lafayette	Belmont	—	—	0	3	19*			
Lafayette	Kendall	—	—	1	0	2			
Lafayette	Monticello	—	—	1	2	11			
Lafayette	Shullsburg	—	—	0	2	12			
Langlade	Antigo	0	0	0	0	0			
Pepin	Durand	3	0	0	0	0			
Rock	Avon	—	—	1	6	6			
Rock	Beloit	—	—	0	2	1			
Rock	Bradford W	—	—	5	1	7			
Rock	Bradford E	—	—	0	1	2			
Rock	Fulton	—	—	0	0	1			
Rock	Johnstown	—	—	0	2	1			
Rock	Newark	—	—	0	0	5			
Rock	Turtle	—	—	0	2	3			
Rock	Union	—	—	1	1	2			
Waushara	Hancock	0	0	0	0	0			

* Intense capture occurs when 9 or more moths are caught in a 2-night period. Week 1 (April 2-8), Week 2 (April 9-15), Week 3 (April 16-22), Week 4 (April 23-29), Week 5 (April 30-May 6), Week 6 (May 7-13), Week 7 (May 14-20), Week 8 (May 21-27).