

Wisconsin Department of Agriculture, Trade & Consumer Protection

Wisconsin Pest Bulletin

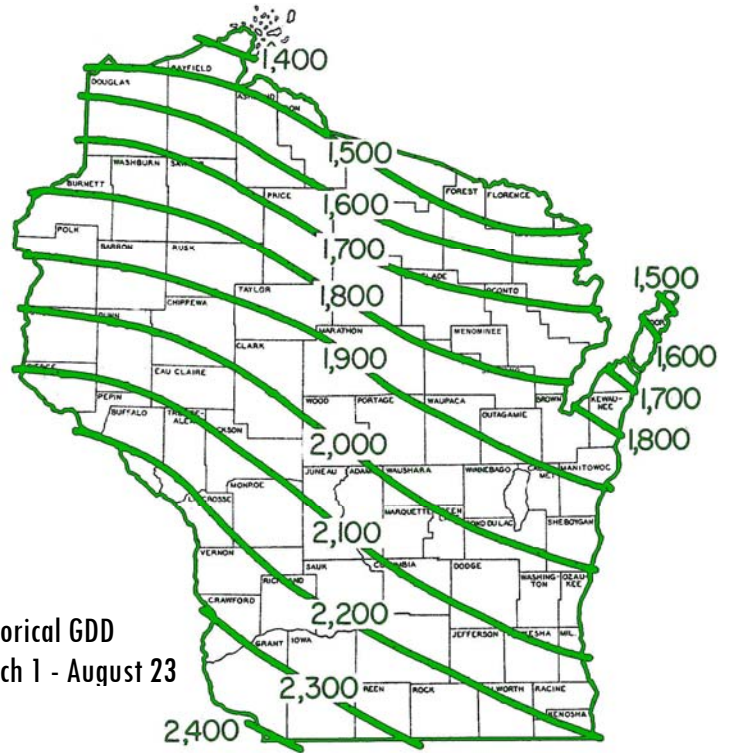
PO Box 8911 • Madison, WI 53718 • Phone 1-800-462-2803 • Fax: 608-224-4656

Your weekly source for crop pest news, first alerts, and growing season conditions for Wisconsin



Weather and Pests

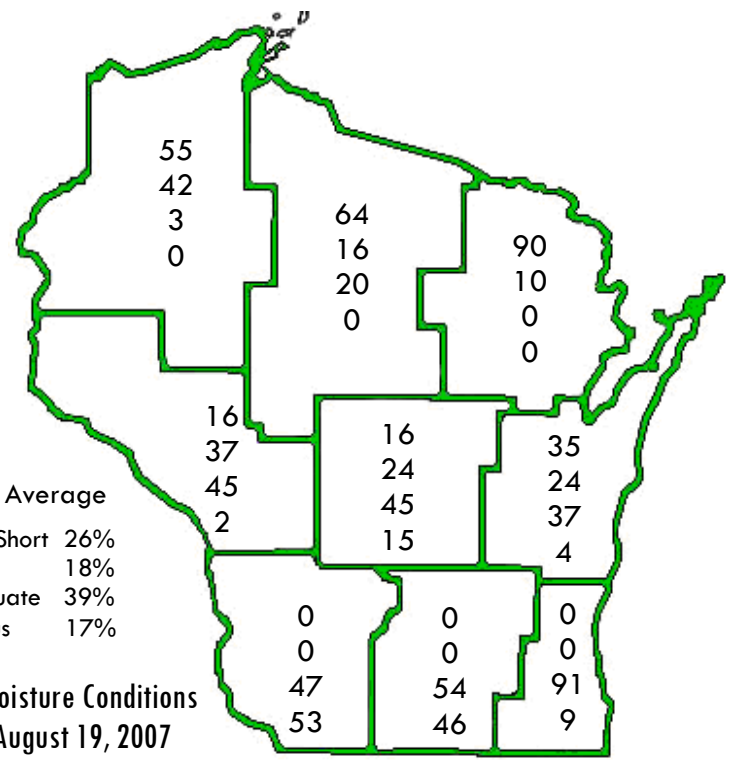
The prospects for crops in southern Wisconsin changed dramatically after weekend thunderstorms dropped up to 12 inches of rain, causing rivers to swell and saturating low-lying areas. Crawford, La Crosse, Richland, Sauk and Vernon counties were declared state disaster areas on August 21. Heavy rains expanded over other areas of the state, including Dane, Green, Iowa and Kenosha counties. According to the National Weather Service, more rain has fallen on Madison this month than any other month since records have been kept. As of August 22, the city had received 11.03 inches, surpassing the previous record of 10.93 inches set in July of 1950. In Kenosha County, flooding occurred in areas adjacent to the Fox River, and in Green County roads were closed along the Sugar River.



Historical GDD
March 1 - August 23

Growing Degree Days through 08/23/07 were

	GDD 50F	2006	5-Yr	48F	40F
Dubuque, IA	2428	2249	2254	2502	3834
Lone Rock	2317	2179	2169	2345	3698
Beloit	2409	2357	2249	2400	3811
Madison	2290	2133	2145	2319	3662
Sullivan	2230	2177	2126	2214	3577
Juneau	2206	2060	2089	2279	3551
Waukesha	2170	2065	2046	2245	3508
Hartford	2189	2046	2042	2269	3530
Racine	2161	2047	1999	2226	3493
Milwaukee	2151	2049	1982	2215	3484
Appleton	2134	2056	1956	2163	3451
Green Bay	2009	1935	1829	2071	3311
Big Flats	2135	2131	2053	2103	3449
Hancock	2129	2094	2115	2097	3422
Port Edwards	2113	2138	1981	2134	3419
La Crosse	2465	2423	2286	2356	3891
Eau Claire	2260	2359	2137	2256	3625
Cumberland	2056	2073	1876	2050	3348
Bayfield	1673	1687	1497	1678	2836
Wausau	1971	1900	1799	1996	3226
Medford	1905	1922	1764	1939	3154
Crivitz	1930	1854	1739	1975	3180
Crandon	1800	1715	1639	1791	2975



State Average
Very Short 26%
Short 18%
Adequate 39%
Surplus 17%

Soil Moisture Conditions
as of August 19, 2007

Alert

Flood recovery notice - Farmers are advised to report losses of equipment, crops and livestock to their county Farm Service Agency (FSA) office **AND** to their county emergency management offices. Even losses of crops not ordinarily covered by federal farm programs, such as organic vegetables, should be reported. Farmers need to report losses to both places because the information is used for two different purposes. The FSA office uses the information to determine if producers in the county will qualify for emergency loans. The emergency management office uses the information to support the state's request for a presidential disaster declaration, which paves the way for financial assistance. Farmers who need help assessing flood losses should call the Farm Center Hotline at 1-800-942-2474 and their county extension agricultural agents. Visit www.DATCP.state.wi.us for more flood related information.

Looking Ahead

Western bean cutworm - The larval progeny of moths active during early August are feeding in corn fields throughout the state. Growers are advised to beware of scattered pockets of heavy infestations that may develop by the end of the month. High moth counts were reported in late July and early August at several pheromone trap sites in central Wisconsin, particularly near Princeton in Green Lake County. Expect western bean cutworm larvae to continue to feed through mid-September.



Western bean cutworm larva

Krista Hamilton DATCP

Corn earworm - Growers should anticipate continued activity in the next two weeks. Weekly catches of 61 moths at Chippewa Falls, 71 at Coon Valley, 5 at Coles Valley, 379 at Lancaster, 10 at Manitowoc, 110 at Marshfield, 225 at Reedsburg, and 28 at Westby indicate that the 2007 corn earworm flight is ongoing. Continue scouting and control treatments as long as corn earworm moths are being caught in pheromone traps and fresh silks are present in sweet corn.

European corn borer - Counts at black light trap sites have declined to fewer than 14 moths, and the second flight is expected to come to a complete stop in the near future. Second generation larvae have matured rapidly and feeding on silks and in ear tips is evident in many southern and central corn fields. A majority of the larvae found during recent surveys were in the 3rd to 5th instars. The annual fall European corn borer survey is scheduled to begin after Labor Day. Results will be published in the final issue of the Wisconsin Pest Bulletin scheduled for Friday, November 2.

Corn

Corn rootworm - The results of a statewide survey of corn rootworm beetle numbers are being organized and will be published in the August 31 issue of the Wisconsin Pest Bulletin. Preliminary findings indicate **high** adult populations for the south central and east central districts, **moderate** populations for the southeast, west central, central and north central districts, and generally **low** beetle populations for the southwest and northeast districts. The average of the number of corn rootworm beetles per plant by district for the period of August 2 to 22 was as follows: southwest 0.4 per plant; south central 2.3 per plant; southeast 0.9 per plant; central 0.8 per plant; east central 1.4 per plant; north central 0.7 per plant. Averages for the west central, northwest, and northeast districts are not yet available. Individual fields with high populations of greater than 1.0 beetle per plant were detected in 65 of the 205 fields surveyed (32%) as of August 22. The highest average documented during the survey was 11.6 beetles per plant in Dane County. Counts of corn rootworm beetles in August can be used by corn producers to guide management decisions the following spring. An average of 1.0 or more beetles per plant indicates the potential for feeding injury by corn rootworm larvae in multi-year corn.

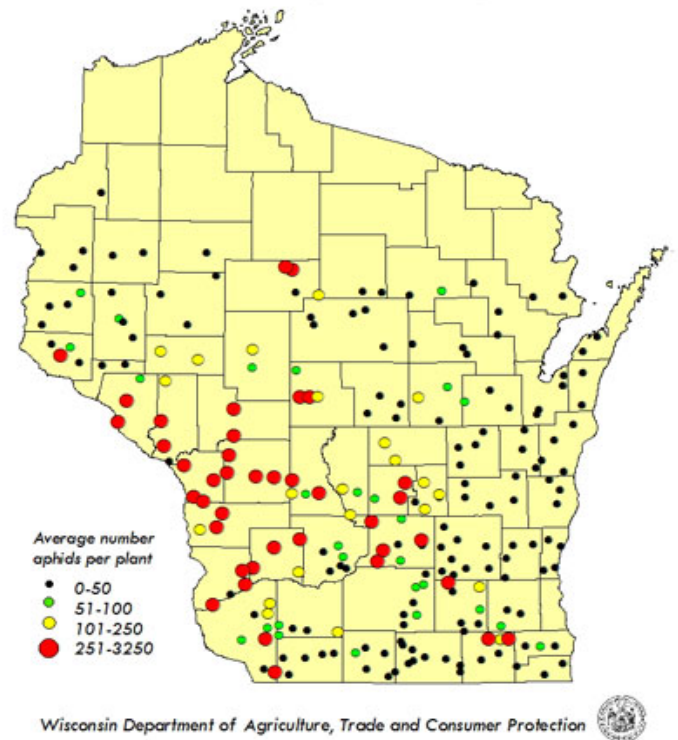
Variante western corn rootworm - This "rotation resistant" variant of the western corn rootworm beetle counteracts the benefits of crop rotation by laying its eggs in soybean fields. The eggs remain unhatched until corn roots are present, sometimes resulting in economic injury to first-year corn. The variant is indistinguishable from the conventional western corn rootworm beetle and there are no known methods available to separate the two types.

A survey to assess densities of the variant western corn rootworm beetle and determine the extent of its geographic range is in progress in Columbia, Dane, Dodge, Jefferson, Monroe, Rock, Sauk, Sheboygan, Walworth, Washington, and Waukesha counties. Participants in the 2007 Variant Western Corn Rootworm Monitoring Network placed 12 yellow sticky traps per soybean field during the first week of August, checked the traps weekly, and plan to remove trap by the final week of August. Results of the 2007 survey may help growers to make management decisions for the 2008 growing season regarding the use of transgenic corn rootworm Bt hybrids or soil insecticides. A summary map will be provided in the November 2 issue.

Soybeans

Soybean aphid - An annual survey of 227 soybean fields carried out from July 12 to 31 found non-economic soybean aphid populations at 82% of the survey sites. High or economic populations were detected at 18% of the sites, located principally in the west central district and portions of the southwest, south central, and central districts. Individual fields with high populations were found in Columbia, Crawford, Richland, Vernon, La Crosse, Marquette, Monroe, Juneau, Jackson, Buffalo, Trempealeau, and Wood counties. Average soybean aphid densities in these counties ranged from 253 to 1,071 soybean aphids per plant. Moderate populations were detected in the central and north central districts, and low populations were found over much of the southeast, east central, northwest, and northeast districts. The 2007 statewide average number of soybean aphids per plant was 164. This compares to 69 aphids per plant in 2006, 108 aphids per plant in 2005, 11 aphids per plant in 2004 and 618 aphids per plant in 2003.

2007 Soybean Aphid Survey Results R2 to R4 growth stages



Forages

Potato leafhopper - Populations are expected to decline more noticeably in the week ahead and a large percentage of leafhoppers should be reduced by harvest operations. Counts are much lower in southern two-thirds of the state where excessive amounts of rain were received in the last



Sticky trap for variant western corn rootworm Krista Hamilton DATCP

Corn earworm - Relatively high moth captures were registered at several trapping locations this week. Nighttime flight activity, as measured by the black light trapping network, increased from the previous week, while pheromone trap activity remained at moderate to high levels. The traps located at Coles Valley, Janesville, Manitowoc, and Westby registered an average of 0 to 4 moths per day while the Chippewa Falls, Coon Valley, Lancaster, Marshfield, and Reedsburg locations captured an average of 8.7 to 54 per day. Sweet corn fields should continue to be monitored closely until silks turn brown. For corn earworm control recommendations visit: <http://learning.store.uwex.edu/pdf/A3655.pdf>.

Corn Earworm Counts through August 23

	8/17	8/18	8/19	8/20	8/21	8/22	8/23
Southwest							
Lancaster							379
Reedsburg							225
South central							
Oregon							
Cottage Grove							
Sun Prairie N							
Sun Prairie NE							
Southeast							
Janesville		0		0	0		0
West central							
Coles Valley							5
Chippewa Falls						61	
Coon Valley		5			7	21	38
Westby							28
Central							
Wausau							
Marshfield							110
East Central							
Manitowoc							4

week. Be aware that localized heavy populations could persist into fall, especially in northern areas that were not impacted by the recent rains.

Fruit

Apple maggot - Fewer flies were trapped this week, but recent the rains may have provided conditions favorable for emergence of this pest. The highest capture during the last reporting period was 8.25 flies on a baited red ball trap at Spring Valley. The economic threshold of 1 fly per unbaited trap or 5 flies per baited trap was exceeded at just 5 of the 17 reporting orchards. Growers should beware of the potential for a late summer emergence of this insect and monitor visual traps into September.

Codling moth - Counts of this pest remain very high at several orchards in the state, ranging from 0 to 22 male codling moths (average of 6.08). The Raymond trap site registered the highest count this week. Orchards that continue to register counts above 5 moths per trap per week are good candidates for late-season codling moth control.

Weeds

Weed report - In addition to the broadleaf weeds highlighted in the August 17 issue, many grasses have proven difficult to manage throughout the 2007 growing season. The most prevalent species found during late-season surveys were giant foxtail (*Setaria faberi*), green foxtail (*Setaria viridis*), large crabgrass (*Digitaria sanguinalis*), smooth crabgrass (*Digitaria ischaemum*), yellow foxtail (*Setaria glauca*), wild proso millet (*Panicum miliaceum*), and woolly cupgrass (*Eriochloa villosa*). Wild proso millet appeared to be the most abundant and widespread species, growing in dense thickets in some fields. Corn fields typically had more localized grassy spots relative to other row crops.



Yellow foxtail

www.biosurvey.ou.edu

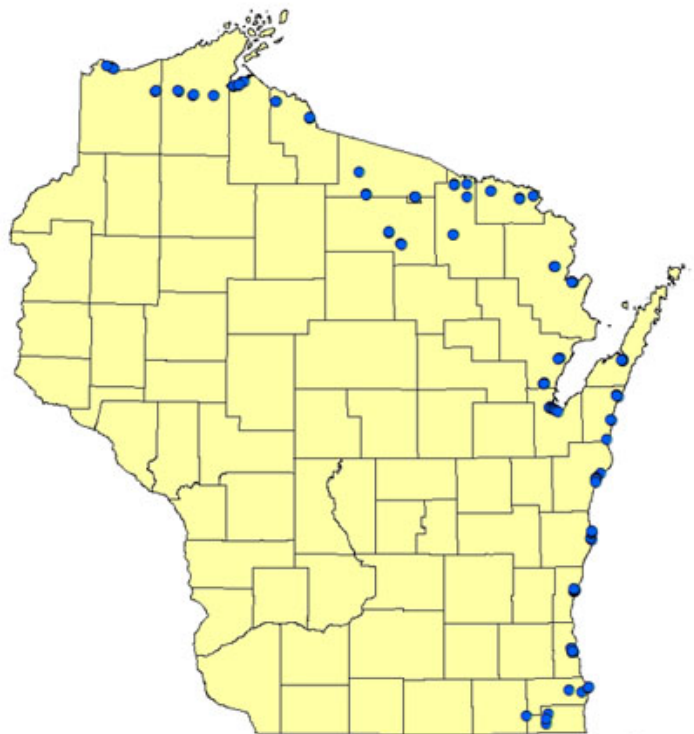
The grasses mentioned are annual plants that reproduce by seed, and not vegetatively. Crabgrass is the exception,

but vegetative reproduction is not its dominant method of propagation. Although grasses are generally not as aggressive colonizers as broadleaf weeds, grass seed maturity coincides with harvest, and seeds are easily spread by harvest equipment. Problem areas can quickly be moved between and throughout fields. Cleaning equipment is strongly recommended to prevent dissemination of grass seeds.

Nursery, Forest and Landscape

Sirex woodwasp - A survey to detect this exotic pine killing species is under way in 19 eastern and northern Wisconsin counties. One hundred and twelve Lindgren funnel traps baited with a pine-scented lure (70% alpha pinene and 30% beta pinene) were placed in Ashland, Bayfield, Brown, Door, Douglas, Iron, Florence, Forest, Kenosha, Kewaunee, Manitowoc, Marinette, Milwaukee, Oconto, Oneida, Ozaukee, Racine, Sheboygan, and Vilas counties in late May or early June. *Sirex woodwasp* is known to occur in portions of New York, Pennsylvania and Michigan, and is associated with foreign solid wood packing materials. The regions of Wisconsin closest to the known infestations and with substantial shipping received from Europe and Asia are being trapped. *Sirex noctilio* has not yet been detected in the state. Lindgren funnel traps have been serviced on a bi-weekly basis throughout the season. The survey, expected to end by October 31, may result in early detection of *Sirex noctilio* in Wisconsin pine forests. A map showing the 112 trap locations is provided below.

2007 Sirex Woodwasp Survey Sites



Wisconsin Department of Agriculture, Trade and Consumer Protection



Viburnum leaf beetle - The viburnum leaf beetle is a damaging exotic pest of viburnums, both ornamental and native varieties. It has not been detected in Wisconsin, but DATCP inspectors have looked for this beetle during routine nursery inspections since populations were first detected in Maine, New Hampshire, Ohio, Pennsylvania, Vermont, and Ontario, Canada beginning in 1996. Both the larvae and adult skeletonize leaves, giving viburnum foliage a lacy appearance. Heavy feeding injury is usually apparent by June, although the adults may be active until first frost. The viburnum leaf beetle likely entered the U.S. on nursery stock from Europe during the early 1900s. Preferred hosts include arrowwood viburnum (*Viburnum dentatum*), European highbush cranberry (*V. opulus*), and American highbush cranberry (*V. trilobum*).



Viburnum leaf beetles

insectimages.org

Other nursery inspection finds this week include:

Southwest region: Japanese beetle feeding, slug feeding, anthracnose and foliar nematodes on assorted hostas, chlorosis on witch hazel, septoria on spirea and dogwood, black spot on roses, anthracnose on birch, eriophyid mites on echinacea and oak, spider mites and fall webworm on oak, phyllosticta on chokeberry, asteroma on big leaf linden and powdery mildew on phlox in Rock County.

Southeast region: Leafminer on birch, leafhopper on maple, mites on white oak, rhizosphaera and twig aphid on spruce, twig aphid on balsam fir, plant bug feeding and leafhopper on honeylocust, shothole on Newport plum, guignardia and powdery mildew on horsechestnut, septoria on variegated dogwood and serviceberry, slug feeding on hostas, tar spot on maple, dothistroma on Austrian pine, cedar hawthorn rust on hawthorn, fall webworm on black walnut, nipple gall, leafminer and island chlorosis on hackberry, Japanese beetle feeding on elm and linden, powdery mildew on monarda, leafstreak on daylily, phyllosticta on spirea, and elm flea weevil on elm in Waukesha County.

West central region: Shothole disease on cherry, maple petiole borer on autumn blaze maple, aphids, leafhoppers and apple scab on crabapple, asteroma on little leaf linden, anthracnose on ash, venturia shoot tip blight on

poplar, aphids on birch, and tar spot on silver maple in Jackson County.

East central region: Tar spot, spider mites and bladder gall on maple, applescab on crabapple, pesticide damage and aphids on oak, fall webworm on ash and whitespire birch, powdery mildew on false sunflower, goldenrod, columbine and serviceberry, canker on narrowleaf poplar and autumn blaze maple, septoria on dogwood, leafhopper burn and leafminer on apple, shothole disease on weeping cherry, and 'Sum & Substance' and 'Golden Tiara' hosta with Hosta Virus X (HVX) in Sheboygan County.

Powdery mildew on phlox, rose and monarda, leafminer on columbine, needleminer on spruce, HVX on 'Gold Standard' and 'Gold Edger' hosta, plant bug feeding, oystershell scale and anthracnose on ash, oak leaf blister on swamp white oak, spider mites, tar spot and bladder gall on autumn blaze maple, apple scab on crabapple, and tulip tree scale on magnolia in Calumet County.

Northwest region: Plant bug feeding on hydrangea, shoot tip borer on trilobed viburnum, flea beetle feeding on dogwood, powdery mildew on 'Petite Wonder' monarda, apple scab on crabapples, black spot on roses, cedar apple rust on 'Honey Crisp' and 'Fireside' apple, and spruce spider mites on Black Hills spruce in St. Croix County.

North central region: Slug feeding on hostas, cedar apple rust on brandywine crabapple, spider mites on 'Queen Purple' hollyhock and salvia, pear slug feeding on Bartlett pear, superior plum, toka plum, and Northstar cherry, and leafhopper burn on assorted apples and crabapples in Clark County.

Black Light Trap Counts through August 23

Black light report - Identifying the contents of flooded black light traps presented a unique challenge after several days of heavy rains during the last reporting period. With the exception of the corn earworm, which continued to be caught in good numbers at several trapping sites, nocturnal moth activity has begun to decelerate due to cooler evening temperatures. The * symbol in the black light trapping table (page 186) indicates a flooded trap.

European corn borer - Black light trap counts declined for the second consecutive week, in part due to cooler nighttime temperatures. As day length shortens and temperatures decrease in the weeks ahead, expect European corn borer larvae to enter diapause and prepare to overwinter as mature 5th instar larvae in corn stalks or other hosts. Activity of larval corn borers will not resume until temperatures exceed 50°F next spring. A partial third flight may develop at a few advanced southern locations this season, but few moths are likely to be produced.

Dingy cutworm - A considerable decrease in numbers was reported from the central monitoring locations, while a

slight increase was reported at two southern sites. The Janesville trap registered 47 moths this week compared to 28 moths last week, and Lancaster captured 33 moths compared to 14 last week. Chippewa Falls, Manitowoc, Marshfield, and Wausau reported lower counts of 35 to 80 moths from August 17 to 23.

	ECB ¹	TA ²	BCW ³	SCW ⁴	DCW ⁵	WBCW ⁶
Southwest						
Lancaster	2	9	0	1	33	0
Reedsburg	12	-	-	-	-	-
Southeast						
Janesville	14	33	3	0	47	0
East Troy	*	*	*	*	5*	*
West central						
Sparta	*	*	*	*	*	*
Chippewa Falls	1	0	0	0	52	0
Central						
Wausau	7	0	0	23	48	0
Marshfield	4	2	0	10	80	0
East Central						
Manitowoc	7	0	0	2	35	0

¹European Corn Borer; ²True Armyworm; ³Black Cutworm; ⁴Spotted Cutworm; ⁵Dingy Cutworm; ⁶Western Bean Cutworm; ⁷Corn Earworm.

	CabL ⁸	CeL ⁹	AlfL ¹⁰	ForL ¹¹	FA ¹²	VCW ¹³
Southwest						
Lancaster	0	4	0	37	0	0
Southeast						
Janesville	1	9	0	63	0	0
East Troy	*	*	*	*	*	*
West central						
Sparta	*	*	*	*	*	*
Chippewa Falls	0	0	0	0	0	0
Central						
Wausau	0	1	0	0	0	0
Marshfield	0	0	0	5	0	2
East Central						
Manitowoc	0	0	0	11	0	0

⁸Cabbage Looper; ⁹Celery Looper; ¹⁰Alfalfa Looper; ¹¹Forage Looper;

¹²Fall Armyworm; ¹³Variegated Cutworm.

Exotic Pest of the Week

Leafy spurge - This familiar invasive weed has spread to at least 35 states since the first plants were reported in the United States in 1827. Presently the densest leafy spurge stands are distributed over the northern U.S., but infestations continue to spread to the south. Leafy spurge has allelopathic properties which make it particularly invasive. Plants exude chemicals through their root systems which kill or inhibit the growth of other plants

nearby. Like other invasives, leafy spurge aggressively colonizes open areas such as pastures and displaces native vegetation. Dense populations occur across Minnesota, while Wisconsin populations are scattered. The Wisconsin Department of Natural Resources currently lists this species as a noxious weed, and landowners are required to attempt to eradicate it.

In Wisconsin, studies are underway to determine how to prevent this highly invasive species from spreading. The most successful control efforts integrate a combination of approaches. Biological control agents have been used in conjunction with herbicides in several states. The most promising agents to emerge thus far are flea beetles in the genus *Aphthona*. Beginning in the early 1980s, releases of six *Aphthona* species were conducted in several northern states. The flea beetle larvae feed on the roots of leafy spurge in spring and fall, while the adults feed on the stems and leaves in summer. The two most effective species have been *Aphthona nigricutis* and *Aphthona lacertosa*. Together they have reduced leafy spurge canopies up to 95%, and stems from 250 per meter to less than 5 per meter in some areas. **A Federal PPQ 526 permit and a State of Wisconsin 414 permit must be obtained to release any biological control agent in Wisconsin.** For more information, contact Clarissa Hammond at clarissa.hammond@wisconsin.gov.



Aphthona lacertosa, leafy spurge biocontrol agent

ceris.purdue.edu



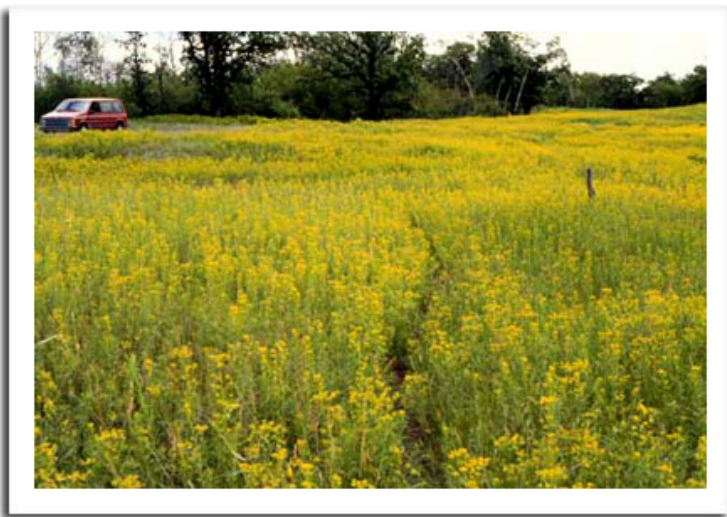
Leafy spurge, *Euphorbia esula*

tncweeds.ucdavis.edu

Apple Insect Trap Counts from August 17 to 23, 2007

County	Site	Date	STLM ¹	RBLR ²	CM ³	OBLR ⁴	AM red ⁵	AM yellow ⁶
Bayfield	Erickson	08/17-08/23	420	0	3	0	0	0
Bayfield	Gellerman	08/13-08/20	44	0	0	0	0	0
Bayfield	Lobermeier	08/17-08/23						
Bayfield	Bayfield Apple	08/17-08/23	139	0	7	1	0	0
Brown	Oneida	08/17-08/23						
Crawford	Gays Mills	08/17-08/23						
Crawford	Turkey Ridge	08/17-08/23						
Dane	Deerfield	08/17-08/23	103	79	6	0	0	0
Dane	Stoughton	08/17-08/23	34	192	3	0	0	0
Dane	West Madison	08/17-08/23	0	*90	7	2	1	0
Dodge	Brownsville	08/17-08/23						
Fond du Lac	Campbellsport 1	08/17-08/23	125	100	0	2	0	0
Fond du Lac	Rosendale	08/17-08/23						
Fond du Lac	Malone	08/17-08/23						
Grant	Sinsinawa	08/17-08/23						
Green	Brodhead	08/17-08/23						
Iowa	Dodgeville	08/17-08/23	113	106	9	0	0	0
Iowa	Mineral Point	08/17-08/23	—	104	9	0	0.33	2.5
Jackson	Hixton	08/17-08/23						
Kenosha	Burlington	08/17-08/23						
Marquette	Montello	08/13-08/21	160	42	3	1	0	0
Marinette	Wausaukee	08/17-08/23	~30	—	—	—	5	—
Ozaukee	Mequon	08/17-08/20	25	2	0.4	0	*0**0.8	0
Pierce	Beldenville	08/17-08/23						
Pierce	Spring Valley	08/17-08/23	96	35	2.3	1	*2.5**8.25	0
Racine	Rochester	08/17-08/23	—	—	4.58	0	0.33	0
Racine	Raymond	08/17-08/23	2800	205	22	0	0	0
Richland	Hill Point	08/17-08/22	—	74	1	1	**1	0
Richland	Richland Ctr E	08/17-08/23						
Richland	Richland Ctr W	08/17-08/23						
Sauk	Baraboo	08/17-08/23						
Sheboygan	Plymouth	08/17-08/23						
Waukesha	New Berlin	08/17-08/23	400	0	20	1	0	0

¹ Spotted tentiform leafminer; ² Redbanded leafroller; ³ Codling moth; ⁴ Obliquebanded leafroller; ⁵ Apple maggot red ball trap; ⁶ Apple maggot yellow sticky trap; *unbaited red ball trap; **baited red ball trap; *may not be RBLR moths.



EXOTIC PEST OF THE WEEK
Leafy spurge, *Euphorbia esula*

Department of Agriculture,
Trade & Consumer Protection,
Division of Agricultural Resources Management
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