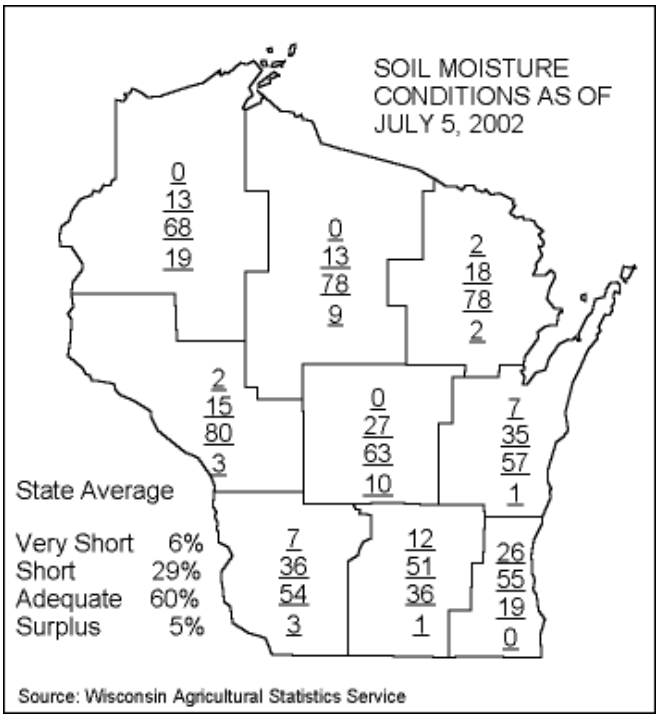
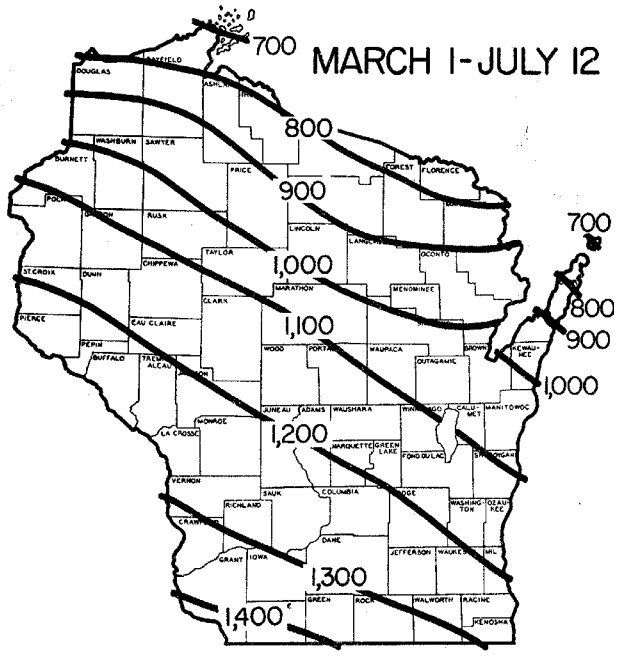
Cooperative Pest Survey Bulletin
Agricultural Resource Management
Bureau of Plant Industry
WI Department of Agriculture, Trade & Consumer Protection, PO Box 8911, Madison, WI 53708-8911 Phone: 1-800-462-2803 Fax: 608-224-4656 Web: Wisconsin.gov





Historical Average Growing Degree-Days Accumulated Since March 1. (Wisconsin Agricultural Statistics Service)

WEATHER AND PESTS

Hot, dry weather provided perfect conditions for hay harvest. Crops in sandy soils were in need of rain this past week, while heavier soils had adequate moisture. Some sweet corn has begun tasseling in southern counties, and even northern counties generally had knee-high corn for the 4th.

Growing degree days from March 1 through July 10 were:

Site	GDD*	2001 GDD	Normal GDD	Base 48	Base 40
SOUTHWEST					
Dubuque, IA	1328	1282	1402	1282	2190
Lone Rock	1251	1177	1290	1193	2083
SOUTHCENTRAL					
Beloit	1293	1291	1327	1203	2158
Madison	1223	1184	1283	1162	2043
Sullivan	1237	1233	1234	1149	2083
Juneau	1204	1209	1172	1140	2016
SOUTHEAST					
Waukesha	1202	1166	1220	1112	2026
Hartford	1173	1159	1163	1111	1970
Racine	1162	1090	1214	1080	1953
Milwaukee	1132	1065	1192	1068	1908
EAST CENTRAL					
Appleton	1071	1064	1054	1047	1823
Green Bay	969	977	998	944	1689
CENTRAL					
Big Flats	1184	1101	1173	1124	1961
Hancock	1169	1102	1159	1133	1939
Port Edwards	1108	1030	1158	1079	1848
WEST CENTRAL					
LaCrosse	1319	1215	1254	1211	2155
Eau Claire	1187	1132	1154	1120	1951
NORTHWEST					
Cumberland	1026	1050	1081	1046	1717
Bayfield	728	766	707	742	1311
NORTH CENTRAL					
Wausau	998	955	1082	1039	1697
Medford	937	938	1038	971	1608
NORTHEAST					
Crivitz	896	925	890	893	1579
Crandon	865	932	912	896	1508

GDD (Growing Degree-Days) are synonymous with degree-days above modified base 50°F, with no low temperature below 50°F or above 86°F used in calculation. See map for Historical Average Growing Degree Days.

ALERTS

Emerald ash borer *(Agrilus planipennis)*- This pest is native to eastern Russia, northern China, Japan and Korea. It has recently been identified in southeast Michigan. It appears to be feeding exclusively on ash, including white and green ash. The pest is associated with frass-filled zigzag larval galleries in the cambial area and D-shaped adult emergence holes. The pest appears to be causing considerable mortality, although there are other factors such as ash yellows and other borers contributing to the poor condition of many of the ash.

Adults are 8.5-13.5 mm long, slender, with emerald colors. The adult head is flat and shield-like. Eggs are light yellow or cream-colored, and become yellow-brown just before hatching. Larvae are 10-14 mm long, cream-colored, and dorso-ventrally flattened. Pupae are 10-14 mm long and cream-colored.

Fully grown larvae overwinter in the cambial region between phloem and sapwood or occasionally inside the outer sapwood. The new adults begin to emerge in mid-May, peaking in late June. During the period of the maturation feeding, the adults prefer to eat leaves of ash trees. They eat irregular patches of leaf tissue, often leaving a jagged edge. When disturbed, adults pretend to die and will fall to the ground.

Oviposition generally occurs from mid-June to mid-July. Most eggs are deposited in bark cracks along the lower trunk, especially on the sunny side of the trunk. Egg hatch generally begins in late June. The newly-hatched larvae feed through the bark to the cambial region. They construct feeding galleries in the cambial region that etch both the phloem and the outer sapwood. Galleries are packed with frass. Larvae generally stop their feeding by mid-October as temperatures decrease. **(Michigan Dept. of Agriculture, from translated Chinese literature*)***

Potato disease surveys – DATCP Pest Survey personnel will be conducting several statewide surveys for potato diseases this season. These surveys are necessary to maintain Wisconsin's status as a potato exporter, and to support efforts to protect the state potato crop from new diseases. Surveyors will be entering random potato fields throughout the state and inspecting plants. Surveyors may also collect samples for laboratory analysis. DATCP surveyors will take careful biosecurity measures, including wearing disposable plastic boots and thorough cleaning of equipment between fields to prevent the spread of disease or pests. For more information on the surveys, please call Adrian Barta at 800-462-2803 or email adrian.barta@datcp.state.wi.us.

Emerald ash borer

Michigan Department of Agriculture and USDA-APHIS

LOOKING AHEAD

European corn borer – Pupation is beginning in advanced fields in the southern part of the state. If warm weather continues, expect the second flight of moths to begin in the next week or two, once 1400 DD (base 50°F) accumulate.

Corn rootworm – Increasing numbers of adults should become evident as tassels emerge in the south. Scout for adults and lodging injury.

Corn leaf aphid – Expect trace populations to appear in the central and northern regions and possibly substantial increases where colonization has already occurred in the south.

Armyworm – Black light trap counts have been variable and low for the most part, but continue to scout for damage in not only corn, but also grains, peas and alfalfa. Local heavy populations may be occurring throughout the state. Current survey efforts indicate populations are below the threshold of 1/3 of the plants with feeding injury in corn (3 per square foot in grains), but it is likely that high populations do exist but weren't detected during this week's survey.

European corn borer shothole feeding damage

Pea aphid – Increasing populations in alfalfa can lead to heavy and damaging infestations when these aphids migrate to pea fields. Using a 15" sweep net, scout peas thoroughly in the week ahead.

CORN

European corn borer – Larvae in the west central, central, east central and south central districts were predominantly in the 3rd instar, but several late 5th instar larvae were noted at advanced southern sites in Grant Co. In the V$_{10}$-V$_{11}$ stage corn in the east central region, light infestations ranging from 2-5% were observed. The 3rd instar larvae observed in these fields had bored into the midrib. In Juneau Co., infestations of 3%, 34% and 38% were documented. In Monroe Co. fields, levels of infestations were 17%, 21% and 33%. In Vernon Co., infestations of 19% and 73% were observed, while in a pre-tassel Grant Co. grain corn field, a 40% infestation was documented. All larvae detected in the infested Grant Co. stalks were late 5th instar and preparing to pupate. With favorably warm and humid weather, some of these infestations could translate into a significant threat to mid-season corn.

Observations in Grant Co. correspond well with what we expect to be seeing in the south at this time of year. The presence of late 5th instar larvae means pupation will be taking place soon, followed shortly thereafter by adult emergence. We expect the first moths of the second flight to begin appearing around 1400 DD (base 50°F), the first eggs at 1450 DD, and egg hatch around 1500 DD.

In nearly all of the agricultural survey districts the most effective time for treating first generation (800-1100 DD) has passed. Treatment for second generation borers should be applied at first hatch, when there is an average of 50% of the corn infested with egg masses or small larvae.

Corn rootworm – No beetles were observed in the west central Cos. surveyed this week; however, corn producers can expect to see emerging corn rootworm beetles in the very near future. In the south it's likely that newly emerging beetles are beginning to appear. This corn pest becomes active about the same time corn is in the silk stage, usually sometime during late July to mid-August, and persists through fall. Although adults can cause extensive damage, the injuries caused by the larvae are generally more severe. Corn rootworm larvae occur from June through August, and feed on the corn root system. Reduced yields and lodging are two effects associated with larval feeding.

Stalk borer – Third and fourth instar larvae were encountered in Monroe, Juneau and Vernon Co. corn fields earlier this week. Typically, stalk borer infestations are restricted to the field margin, but in the fields surveyed in the West Central district, light infestations ranging from 2-10% were detected at scattered locales within the fields. Slightly heavier infestations, ranging from 17-28%, were detected along the field margins with 1-2 larvae per plant. Some of the plants with 2 larvae had become stunted. Despite the stunting, these infestations are considered light and spot treatments are not warranted.

Corn leaf aphid – Light aggregations of winged and wingless adults and nymphs were observed in corn whorls and on corn leaves in Monroe and Vernon Co. corn fields. No dense populations were encountered. The heaviest corn leaf aphid infestations typically occur close to tassel emergence, and despite large numbers of aphids, generally don't cause economic losses. Populations often decline rapidly after tassel emergence due to natural enemies and the migration of winged aphids to other hosts.

Corn leaf aphids injure plants by removing plant sap and introducing disease. They also secrete a substance called "honeydew" that provides a medium for the growth of **sooty mold**. Plants with dense corn leaf aphid populations may take on a black or sooty appearance as mold begins to develop on the honeydew secretions.

The effects of corn leaf aphid infestations may be heightened during periods of hot, dry weather when aphid population growth proceeds at a faster rate and the development of the fungal pathogens that ordinarily keep corn leaf aphid populations under control is slowed or prevented. In contrast, heavy rains can help reduce aphid populations and provide favorable conditions for the development of these fungal diseases.

Corn plants are most susceptible to corn leaf aphid injury during the late whorl to pollen shed stage. The UW-Extension recommends that growers examine 10 sets of 5 consecutive plants (total of 50 plants) during late whorl to early tassel emergence stages (be sure to unroll the whorl leaves and look for aphids inside). A single insecticide application is warranted when 50% of the plants have 50 or more aphids. Treat before tassels have emerged but not before the upper whorl leaves open to expose tassels.

FORAGES

Potato leafhopper - Hopperburn has become apparent in scattered alfalfa fields throughout the state. High numbers of small nymphs collected in sweep nets indicates that reproduction is heavy. All but one of the fields surveyed in Juneau, Monroe, Vernon and Sauk Cos. had counts of adults and nymphs exceeding the economic threshold, and 14%-62% hopperburn was noted. Lower counts of potato leafhopper were recorded from Clark, Oconto and Wood Cos., but light amounts of hopperburn were observed by our surveyor in the northern region.

Pea aphid – A marked population increase seems to have occurred in the last week. Counts in second growth alfalfa ranged from 3 to 30 adult/nymphs per sweep. As is the case with potato leafhopper, the high numbers of nymphs observed signals that reproduction is heavy.

SOYBEANS

Soybean aphid – Soybean aphid counts this week were highly variable but it's apparent that populations are increasing. Per plant counts remain relatively low in most areas, but the percent of infested plants per field is slowly increasing. The table at right shows the results of this week's soybean aphid survey efforts. Aside from an overall increase in the percentage of plants infested, no striking trends are evident. Soybean aphid populations will continue to build during the vegetative stages and can be expected to peak around flowering. The period of most rapid population growth typically begins in the early to mid-bloom stage. Growers should continue to scout plants for aphids on the youngest trifoliate.

Grasshoppers- Numerous grasshoppers were reported in some Washington Co. soybean fields. **(UWEX)**

Potato leafhopper – Fields in Monroe, Juneau and Sauk Cos. contained counts ranging from 1-5 nymphs per plant on the undersides of the leaves. No damage was visible during this week's survey, but if hot, dry conditions prevail in the week ahead, soybeans could be susceptible to hopperburn.

VEGETABLES

Late blight alert- A late blight alert for potato growers continues in an east to west band that runs from north of Plainfield to south of Hancock. New lesions continue to be identified by growers and IPM consultants, indicating a slow spread of the late blight disease. Intensive spray programs combined with more favorable weather are helping to slow spread and protect new growth.

With the arrival of each new band of storms containing rain and wind, however, spread is likely within fields exhibiting

SOYBEAN APHID SURVEY

Date	*County*	*Growth Stage*	*% plants infested (per 40)*	*Ave. # aphids per plant*
7-9	*Columbia*	R1	30	9.7
7-9		R1	7.5	4.7
7-9		R1	40	6.1
7-8		R1	55	11.2
7-10		R1	98	7.7
7-10		V6	85	10
7-10		V6	80	6.5
7-8		V8	47.5	11.2
7-10	*Dane West Madison*		72	8
7-10	*Arlington*		56	10
7-10	*Dodge*	R1	80	12.1
7-8		R1	32.5	8.9
7-8		V9	25	11.1
7-8		R1	92.5	15.5
7-10	*Fond du Lac*	R1	75	13.8
7-10		R1	25	6.4
7-10		R1	27.5	6.3
7-10		R1	25	10.4
7-10	*Green Lake*	R1	77.5	14.9
7-10		R1	97.5	27.6
7-9		V5-R1	75	13.1
7-10		R1	70	7.7
7-8	*Jefferson*	R1	80	18.5
7-8		R1	15	3.2
7-8		R1	20	4.4
7-9	*Juneau*	R1	2.5	1.0
7-10	*Marquette*	R1	22.5	3.6
7-10		R1	50	11.2
7-9	*Monroe*	R1	7.5	7.3
7-9	*Oconto*	V6	0	
7-9	*Sauk*	R1	70	6.6
7-9		V7	48	2.6
7-9		V5	50	3.5
7-8		R1	20	2.8
7-9	*Waukesha*	V5	45	4
7-10	*Wood*	V4	0	
7-10		V4	10	
7-10		V4	0	

symptoms and out of these areas to nearby fields. Therefore it is critical to take a hard look at the coverage all growers are achieving with each spray and to insure that all plants in the field receive adequate treatment. Water-sensitive tapes, available from Spraying Systems, Inc. and distributors of spraying materials, are an easy and cost-effective way of checking to see that sprays are reaching the lower leaves. By attaching the small water-sensitive tapes to leaflets in the upper, middle and lower parts of the canopy, you can tell immediately whether small droplets of water are ending up in those areas of the canopy.

Current P-Day and Severity Value Accumulations for Potatoes

Location	Calculation Date:	P-Day Total	Severity Value Total
Antigo emerging 5/31	7/8	279	**55**
Antigo emerging 6/15	7/8	173	**24**
Antigo emerging 6/30	7/8	53	6
Grand Marsh emerging 5/24	7/8	**324**	**33**
Grand Marsh emerging 5/27	7/8	**311**	**33**
Grand Marsh emerging 5/30	7/8	288	**33**
Hancock emerging 5/16	7/8	**354**	**49**
Hancock emerging 5/23	7/8	**329**	**49**
Hancock emerging 5/28	7/8	**300**	**48**
Plover emerging 5/15	7/8	**370**	**84**
Plover emerging 6/01	7/8	275	**78**
Plover emerging 6/15	7/8	175	**43**

Up-to-date summations of Severity Values and P-Days are available on the web at http://www.plantpath.wisc.edu/wivegdis/index.htm.

It's also a good time to look at plants in hard-to-reach corners of fields, plants growing near windbreaks or buildings and plants near the center of pivot-irrigated fields to be sure these plants are being thoroughly sprayed. Plants at the center of pivot-irrigated fields often remain wet for many hours when the system is running, thus contributing to late blight development on these wet plants. In some states, growers do not plant potatoes within 100 ft of the center of the pivot as a way to reduce late blight risk.

It's also a critical time to think about sanitizing equipment and personnel entering and departing from fields. Spraying field equipment that touches leaves and stems with a strong disinfectant helps to reduce the risk of spreading the late blight pathogen to other plants and other fields. Pressure washing to remove mud and plant debris from equipment followed by treatment with a strong disinfectant helps to kill inoculum on contaminated surfaces. **(UW-Madison)**

New Section 24(c) Special Local Need Label for Bravo Zn, Bravo Ultrex, Bravo Weather Stik Fungicide- Many potato growers may recall that the Section 24(c) label in place for the family of Bravo fungicides that allowed the use of these products up to 16 lb ai (active ingredients) per acre expired at the end of last growing season. Since the expiration of that label, growers were allowed to use Bravo fungicides up to 11.25 lb ai per acre. As of yesterday, July 9, we have a newly-issued Section 24(c) label for Bravo Zn, Bravo Ultrex and Bravo Weather Stik fungicide products that allows growers to use up to 16 lb ai per acre of these products per growing season. This local need label for use in Wisconsin is valid through December 31, 2006 unless amended, withdrawn, canceled or suspended. **(UW-Madison)**

GINSENG

Ginseng fungicides- Wisconsin ginseng growers can make six additional applications of the pesticide Dithane DF or Dithane DF Rain Shield to control plant diseases under an amended special pesticide registration issued by the US Environmental Protection Agency to the Department of Agriculture, Trade and Consumer Protection.

The amendment means that ginseng growers can make a total of 12 applications of Dithane DF or Dithane DF Rain Shield through Oct. 15 of this growing season to control ***Alternaria*** **leaf** and **stem blight** and ***Phytophthora*** **leaf blight**. These diseases can cause loss of leaves, limit root growth and reduce yields of the harvested ginseng root. .

Growers are encouraged to alternate the applications of Dithane with Quadris, another fungicide registered for use on ginseng. Growers are also encouraged to use commercial sticking agents to limit the fungicide from washing off during wet conditions. Fungicides aren't taken up by the plant so multiple applications are needed throughout the season to maintain the ginseng plant's protection against diseases. All other conditions of the original special registration apply.

FOREST, SHADE TREE, ORNAMENTALS AND TURF

Ash plant bug – Green ash at nurseries in Kenosha and Milwaukee Cos. had light to moderate amounts of damage.

Birch leafminer – Trace to light amounts of mining were observed on whitespire and river birch at nurseries in Kenosha and Waukesha Cos.

Bronze birch borer –Found in B&B whitespire birch clumps at a nursery grower in St. Croix Co.

Elm leafminer – Hybrid elms at a nursery in Waukesha Co. had moderate to heavy amounts of damage from this insect.

Hawthorn leafminer-Found on cockspur hawthorn in moderate amounts at a nursery grower in St. Croix.

Imported willow leaf beetle – Light amounts of feeding damage was noted on corkscrew willow at a nursery in Waukesha Co.

Japanese beetle – Adults were out in force in Kenosha Co. this past week. Heaviest hit plants in a nursery were white oak, camperdown elm, American filbert, black chokeberry, cranberry viburnum and tall hedge buckthorn. Lighter feeding damage was found on whitespire birch, little leaf linden and purple leaf plum. These pests were also noted in Portage and Eau Claire Cos.

Leafhoppers – Heavy amounts of damage were observed on red and sugar maple at a nursery in Kenosha Co.

Oak leafminer – Larvae were still actively feeding in English and swamp white oak at nurseries in Kenosha and Waukesha Cos.

Pear Slug- Found on 'Autumn Brilliance' serviceberry foliage in light amounts at a nursery grower in St. Croix Co.

Pine chafers- These pests are flying in moderate numbers in Eau Claire Co. **(DNR)**

Rose chafer – Moderate amounts of feeding damage were reported on roses at a nursery in Waukesha Co. These pests were noted in Eau Claire Co. in low numbers as well. **(DNR in part)**

Spiny witch-hazel aphid – Light to moderate numbers of aphids were found on river birch at nurseries in Kenosha and Milwaukee Cos.

Thrips – Moderate amounts of damage was reported on dahlias and other annuals from nurseries in Door and Iowa Cos.

Two-Spotted Spider Mites- Found on Stella d'Oro daylily in moderate amounts at a nursery grower in St. Croix Co.

Viburnum crown borer – Compact American viburnum were showing signs of fall coloration at a nursery in Kenosha Co. Further investigation revealed a heavy infestation of **crown borer**.

Actinopelte leaf spot- Symptoms of Actinopelte leaf spot, caused by ***Actinopelte dryina***, are starting to show on all species of oak in southern Wisconsin. At this point, only a few scattered trees are heavily infected. Initial symptoms include small purple-black to brown spots, which eventually coalesce and cause necrosis of the distal portion of the leaves. **(DNR)**

Annosum root rot- This disease was confirmed this spring and summer affecting plantation red pine in Buffalo Township, Marquette Co. and Farmington Township, La Crosse Co. This is the first report of annosum in these counties. **(DNR)**

Anthracnose – Light to moderate amounts of leaf spots were observed on oak, birch, elm, ash, and maple at nurseries in Kenosha, Vernon and Waukesha Cos.

Apple scab – Moderate amounts of scab were found on susceptible crabs at nurseries in Kenosha, Milwaukee and Waukesha Cos.

Asteroma leaf spot – Light amounts of leaf spotting were seen on American linden at a nursery in Kenosha Co.

Cedar-hawthorn rust –Found on cockspur hawthorn in heavy amounts at a nursery grower in St. Croix Co.

Entomosporium leaf spot – Hedge cotoneaster at a nursery in Kenosha Co. had moderate amounts of leaf spotting caused by this fungus.

Impatiens necrotic spot virus – Small numbers of plants at various nursery dealers and growers in Door and Iowa Cos. had symptoms of this viral disease. Affected plants included: New Guinea impatiens, tuberous begonia and impatiens.

Guignardia leaf blotch – Horsechestnuts at nurseries in Kenosha, Vernon and Waukesha Cos. had light to moderate amounts of leaves affected by this fungal pathogen.

Gypsy moth – Various shade trees at a nursery in Ozaukee Co. had **gypsy moth** caterpillars causing defoliation.

Oak wilt- Wilting of red and black oak, caused by oak wilt, is scattered throughout southwest Wisconsin.

Phyllosticta leaf spot – A moderate infection on red maple was found at a nursery in Kenosha Co.

Red spot – Peonies at a nursery dealer in Door Co. had heavy amounts of leaf blotching caused by this fungal disease.

STATE/ FEDERAL PROGRAMS

Gypsy moth trapping - All **gypsy moth** traps will be up and all counties will be complete by Friday, July 12. Trappers have set 25,090 (93%) of the expected 27,000 traps. Please see table on next page. Trap checking will begin south of Highway 10 on Wednesday, July 17. Trappers north of Highway 10 will begin spot checking traps on Wednesday, July 24. We expect moth flight in some southern areas to begin the week of July 15th.

During trap check, trappers perform trap maintenance, replace dirty or missing traps, and get a preliminary moth count for each county. Trap check will take three weeks to complete. A trap takedown date has not been decided on. It will depend on the phenology and the field reports we get from trappers on when the moth flight is basically over.

FRUIT

Codling moth - Dissections of apples in northern Dane Co. on July 10 found larvae in the 3rd instar. Dissections of fruit yielded two larvae per 20 fruits.

Plum curculio - One larva and two guest insects, tiny scavenging maggots, were found in curculio-damaged fruits.

Spotted tentiform leafminer – Second flight numbers declined from the previous week. In southern counties growers should begin to see second generation sapfeeders on the undersides of leaves (data from John Aue, consultant).

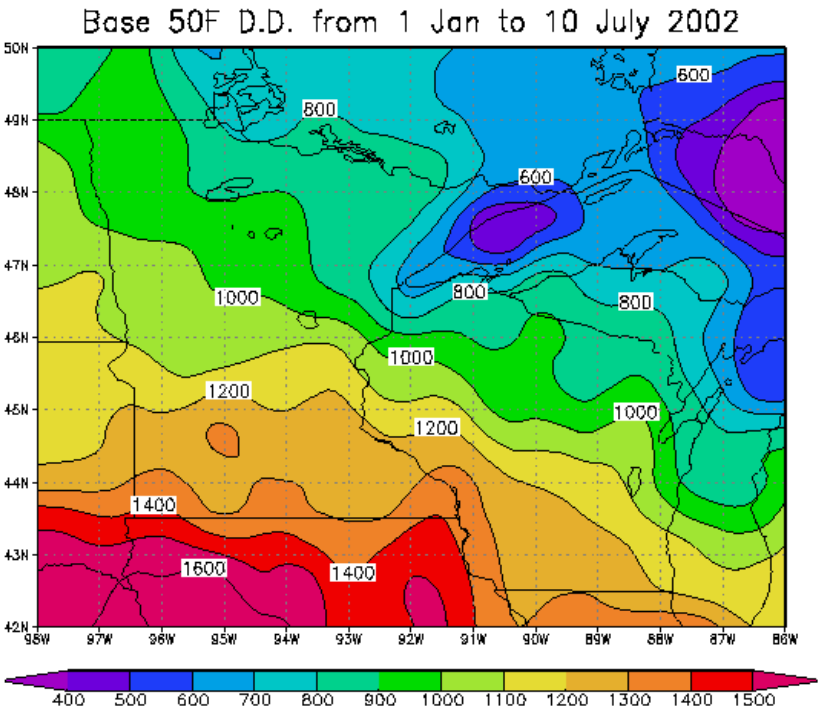
Redbanded and obliquebanded leafroller - A consultant reports that larval hatch of both species has been generally light, although some (now late instar) OBLR larvae survived an earlier application of Imidan, and some fruit damage was noted. Generally, counts are well below threshold, he says, but it pays to monitor this pest as there are other non-OP products that perhaps should be used for this insect.

European red mite - Populations reaching or exceeding thresholds are fairly common where no previous miticide has been applied, and predator mites are effectively controlling ERM populations in a small percentage of the orchards

Apple rust mites – A consultant noted above-threshold counts in some areas of an orchard in Richland and Crawford Cos.

GYPSY MOTH TRAPPING

7/10/02 COUNTY	Total Traps Expected	# of Traps Set	% Complete	Counties Done
Adams	606	480	79	X
Ashland	519	446	86	X
Barron	450	450	100	X
Bayfield	986	978	99	
Brown	161	156	97	X
Buffalo	356	353	99	X
Burnett	428	428	100	X
Calumet	79	79	100	X
Chippewa	531	531	100	X
Clark	619	609	98	X
Columbia	673	469	70	
Crawford	301	297	99	X
Dane	1373	1069	78	X
Dodge	223	215	96	X
Door	124	124	100	X
Douglas	685	622	91	X
Dunn	429	427	100	X
Eau Claire	325	324	100	X
Florence	134	134	100	X
Fond Du Lac	182	182	100	X
Forest	253	249	98	X
Grant	604	542	90	
Green	295	288	98	X
Green Lake	89	88	99	X
Iowa	393	359	91	
Iron	541	421	78	
Jackson	512	498	97	X
Jefferson	142	142	100	X
Juneau	446	434	97	X
Kenosha	71	71	100	X
Kewaunee	86	86	100	X
LaCrosse	235	221	94	X
Lafayette	322	315	98	X
Langlade	215	210	98	X
Lincoln	742	587	79	X
Manitowoc	156	156	100	X
Marathon	842	827	98	X
Marinette	371	371	100	X
Marquette	253	219	87	X
Menominee	360	360	100	X
Milwaukee	90	88	98	X
Monroe	470	371	79	
Oconto	261	261	100	X
Oneida	585	532	91	X
Outagamie	168	168	100	X
Ozaukee	61	61	100	X
Pepin	119	119	100	X
Pierce	296	283	96	X
Polk	467	465	100	X
Portage	213	192	90	X
Price	670	542	81	X
Racine	90	90	100	X
Richland	311	291	94	
Rock	581	574	99	X
Rusk	455	449	99	X
St.Croix	368	364	99	X
Sauk	783	731	93	X
Sawyer	637	612	96	X
Shawano	225	224	100	X
Sheboygan	131	131	100	X
Taylor	494	477	97	X
Trempealeau	370	367	99	X
Vernon	403	394	98	X
Vilas	486	486	100	X
Walworth	142	142	100	X
Washburn	408	402	99	X
Washington	108	108	100	X
Waukesha	144	144	100	X
Waupaca	189	189	100	X
Waushara	445	405	91	X
Winnebago	140	140	100	X
Wood	527	471	89	X
TOTALS	**26949**	**25090**	**93%**	**65**



http: bob. soils.wisc.edu/wimnext/tree/arbor.html

Website of the Week:

http://library.smsu.edu/paulevans/viticulture1.html

Paul Evans Library of Fruit Science Viticulture Page

An award-winning gathering of links relating to all things grape in the U.S, from Southwest Missouri State University. Grape culture, pests, publications, laws and more. Visit the main Library Fruit Science page http://library.smsu.edu/paulevans/frtlinks.htm for links to a wealth of fruit information.

APPLE INSECT TRAPPING RESULTS

County City	Date	STLM	RBLR	CM	OBLR	AM
Crawford Co.						
Gays Mills-W2	7/1-7/8	70	8	2	0	
Gays Mills-E2	7/2-7/9	215	19	2	1	
Richland Co.						
Hill Point	7/3-7/8	264	11	3	9	
Richland Center-W	7/2-7/9	510	27	7	0	
Richland Center-E	7/2-7/9	339	43	1	3	
Dane Co.						
Deerfield	7/1-7/8	222	41	2	2	
Green Co.						
Brodhead	7/3-7/10	6	38	0	5	
Pierce Co.						
Beldenville	7/1-7/8	600+	0	1	15	
Spring Valley	7/3-7/11	494	33	0	3	
Trempealeau Co.						
Galesville	6/25-7/2	600	8	3	1	
	7/2-7/8	0	6	0	0	
Fond du Lac Co.						
Rosendale	6/20-7/1	135	82	15	1	
Malone	7/1-7/8	0	13	2	4	
Adams Co.						
Oxford	7/1-7/8	566	6	13	9	
Marquette Co						
Montello	7/1-7/8	1092	28	1	5	
Sheboygan Co.						
Plymouth	7/4-7/11	600+		22		
Ozaukee Co.						
Mequon	6/28-7/9	400	26.5	2.8		
Racine Co.						
Rochester	7/3-7/11	541	3	2	7	1
Brown Co.						
Oneida	6/23-7/1	160	0	3	1	
	7/1-7/8	16	3	1	1	

BLACKLIGHT TRAPPING RESULTS

through July 10

Trap Site	Euro. Corn Borer	Army-Worm	Black Cutworm	Vari. Cutworm	Spot. Cutworm	Celery Looper	Forage Looper	Corn Earworm	Corn Earworm ***Pheromone***
South Central									
Arlington[1] thru 7/10			4						
Arlington[2] 6/26-7/4	10								
6/22-6/26	35								
6/19-6/22	100								
Madison		12	6						
Mazomanie	26	41	2	3	5	7	0	0	
West Central									
Coon Valley 7/4-7/11									53
6/27-7/4									12
East Central									
Oakfield thru 7/10	34	1	0	0	0			0	
Oakfield thru 7/4	22	1	0	0	0			0	
Manitowoc	2	10			2	3			
Central									
Marshfield	30	49	2	0	25	0	30	18	
Northwest									