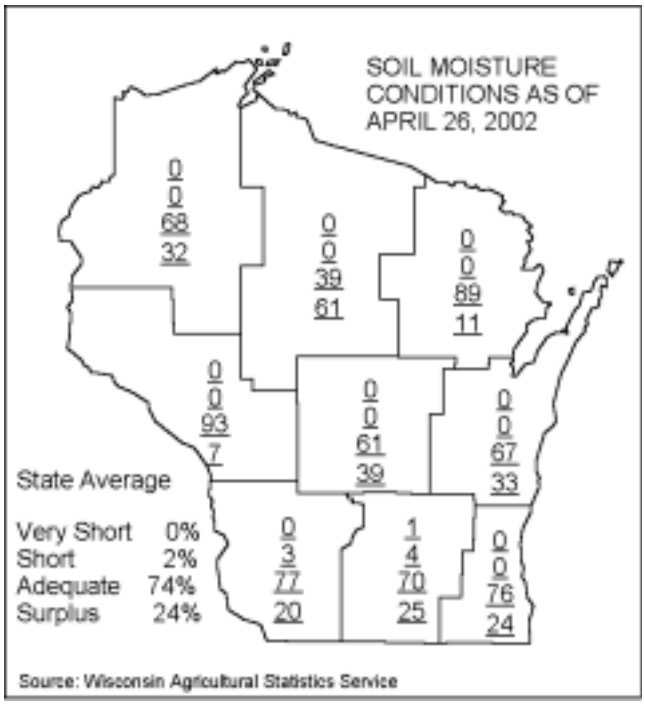
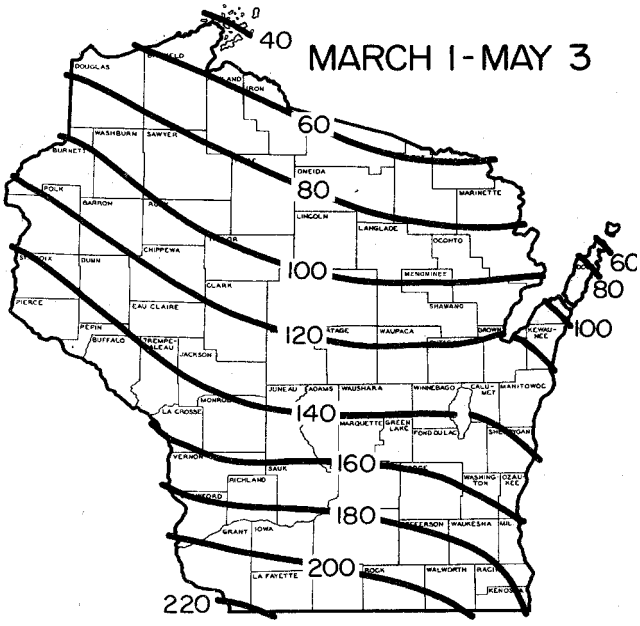
Cooperative Pest Survey Bulletin
Agricultural Resource Management
Bureau of Plant Industry
WI Department of Agriculture, Trade & Consumer Protection, PO Box 8911, Madison, WI 53708-8911 Phone: 1-800-462-2803 Fax: 608-224-4656 Web: Wisconsin.gov





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

WEATHER AND PESTS

Cool, wet conditions, in addition to more snow, continue to keep farmers and growers out of the fields. Some parts of Northern Wisconsin received 20" of snow which caused many downed trees and power lines.

Growing degree days from March 1 through May 1 were:

Site	2001 GDD*	Normal GDD	Base GDD	Base 48	Base 40
SOUTHWEST					
Dubuque, IA	193	238	216	194	421
Lone Rock	177	222	180	169	383
SOUTHCENTRAL					
Beloit	197	254	202	176	431
Madison	170	220	186	163	370
Sullivan	186	233	175	168	409
Juneau	172	224	155	173	370
SOUTHEAST					
Waukesha	175	208	173	146	373
Hartford	164	203	152	159	350
Racine	164	187	170	135	338
Milwaukee	154	176	163	147	323
EAST CENTRAL					
Appleton	132	168	134	135	294
Green Bay	104	139	114	106	248
CENTRAL					
Big Flats	156	190	138	148	329
Hancock	151	188	138	144	320
Port Edwards	133	164	130	126	288
WEST CENTRAL					
LaCrosse	172	200	161	152	362
Eau Claire	139	168	127	139	293
NORTHWEST					
Cumberland	108	134	114	101	227
Bayfield	54	83	44	46	134
NORTH CENTRAL					
Wausau	106	135	110	105	237
Medford	92	132	100	89	208
NORTHEAST					
Crivitz	85	124	89	84	209
Crandon	79	116	77	74	180

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

Potato Late Blight — A reminder that ATCP 21.15 Wis. Administrative Code requires that **potato cull piles** must be field-spread and disked in, fed to livestock, or otherwise destroyed before May 20, and potato growers must **control volunteer potatoes** in their fields. The purpose of the rule (and the effort) is to reduce the likelihood of infected potato plants sprouting from overwintering tubers and providing early inoculum of *Phytophthora infestans*, the causal agent of **late blight.** Reducing the amount of initial inoculum is "a critical management strategy", according to the new edition of the *Compendium of Potato Diseases*, edited by Dr. Walt Stevenson. Eliminating cull piles and controlling volunteers requires a community-wide effort. For more information on this effort to reduce initial **late blight** inoculum, please call 800-462-2803.

CORN

Black cutworm – Below normal temperatures are slowing **black cutworm** activity. The first "concentrated" capture of moths has not yet occurred. Pheromone trapping efforts are aimed at predicting when seedling corn is most susceptible to cutting by 4th-6th instar larvae. Catches from 4/24 to 5/1 ranged from 1-4 moths per trap at sites near Mazomanie, Dodgeville, Mineral Point, Belmont, Platteville, Dickeyville, Benton, Cuba City, and Monroe.

Corn flea beetle – Temperature data from weather stations throughout the state indicate mild winter temperatures that favor **corn flea beetle** survival. This translates into a high risk for **Stewart's wilt** in some areas of the state during the 2002 growing season. However, this forecast, based solely on winter temperatures, is not entirely reliable. There are additional variables that influence the risk of **Stewart's wilt**, including corn flea beetle population size prior to the winter months, and the prevalence of **Stewart's wilt** during the previous summer, that must be considered in assessing the risk.

The table "Predicting Risk for Stewart's Wilt Based on Mean Monthly Temperature" forecasts the risk for **Stewart's wilt** based on mean monthly temperatures from December-February, 2001-2002. Winter temperatures were uncharacteristically mild, but **corn flea beetle** populations were also very low last fall. Of the 220 sites included in our fall survey, **corn flea beetles** were collected at only 8 of the sites. Further, our staff detected no cases of Stewart's wilt in Wisconsin corn fields last summer. ***Despite mild winter temperatures, the risk for Stewart's wilt this summer is not nearly as high as the table suggests.***

One exception to this forecast is the far southeast corner of the state, where temperatures have been mild enough to permit **corn flea beetle** survival for several consecutive winters, and where **corn flea beetle** specimens were collected during the fall survey. Growers in this region should be alert to the possibility of the return of **Stewart's wilt** in 2002. Elsewhere, the risk for **Stewart's wilt** in 2002 appears low.

Below is the model developed at Iowa State University to determine the ***predicted risk for Stewart's wilt disease*** based on monthly mean ambient air temperatures for December, January and February.

0 month > 24ºF very low risk
1 month > 24ºF low to moderate risk
2 months > 24ºF moderate to high risk
3 months > 24ºF high risk

Predictive Risk for Stewart's Wilt Based on Mean Monthly Temperature

Station	December	January	February	Risk for Stewart's wilt
Northwest				
Amery	26.5	22	25	moderate to high
Bayfield	26.7	21.4	25	moderate to high
Superior	26.2	21.7	25.4	moderate to high
North Central				
Medford	24.5	20.5	23.6	low to moderate
Merrill	25.1	21.7	23.6	low to moderate
Wausau	27.3	25.1	26.7	high
Northeast				
Crivitz	26.1	22.4	24.6	moderate to high
Marinette	28.9	23.6	25.3	moderate to high
Shawano	27.6	24.5	26.7	high
West Central				
Eau Claire	27	24	26.6	high
LaCrosse	29.8	27.9	30	high
Sparta	29.2	26	28.7	high
Central				
Hancock	27.9	25.5	26.8	high
Stevens Point	27.4	23.7	25.2	moderate to high
Marshfield	25.9	23.8	25.7	moderate to high
East Central				
Appleton	28.3	24.9	26.2	high
Manitowoc	32.5	27.5	29.3	high
Oshkosh	30.7	27.6	32	high
Southwest				
Dodgeville	29.1	26.4	28.4	high
Lancaster	29.2	26.8	28.9	high
Viroqua	27.4	25.3	27.1	high
South Central				
Brodhead	31	27.7	29.9	high
Madison	30.4	28.2	30.5	high
Watertown	31.3	26.8	29.7	high
Southeast				
Kenosha	33.9	32.3	32.6	high
Milwaukee	32.6	29.4	31.8	high
Racine	33.5	30.1	31	high

FORAGES

Meadow spittlebug – Low numbers of tiny, orange nymphs were swept from southern Wisconsin alfalfa fields earlier this week. **Meadow spittlebug** is the insect that forms the spittle masses that will soon be visible in grassy areas along roadsides and fencerows. The spittle mass provides protection from predators and prevents desiccation.

Meadow spittlebug damage to alfalfa is uncommon, but occasionally populations can grow large enough to cause stunting. If **meadow spittlebug** problems occur at all, they typically arise in the first crop. A population in excess of 1 nymph/stem is considered economically significant.

Tarnished plant bug – Adults and nymphs are active in alfalfa fields. Low numbers, ranging from 1-4 adults per sweep, were observed in Dane, Walworth, and Lafayette Co. fields.

SMALL GRAIN

Aster leafhopper – Several Walworth Co. wheat field had counts averaging 3 per 50 sweeps on April 30. As the vector of **aster yellows**, this insect regularly presents problems for carrot growers in Wisconsin and throughout the upper Midwest. **Aster leafhopper** migration into the state is regulated by wind patterns and weather conditions, and is not consistent from year to year. Growers of susceptible crops, including celery lettuce and carrots, are encouraged to monitor **aster leafhopper** populations closely to prevent damage.

APIARY

Apiary Program – Winter Survival of honey bee colonies in Wisconsin is at a record high this spring. State-wide only 12% of Wisconsin colonies died over the winter of 2001/2002 compared to record losses of 55% the previous winter. The northern half of the state lost 13% on average, the southern half lost 11%. Beekeepers report common causes such as queen failure and starvation responsible for losses. Mild winter weather provided bees with lots of opportunities to perform cleansing flights which are critical for successful overwintering. Low **varroa mite** (*Varroa destructor*) population levels are also crucial for colony survival.

Beekeepers should be aware that cold and wet conditions in early spring provide prime conditions for **chalkbrood** to develop, more so in weak colonies lacking pollen or pollen substitutes. **Chalkbrood** (***Ascosphaera apis***) is a fungal disease that is easily overcome by strengthening colonies when foraging conditions improve. Preventive measures include keeping vegetation low around hives and increasing ventilation within the hive by propping up inner covers.

FOREST, SHADE TREE, ORNAMENTALS AND TURF

Aphids – **Aphids** on spirea at a nursery dealer in Richland Co. were at trace to light levels. Trace to light levels of **aphids** were also found on tiger lilies and hollyhock at a nursery dealer in Richland Co.

Cambium miner on white pine- Serpentine mines were found in the bark of a containerized white pine at a nursery dealer in Winnebago Co. Cambium miners are most commonly noticed in young, thin barked plant species. These mines actually occur in the cortex and phloem, not the cambium, and they

APIARY SURVEY 1993-2002

Fall	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Positive for Varroa	72%	72%	68%	55%	27%	73%	73%	60%	47%	27%
Spring	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Winter Mortality	44%	45%	29%	42%	33%	29%	27%	23%	55%	12%

cause little damage to trees and shrubs.

Eastern tent caterpillar – Tents are very small in the southern part of the state. One tent at a residential site in Dane Co. was about an inch and a half in diameter. In Marquette Co. larvae were about three fourths of an inch in length and were actively feeding. Control at this time would be very effective. **(UWEX in part)**

Recently hatched eastern tent caterpillar

European pine sawfly – Larvae were approximately 1/8th inch long on a mugo pine at a commercial site in Dane Co. No noticeable damage was observed and treatments at this time would be very effective.

Forest tent caterpillars- In Rhinelander the first **forest tent caterpillars** emerged in mid-April, and were killed by the cold temperatures. Another batch started to hatch by the end of April. Caterpillars were approximately 1/8" in length. **(DNR)**

Spruce spider mite- Feeding damage, most likely from this small 8-legged pest, was found on Globe and Pyramidal Arborvitae at nursery dealers in Winnebago Co. **Spruce spider mite** feeding causes pale yellow or grey flecks on needles. Needles may eventually turn brown and drop. Any feeding damage noticed in early spring is likely from the previous year.

Spruce needle miner – Light to moderate amounts of damage were found on white and black hills spruce at a nursery dealer in St. Croix Co.

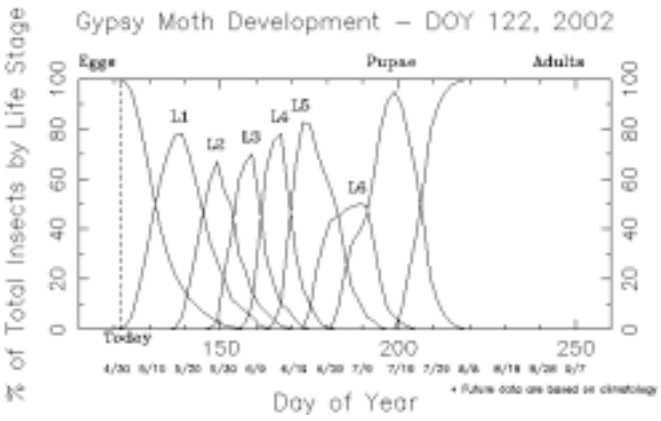
Thrips – Trace amounts were observed on gaillardia and salvia at a nursery dealer in Richland Co.

Anthracnose – Trace amounts were found on daylilies at a nursery dealer in Richland Co.

STATE/FEDERAL PROGRAMS

Cooperative gypsy moth program- The **gypsy moth** Btk applications are tentatively scheduled to start May 20th in the southern part of the State and will end the first part of June in the northern locations. There are 51 sites totaling approximately 21,000 acres to be sprayed with Btk plus 1,500 acres to be sprayed with Gypchek (a virus). These sites range from Waukesha to Crivitz in the eastern part of the State while in the central part the sites range from Columbia Co. to Wisconsin Rapids. More information can be found at http://www.wisconsin.gov, by typing ***gypsy moth*** into the search field.

See graph below for Dane County gypsy moth development:



FRUIT

Codling moth – Cool, wet weather may have delayed adult emergence, but this insect should begin appearing in southern counties within the next week or two. By this time last year the first pheromone trap catches had already occurred in the South and West Central districts. Cooperators can anticipate the appearance of moths in traps around 248 DD (base 50°F).

Redbanded leafroller – The degree day model for **redbanded leafroller** indicates egg laying is underway throughout the southern half of the state. Peak adult emergence is expectedaround 200 DD (base 45°F), while peak egg laying generallyoccurs once 350 DD (base 45°F) have accumulated. The highest count recorded this week was 33 moths per trap, at a Racine Co. orchard.

Spotted tentiform leafminer – High trap catches noted by our Racine Co. cooperator indicate peak flight is nearing in the Southeast corner of the state. A single **spotted tentiform leafminer** larva is capable of disrupting 4% of the apple leaf surface, leading to significant defoliation when infestations are severe. In turn, defoliation can lead to a number of secondary problems, including stunted or reduced fruit

growth, early leaf drop, and premature ripening. Scouting for leaf mines to determine the level of infestation and the need for spray should begin approximately one week after peak adult flight.

Freeze damage to fruit buds – The low temperatures of the last two weeks and reports of substantial frost damage in southwestern Michigan have brought up concerns about the susceptibility of flower buds to freezing. The temperature at which a given amount of damage will occur changes as the tree development stage changes—the critical temperature to kill 90% of buds at half-inch green is 15º F., while 90% kill occurs at only 25º F. if the buds are at pink. An excellent guide to critical temperatures for apples, pear, and stone fruits is contained in the back of the Commercial Tree Fruit Spray Guide (Ext. Pub. A3314, available from your county agent or UW Extension Publications). Another good source of critical temperature data is http://www.msue.msu.edu/vanburen/crittemp.htm (contains good photos of development stages). The UW pamphlet "Fruit and Frost" (http://www.uwex.edu/ces/wihort/gardenfacts/XFruitFrost.pdf) provides a good overview of the topic. More on the situation in Michigan is available at http://www.msue.msu.edu/ipm/CAT02_frt/F04-30-02.htm#1 **(damage information from Dr. Teryl Roper, UWEX)**

Apple Scab — After starting with a bang, the cool weather has slowed the development of ascospore maturity to a crawl. Most cooperators in the network have accumulated the necessary Growing Degree Days to expect 5% of spores mature (and thus have the risk of infection, given suitable environmental conditions); the exceptions are growers in the north. The development model predicts that 5% of the spores are mature and ready for release at 147 GDD (base 32).

The GDD(base 32) accumulations from Mac green tip, development stage and the date of the last report:

Fond du Lac	351	open cluster	5/2 (early a.m.)
Prairie du Chien	328.5	open cluster	5/2 (early a.m.)
Racine	348.6	open cluster	5/2 (early a.m.)
Sheboygan	275.9	tight cluster	5/1
Door	92.7	tight cluster	5/1

Information throughout the week on cooperator degree day accumulation and near-real time interpolated degree day maps are available at

http://www.soils.wisc.edu/cgi-bin/aws/scabsummary

Apple Insect Trapping Results

County City	Date	STLM	RBLR	CM
Grant Co.				
Sinsinawa	4/22-4/29	416		
Crawford Co.				
Gays Mills-W2	4/22-4/29	15	2	0
Richland Co.				
Hill Point	4/23-4/29	92	28	
Dane Co.				
Deerfield	4/22-4/29	137	4	0
Green Co.				
Brodhead	4/23-4/30	101	11	
Pierce Co.				
Beldenville	4/22-4/27	12	3	
Trempealeau Co.				
Galesville	4/22-4/29	0	0	0
Jackson Co.				
Hixton	4/23-4/29	20	5	0
Fond du Lac Co.				
Rosendale	4/22-4/29	1	4	0
Malone	4/22-4/29	1	8	0
Adams Co.				
	4/22-4/29	41	14	0
Marquette Co.				
Montello	4/22-4/29	56	7	0
Sheboygan Co.				
Plymouth	4/24-5/1	303		
Ozaukee Co.				
Mequon	4/23-4/29	1000	1.5	
Racine Co.				
Rochester	4/25-5/2	1155	33	

Department of Agriculture,
Trade & Consumer Protection

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PO Box 8911
Madison WI 53708-8911

Website of the Week:

http://www.ento.vt.edu/Facilities/OnCampus/IDInfo.html-

Insect Identification Laboratory
at Virginia Tech.

A great resource for household, agricultural and horticultural insect information. Easy to use keys and picture guides, insect fact sheets, exotic pests, slide sets, printable scouting calendars, biocontrols and more...