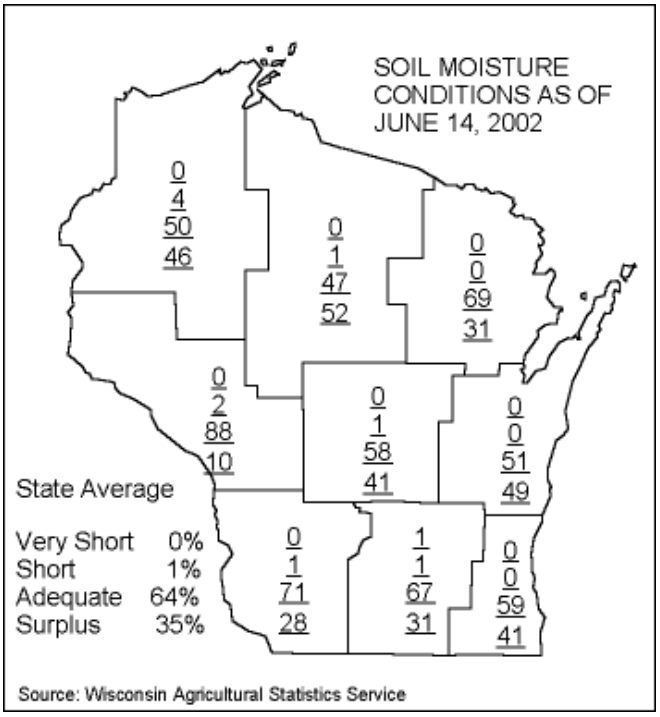
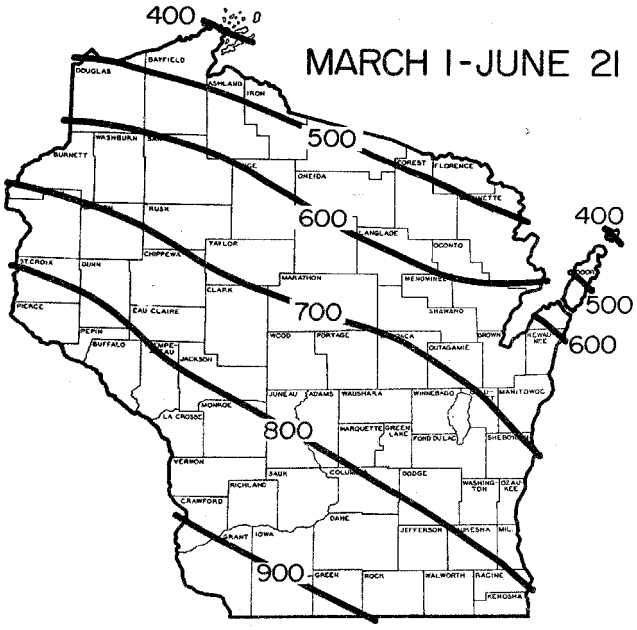
Wisconsin Cooperative Pest Survey Bulletin
Wisconsin Department of Agriculture, Trade and Consumer Protection
PO Box 8911
Madison, WI 53708-8911





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

WEATHER AND PESTS

Rainfall over much of the state remains above the seasonal norm. Hay harvesting was hampered by the frequent rains and some fields remain under water. One observer in Dane Co. reported **potato leafhopper** nymphs in his rhubarb patch. In the southern part of the state **mosquitoes** are beginning their annual feeding frenzy.

Growing degree days from March 1 through June 19 were:

Site	GDD*	2001 GDD	Normal GDD	Base 48	Base 40
SOUTHWEST					
Dubuque, IA	784	852	930	823	1422
Lone Rock	729	780	846	752	1335
SOUTHCENTRAL					
Beloit	756	872	876	759	1388
Madison	696	779	846	720	1291
Sullivan	711	820	819	715	1323
Juneau	679	797	768	709	1262
SOUTHEAST					
Waukesha	672	757	807	676	1259
Hartford	646	751	773	669	1212
Racine	631	692	802	635	1187
Milwaukee	604	669	781	629	1150
EAST CENTRAL					
Appleton	566	677	667	595	1098
Green Bay	481	605	640	507	982
CENTRAL					
Big Flats	670	713	766	684	1225
Hancock	656	709	748	672	1205
Port Edwards	609	655	760	620	1131
WEST CENTRAL					
LaCrosse	771	786	834	775	1373
Eau Claire	657	724	755	668	1197
NORTHWEST					
Cumberland	546	661	722	560	1022
Bayfield	350	456	408	345	720
NORTH CENTRAL					
Wausau	524	595	686	547	1009
Medford	483	594	668	499	941
NORTHEAST					
Crivitz	432	566	592	457	898
Crandon	430	580	573	441	858

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.

LOOKING AHEAD

Potato leafhopper – In the week ahead crop scouts are advised to look for tiny, fluorescent green **potato leafhopper** nymphs which are just now beginning to appear in alfalfa fields. These nymphs frequently collect around the collar of sweeps nets rather than at the bottom like the adults, so be sure to check around the collar after sweeping. For management purposes, the number of adults and nymphs can be totaled together. Use the economic threshold table listed in the **FORAGE** section to decide if treatment may be warranted.

European corn borer – The egg masses detected during this week's survey will begin hatching soon, indicating corn growers in the south can begin scouting for 1st instar larvae in the upcoming week. When egg masses are close to hatching the tiny black heads of the larvae inside become visible through the transparent egg mass. The time required for **European corn borer** eggs to hatch is both weather and temperature dependent, but generally takes anywhere from 3-7 days.

Soybean aphid – Look for populations to increase rapidly in soybean fields in the upcoming week. Presently, infestations exist in many fields, but at very low levels. **Soybean aphids** frequently multiply and spread throughout a field within two weeks following arrival.

Apple maggot - Cooperators who have not already done so should place both the yellow sticky board and the red ball traps for the earliest emerging **apple maggot** flies. For best results, place traps on the south side of trees, in the earliest maturing variety. See **FRUIT** section for more information.

Rusts of small grains – Leaf rust of wheat has been reported as far north as South Dakota this season, yet has not been found in Wisconsin to date. Conditions have been good for rust development, and reports indicate that the disease is widespread in the Great Plains. If recent weather patterns brought rust spores to Wisconsin, the disease should show up soon. Current info on rust movement nationwide is available from the USDA Cereal Disease Lab at http://www.cdl.umn.edu/index.htm

Phytophthora root rot of soybean – The frequent rains of late have provided good conditions for the development of **phytophthora root rot** of soybeans, though warm temperatures may help to reduce disease pressure. No symptoms have been seen yet, but growers should be on the lookout for the classic shepherd's crook and the brown stem discoloration characteristic of this disease.

CORN

European corn borer – Moth captures are on the rise at several reporting sites and egg laying is likely to increase in the week ahead. Two egg masses per 50 plants were detected in a western Dane Co. field, and 1 per 50 plants in Sauk Co. No egg masses were found in V7 stage corn in Adams and Waushara Cos.

The egg masses observed this week will hatch within 3-7 days and tiny 1st instar larvae will begin feeding within the corn whorls. Most female moths deposit an average of 2 egg masses per night for 10 nights and each egg mass may contain as many as 60 eggs. When egg masses are close to hatching, the tiny black heads of the larvae inside become visible through the transparent egg mass. Thus far no 1st instar larvae have been detected.

Corn flea beetle – Beetles continue to be detected farther north than originally anticipated. Surveyors found beetles in northwestern Crawford Co. earlier this week. The presence of **corn flea beetles** should alert corn growers to the potential for **Stewart's wilt** this season.

FORAGES

Alfalfa weevil – Below-economic-threshold levels of larvae were detected in all fields surveyed in the southeast and south central regions of the state. In Jefferson, Walworth, Racine and Kenosha Cos., counts were relatively low, ranging from 0 to 0.9 per sweep. Most of the larvae swept were late instar, and are likely to be entering the pupal stage in the week ahead. In Portage and Waushara Cos., 3rd and 4th instar larvae were commonly swept and 20-40% tip feeding was observed in the fields surveyed.

Potato leafhopper – Populations of adults have increased substantially in many fields since last week. Above-threshold numbers were observed in three 8-10 inch Dane Co. fields. Higher counts were also detected in Jefferson, Walworth, Racine and Kenosha Cos. compared to last week, but no above-threshold fields were encountered in that region. Often there is a lag in time between **potato leafhopper** population explosions and when damage becomes evident. In some cases it may take about 10 days for damage to appear in untreated fields.

Also notable from this week's survey efforts is the detection of nymphs in Sauk and Dane Co. alfalfa fields. To determine the need for spray, see the table below. The number of adults and nymphs should be totaled together.

Height of Alfalfa (inches)	Ave. # Plh per Sweep (adults and nymphs)
<3	0.2 adult
3-6	0.5 adults
6-12	1.0 adult or nymphs
12-14	2.0 adults or nymphs

Plant bugs – Unusually high numbers of adults and nymphs were swept from several Dane, Sauk and Columbia Co. fields. Both **alfalfa plant bug** and **tarnished plant bug** species were present. Yield losses resulting from plant bug feeding are uncommon, but have been documented; therefore, **plant bug** densities should be monitored. To sample for **plant bugs** take 5 sets of 20 sweeps. Total the number of **plant bugs**, including both adults and nymphs, swept at each of the 5 sites within the field and divide by 100. The threshold is 3 **plant bugs** per sweep in alfalfa that is 3 inches or shorter, and 5 per sweep in alfalfa taller than 3 inches.

Alfalfa Blotch Leafminer – Characteristic comma-shaped leaf mines were readily observed in Dane, Sauk and Columbia Co. alfalfa fields. Counts ranged from 2-17 mines per 50 stems. **Alfalfa blotch leafminer** leaf mines can occupy anywhere from 20-80% of the total leaflet surface, but research has not yet clearly determined whether a**lfalfa blotch leafminer** leaf mining results in yield loss.

http://ipmworld.umn.edu/chapters/venette.htm

SMALL GRAIN

Crown rust of oats – Pycnia and aecia of **crown rust** have been present on buckthorn for several weeks, but infection on oats is rare. One field in Grant Co. showed light levels of infection by this fungus; the disease was absent in 9 other oat fields from Walworth to Eau Claire Cos. . No other rusts have been detected on small grains yet this year. (See "Looking Ahead.")

VEGETABLES

European corn borer - Bean and potato growers should scout for egg masses in the next several weeks. After hatching, larvae bore into the stems of these crops, often within 24-48 hours, necessitating early treatment once egg masses are observed. Very often, egg laying occurs in fields that were planted with corn during the previous year.

Potato leafhopper – Nymphs were noted on rhubarb in Dane Co. on June 19.

Late blight - The Wisconsin potato crop continues to grow rapidly with the warmer weather. Many fields in central Wisconsin are now closing the rows and a few scattered blossoms are showing in some fields. The best news is that there have been **no observations of late blight** anywhere in the state. Weather conditions continue to be favorable for the establishment and spread of **late blight** as indicated by the rapid accumulation of severity values. At this time, all fields of potatoes should be receiving at least weekly sprays of fungicide. The fungicide coverage I've seen in field visits during the past week is excellent. Fields where potatoes were planted last year and are now planted to crops other than potatoes appear for the most part to be free of volunteer potatoes. Growers should continue checking dump sites for the presence of volunteers and taking appropriate action to insure that any volunteers at these sites are destroyed immediately.

Early blight - The first symptoms of **early blight** were identified this past week. This is somewhat early, but protectant fungicides being applied as preventative sprays for **late blight** management should slow **early blight** development. The application of Quadris fungicide as rows begin to close will further control **early blight**. Recall that **early blight** lesions appear first on the lower (older) leaves and can appear as large brown lesions up to the size of a quarter. There can be significant yellowing of the tissues bordering the leaf lesions. Distinct rings on the lesion surface give the **early blight** lesion a bull's-eye appearance. (**UW-Madison**)

SOYBEANS

Soybean aphid – This week's survey efforts revealed that low-level infestations are common in fields throughout the south. In several V2-V3 stage Dane Co. fields, surveyors

Current P-Day and Severity Value Accumulations

Location	Calculation Date:	P-Day Total	Severity Value Total
Antigo emerging 5/31	6/19	131	31
Grand Marsh emerging 5/24	6/18	176	18
Grand Marsh emerging 5/27	6/18	163	18
Grand Marsh emerging 5/30	6/18	140	18
Hancock emerging 5/16	6/19	218	28
Hancock emerging 5/23	6/19	194	28
Hancock emerging 5/28	6/19	164	27
Plover emerging 5/15	6/19	224	41
Plover emerging 6/01	6/19	129	35

found 5-15% of the plants infested with fewer than 10 aphids. At the Arlington Research Station, 3% of plants were infested with low numbers of aphids, usually less than 10 per plant. Surveyors at the West Madison Research Station observed that a 5% infestation on June 18th increased to 7% by the 19th. Aphid numbers were low in general, but two plants were found with 80 and 130 aphids per plant (data from Bob Ellingson, UW-Madison). Farther north, in Adams and Waushara Cos. no aphids were detected in V2 stage soybeans.

Although aphid densities are mostly very low at this time, populations will more than likely increase rapidly in the week ahead. Growers should begin scouting now for **soybean aphids** on the youngest trifoliate, along soybean stems and on the undersides of leaves.

Bean leaf beetle – Foliar feeding injury was less evident in soybean fields surveyed this week. The incidence of defoliation ranged from 4-38% and severity from 5-50% in Dane, Sauk and Columbia Co. fields. The most important time to sample fields for potential for pod injury caused by **bean leaf beetle** is still ahead. Growers should be prepared to scout carefully during the R4 (full pod) to R7 stages.

APIARY

APIARY PROGRAM has moved to DATCP's Plant Industry Lab at 4702 University Ave, PO Box 7883, Madison WI 53707-7883. Anette Phibbs' new phone number is (608) 266-7132, fax: (608) 266-5855. Her email remains the same. Anette.Phibbs@datcp.state.wi.us

FOREST, SHADE TREE, ORNAMENTALS AND TURF

Aphids - Light to moderate numbers were found on sedum, spirea, chrysanthemums and various perennials at nursery dealers in Chippewa, Clark, Eau Claire, St. Croix and Washington Cos.

Winged euonymus scale - Large numbers of scales were found on dwarf burning bush at a nursery dealer in Chippewa Co.

Spider mites - Daylilies, geraniums and various other perennials had moderate to heavy numbers of **spider mites** at nursery dealers in Clark, Langlade and Washington Cos.

Spruce spider mite - A light amount of bronzing was observed on globe and pyramidal arborvitae at nursery dealers in Outagamie and Portage Cos.

Elm Sawfly - Adults were seen flying around willows in Dane, Iowa, and Richland Cos. (**UWEX**)

Rose slug - Light amounts of feeding damage was seen on 'nearly wild' rose at a nursery dealer in Polk Co.

Gypsy moth - On 6/13/02 **gypsy moth** larvae were observed causing heavy defoliation (>50%) in a 2-3 acre area of west central Columbia Co. The caterpillars were in 4th and 5th instars at the time. (**DNR**)

Voles - Heavy **vole** damage caused mortality to numerous tree seedlings of both hardwood and conifer species in a 6 acre plantation in Dodge Co. This was the second year of such damage. (**DNR**)

Rose chafer - Adults were spotted feeding in Pepin and St Croix Cos. (**UWEX**)

Leaf curling aphid - Heavy numbers of aphids were found on patmore ash at a nursery dealer in Jackson Co.

Thrips - Feeding damage was light to moderate on marigolds, mums and various perennials at nursery dealers in Clark, Jackson and Washington Cos.

Bright red aphid –Both winged and non-winged forms of an undetermined species of **aphid** were observed on ox-eye sunflower, *Heliopsis helioanthoides*. The observer reported seeing a population explosion of the same **aphid** species in her prairie two or three years ago. Unfortunately no sample was provided so the species could not be identified.

European earwig – One Dane Co. cooperator noted earwigs were "numerous and everywhere" at his home, in " the peonies, in the rhubarb, under the siding, under tree bark". Development ranged from about 1/3-grown to adult.

Euonymus caterpillar - Heavy amounts of feeding damage by larvae was observed on *Euonymus europeus* at a nursery dealer in Washington Co.

Oak tatters - Moderate to heavy levels of **oak tatters** on burr oak were observed south of McFarland in Dane Co. **Oak tatters** may be mistaken for **gypsy moth** or other caterpillar feeding damage. (**DNR**)

Black spot - Hybrid tea and pink carpet roses had light to moderate amounts of **black spot** at nursery dealers in Clark, Jackson, Kewaunee, St. Croix and Washington Cos.

Botryosphaeria canker - Low numbers of cankers were widespread on red twig dogwood at a nursery dealer in Washington Co.

Bacterial leaf spot - Light amounts of leaf spotting was observed on lilac, mock orange and viburnum at nursery dealers in Chippewa, St. Croix and Washington Cos.

Powdery mildew - Light to severe amounts of **powdery mildew** were found on roses, spirea, pulmonaria and monarda at nursery dealers in Clark, Crawford, St. Croix and Washington

Cos.

Cercospora needle blight *(Cercospora sequoiae var. juniperi)* This disease caused browning of shoots on mature junipers in Wood Co. The disease starts in the lower, inner branches working its way upward and outward. Dead shoots drop off the tree in the fall. This disease can severely damage older plantings. Successive infections over several years can kill the junipers.

Sphaeropsis blight (*Sphaeropsis sapinea*) - Previously known as **diplodia,** this disease was found on Scotch pine *(Pinus sylvestris)* in Walworth Co. The fungus infected shoots and buds. Scotch pine, and even more so Austrian pine (*Pinus nigra*), are very susceptible to **sphaeropsis**. The fungus may infect branches and cause resinous bleeding cankers. On older branches killed by this disease the sapwood is stained grey or blue-black. Most noticeable field symptoms are browning, stunting and twisting of new shoots. Field symptoms can be confused with injury caused by **pine shoot moth**, drought, winter drying or low temperatures. Infected old dead seed cones serve as reservoirs for the disease.

Cyclaneusma *(Cyclaneusma minus)* - This disease was also found on older needles of a submitted specimen. The needle cast affects mostly older needles causing the inside foliage of scotch pine to fall off while current year needles remain.

Jack in the pulpit rust– *Uromyces ari-triphylli* infecting jack in the pulpet *(Arisaema triphyllum)* in a garden in Dane Co. Infected tubers should be discarded to prevent spread.

Impatiens necrotic spot virus - Small numbers of impatiens and coleus were found to be infected with this virus at nursery dealers in Crawford and Washington Cos.

Rose mosaic virus complex - Roses infected this past week include 'Paul Negron' and 'Mister Lincoln' at nursery dealers in Langlade and Outagamie Cos.

Venturia shoot blight - Light amounts of shoot dieback was observed on quaking aspen at a nursery dealer in Langlade Co.

Peach leaf curl - Elberta peach at a nursery dealer in Langlade Co. had moderate amounts of damage.

Fire - Three oriental lilies at a nursery dealer in Crawford Co. were being decimated by this disease caused by *Botrytis elliptica*.

Spruce needle rust - The first documented occurence of **spruce needle rust** caused by *Chrysomyxa weirri* was reported from a nursery in Sawyer Co. and tentatively from a nursery in Dane Co. This particular **needle rust** has not been reported in Wisconsin and does not require an alternate host.

(UW-Madison and DNR)

STATE/FEDERAL PROGRAMS

GYPSY MOTH PROGRAM - Trappers are continuing to set traps statewide. As of 6/19/02, trappers have set 16,352 traps (61%) of the expected total of 27,000. Trappers set approximately 5,000 traps per week which means we should be nearly complete in two weeks.

Seventeen counties are complete: Buffalo, Calumet, Florence, Fond du Lac, Green, Kewaunee, LaCrosse, Lafayette, Manitowoc, Milwaukee, Oconto, Pepin, Racine, Sheboygan, Walworth, Waukesha, and Waupaca. Counties that are 75% complete or better are: Brown (78%)Dunn (91%), Eau Claire (93%), Jackson (87%), Juneau (89%), Marathon (80%), Oneida (82%), Portage (80%), Rusk (81%), Taylor (87%), Vilas (84%), Washburn (84%), and Wood (80%). See chart for all counties.

For more information on the GYPSY MOTH PROGRAM, please call our hotline at 1-800-642-MOTH or visit our website at http://datcp.state.wi.us and type gypsy moth in the search box.

FRUIT

Codling Moth – Based on the degree day model available for codling moth, the first peak flight, which generally occurs at 500 DD (base 50°F), has passed throughout most of the state. Egg hatch is well-underway in the south and can be expected to be 50% complete at 713 DD. The larvae emerging from these eggs will mature in July, pupate, and produce a mid-summer flight of moths. Generally 1000 DD are needed to complete each generation. In Wisconsin there are two generations of **codling moth** and sometimes a partial third during warm years. The larvae of these latter generations cause the most significant damage. **Codling moth** control should be carefully timed to target larvae hatching from eggs. Once larvae tunnel into fruit, insecticide applications are ineffective. For control recommendations see the 2002 Commercial Tree Fruit Spray Guide (UW-Madison Cooperative Extension Service Publication A3314). **http://www.uky.edu/Agriculture/Entomology/entfacts/fruit/cm.gif**

Apple Maggot – Cooperators who have not already done so, should place both the yellow sticky board and the red traps for the earliest emerging **apple maggot** flies. The red ball trap resembles a ripening apple and attracts female flies ready for egg laying. The yellow sticky trap attracts immature male and female flies. Both traps are visual traps, therefore they are only effective when they are readily seen by apple maggot flies. Be sure to place traps in an exposed spot in the outer

part of the tree canopy along the south side of the tree. Cooperators can expect the first trap catches to occur around mid-June. Treatments target flies before the female deposits hers eggs, and may be warranted when 5 **apple maggots** are trapped per red ball.

Common Tree Fruit Pests
Angus Howitt, 1993. NCR 63, Michigan State University

Plum curculio - Slightly over 60% of the fruits on an untreated Cortland apple tree in Dane Co. were damaged as of June 19.

Apple Insect Trapping Results

County City	Date	STLM	RBLR	CM	OBLR
Grant Co.					
Sinsinawa	6/12-6/19	0	0	1	0
Richland Co.					
Hill Point	6/5-6/18	2	0	2	1
Green Co.					
Brodhead	6/11-6/18	0	0	1	16
Trempealeau Co.					
Galesville	6/10-6/17	340	2	120	0
Jackson Co.					
Hixton	6/11-6/17	40	0	0	2
Fond du Lac Co.					
Rosendale	6/11-6/15	65	26	0	
Malone	6/10-6/17	0	0	0	0
Adams Co.					
Oxford	6/10-6/17	6	0	6	2
Marquette Co					
Montello	6/10-6/17	5	2	0	5
Sheboygan Co.					
Plymouth	6/13-6/20	0	5		
Ozaukee Co.					
Mequon	6/12-6/18	0	0	0.3	
Racine Co.					
Rochester	6/13-6/20	52	0	0	12
Brown Co.					
Oneida	6/2-6/9	14	3	1	
	6/10-6/17	1	1	4	0

BLACKLIGHT TRAPPING RESULTS

through June 19

Trap Site	Euro. Corn Borer	Army-Worm	Black Cutworm	Vari. Cutworm	Spot. Cutworm	Celery Looper	Forage Looper	Corn Earworm
South Central								
Arlington	9	3						
Mazomanie	66	2	1	0	2	4	0	0
Janesville	15	208	0	9	22	2	0	
East Central								
Oakfield	3	0	0	0	0	0		
Manitowoc	0	3	0	0	1	1	0	
Central								
Marshfield	12	53	0	0	14	0	7	6
Northwest								
Chippewa	6							

Website of the Week:
http://plants.usda.gov/
The PLANTS Database is a single source of standardized information about plants. This database focuses on vascular plants, mosses, liverworts, hornworts, and lichens of the U.S. and its territories. The PLANTS Database includes names, checklists, automated tools, identification information, species abstracts, distributional data, crop information, plant symbols, plant growth data, plant materials information, plant links, references, and other plant information.