



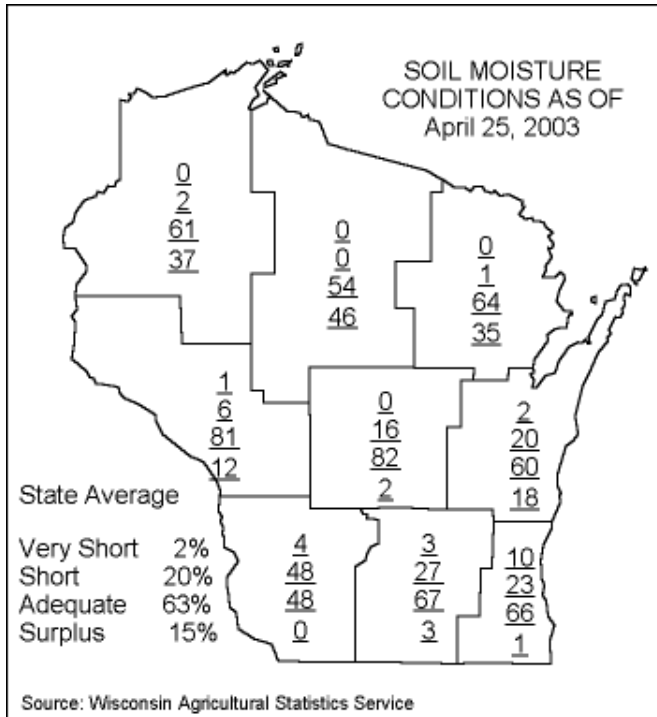
# Wisconsin Pest Bulletin

Wisconsin Department of Agriculture, Trade & Consumer Protection

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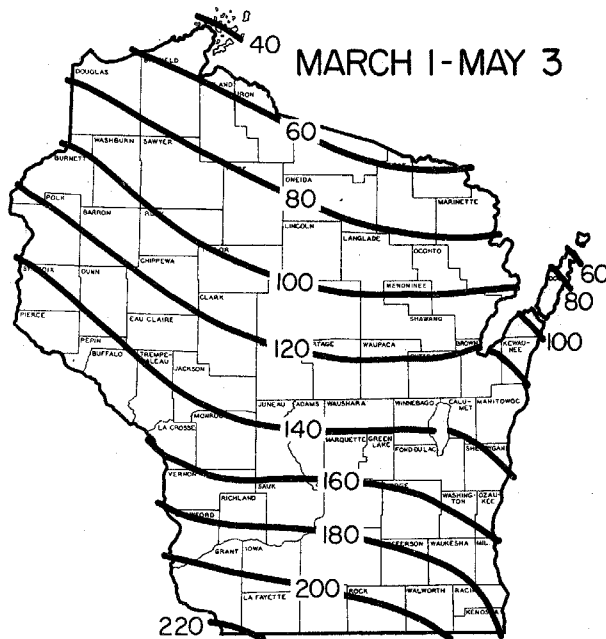


## WEATHER AND PESTS

Nearly ideal planting conditions characterized the early part of the week, but heavy rains mid-week and cooler temperatures may have temporarily delayed those farmers who are already behind in their fieldwork. Corn planting is well underway and oats are emerging throughout the south. Overall, insect activity and development appeared somewhat more advanced in the southwest versus the southeast. Sweeping in small grains throughout the southern tier of counties turned up little besides very low numbers of bird cherry-oat aphid, a species of aphid we typically see at this time of year. Alfalfa growth has picked up substantially, with the presence of alfalfa weevil larvae, tarnished plant bug adults, and pea aphids being noted in nearly all fields

### Growing degree days from March 1 through May 1 were:

Site	GDD*	2002 GDD	Norm GDD	Base 48	Base 40
<b>SOUTHWEST</b>					
Dubuque, IA	269	193	216	257	523
Lone Rock	254	177	180	226	490
<b>SOUTHCENTRAL</b>					
Beloit	259	197	202	245	505
Madison	227	170	186	216	462
Sullivan	229	186	175	210	457
Juneau	204	172	155	193	431
<b>SOUTHEAST</b>					
Waukesha	197	175	173	184	413
Hartford	185	164	152	173	397
Racine	170	164	170	162	368
Milwaukee	163	154	163	153	354
<b>EAST CENTRAL</b>					
Appleton	164	132	134	145	345
Green Bay	124	104	114	110	285
<b>CENTRAL</b>					
Big Flats	223	156	138	192	435
Hancock	211	151	138	195	423
Port Edwards	189	133	130	161	379
<b>WEST CENTRAL</b>					
LaCrosse	233	172	161	204	464
Eau Claire	207	139	127	175	426
<b>NORTHWEST</b>					
Cumberland	166	108	114	137	342
Bayfield	77	54	44	57	197
<b>NORTH CENTRAL</b>					
Wausau	156	106	110	128	328
Medford	148	92	100	120	314
<b>NORTHEAST</b>					
Crivitz	107	85	89	91	263
Crandon	116	79	77	92	274



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

surveyed. Though it's difficult to forecast with certainty, recent heavy rains and low to moderate daytime temperatures may help alfalfa to outgrow potential alfalfa weevil problems as weevils fare better when warm spring temperatures prevail.

**Bedding plants-** Be careful with buying bedding plants from garden centers at this time of year. Look for quality, sturdy plants, with limited lower leaf loss and lack of legginess. Some of the locally grown materials will be available soon. Local growers try to have good quality plants available for the appropriate time of planting – plants available for the targeted planting times. **(UW-Extension)**

**Flowering plants-** Some are more cold tolerant than others, some are light frost tolerant. We still have chances of frost. The evenings still get down in the high 20 degree range, so be cautious and not over-anxious about putting plant materials out. If you have trees that have been transplanted within the last two years, it might be a good idea to go out and give them a good soaking, at least once a week. **(UW-Extension)**

### ALERTS

**Fire blight** season is upon us as apple flowering nears. (see information in "Fruit" section)

### LOOKING AHEAD

*A brief forecast of pest-related events growers can anticipate in the upcoming week*

**Black cutworm** – Watch closely for evidence of black cutworm injury as corn seedlings begin to emerge. Rising trap counts in the southwest indicate larvae will soon develop to the 4<sup>th</sup> instar stage at which they will become capable of cutting through corn seedlings. In instances where heavy cutting occurs, farmers may be forced to replant. Scout now to detect and prevent injury to seedlings.

**Spotted tentiform leafminer** – Trap counts of 960 in an Iowa Co. orchard indicate peak flight is nearing in the southwest. Growers are encouraged to begin scouting for leaf mines approximately one week after peak adult flight to determine the level of infestation and the need to spray.

**Codling moth** – The first moths of the season are being trapped at various location throughout southern Wisconsin. With adults emerging, now's the time to begin closely monitoring pheromone trap catches. Pheromone trap catches should be used to determine the "biofix", or starting date of the first sustained flight of male moths. Control treatments are most effective when applied 250 DD (base 50°F) after the cumulative capture of 5 moths per trap (Midwest tree Fruit Management Handbook).

**Meadow spittlebug** – Look for distinctive spittle masses to become visible in grasses along roadsides and in alfalfa fields

in the week ahead. Inside each mass is a tiny orange nymph, the immature stage of the spittle bug. The spittle mass provides protection from predators and prevents desiccation. Spittlebug damage to alfalfa is uncommon, but occurs occasionally in the first crop. A population in excess of one nymph per plant is considered economically significant.

**Eastern tent caterpillar** - Webbing has begun appearing in on chokecherry (*Prunus virginiana*) in Grant, Green and Lafayette Cos. Webs observed earlier this week are still relatively small and inconspicuous, but expect them to become visible in roadside trees in the week ahead.

**Armyworm** – Migratory adults are beginning to arrive from southern states. Armyworms mate almost immediately upon arrival, suggesting egg laying should be occurring in grasses and small grains soon. To date, our surveyors have seen no evidence of armyworm infestations in wheat and oats fields surveyed in Grant, Green, Kenosha, Lafayette, Racine, and Kenosha Cos, but this could change dramatically in the next week if weather conditions are favorable and the arrival of migratory moths continues. Although the first generation is often small and does relatively little damage, it will be important to monitor activity closely in the next few weeks to determine the potential for damage by the more injurious second generation of larvae in July.

### CORN

**Black cutworm** – As corn seedlings emerge it will become increasingly important to watch for signs of black cutworm activity. The key to preventing black cutworm damage is early detection. Begin scouting at corn emergence and continue into June. Check 20 consecutive plants in five separate areas of the field. When damaged plants are observed, try to collect larvae for positive identification. To retrieve a larva, dig in the soil near the affected plant. The larva, sometimes referred to as the "greasy cutworm", varies from light gray to black in color and has a glossy sheen. Black cutworm larvae may attack corn plants anywhere from just below the surface to a few inches above. The point of attack and the plant developmental stage are key factors affecting a cut plant's ability to survive cutworm injury. A plant cut below the growing point will not recover. A plant damaged above the growing point sometimes regrows, but the plant may produce a smaller than normal sized ear, or no ear at all. It is unclear how a plant attacked above the growing point will fare. Management is justified when 5% of the plants show leaf feeding and larvae are 6<sup>th</sup> instar or smaller. If the percent of damaged plants is near the threshold, sample again in 5 more locations within the field to ensure accuracy.

**Corn flea beetle** – Overwintered adults were swept from alfalfa fields in Kenosha, Racine and Walworth Cos. earlier this week. This finding suggests that some percentage of the corn flea beetle population survived the winter months, and

that these southeastern counties may be at-risk for the return of Stewart's wilt in 2003. Only two cases of Stewart's wilt were detected in Wisconsin last summer.

### FORAGES

**Alfalfa weevil** – Adults, 1<sup>st</sup> and 2<sup>nd</sup> instar larvae are appearing in low numbers in southwest Cos.. In Green Co., counts ranged from 0 to 3 per 50 sweeps. In Lafayette Co., counts of 2 to 3 per 50 were detected. The highest number of larvae that could be obtained by sweeping in forages throughout the south was 3 per 50 sweeps.

Larvae become active once 371 DD (base 48°F) have been reached. Heavy weevil populations can be very destructive to the 1<sup>st</sup> crop, typically when the first cutting is ready for harvest. Begin scouting now and continue until the first cutting. After the first cutting, increase the frequency of scouting in second crop regrowth to once every 4-5 days to determine if alfalfa weevil feeding is delaying growth. Control is suggested when 40% or more of the stems show signs of weevil feeding.

**Pea aphid** – Very low numbers of bright green adult aphids are appearing in sweep nets. Populations generally range from 1- 6 per 50 sweeps across the south from Grant to Kenosha Co..

**Tarnished plant bug** – Adults were active in all alfalfa fields surveyed this week. Sweeping turned up counts ranging from 2 - 7 per 50 sweeps in Kenosha, Racine, Jefferson, Rock, Green and Lafayette Cos. Expect nymphs to appear soon.

Economic infestations by tarnished plant bugs are very rare and treatments specifically for these pests are seldom required. Cutting early is usually an effective way to reduce plant bug populations. The threshold for plant bugs in alfalfa 3" or shorter is three per sweep, and increases to five per sweep in alfalfa that is taller than 3".

**Alfalfa caterpillar** – Both 2<sup>nd</sup> and 3<sup>rd</sup> instar larvae were swept from Green, Lafayette, Kenosha, and Rock Co. alfalfa fields this week. Counts ranged from 0 to 3 per 50 sweeps. Alfalfa caterpillars dark green in color with a prominent longitudinal white stripe on each side. Mature larvae are approximately 1.5 inches in length. These caterpillars rarely cause economic damage, but in the event that counts exceed 10+ larvae per sweep, control should be considered.

### SMALL GRAINS

**Bird cherry-oat aphid** – Low numbers of tiny, black bird cherry-oat aphids were common in sweep nets this week. Bird cherry-oat aphids are commonly the first aphid species to appear in small grain in the springtime. Early spring bird cherry-oat aphids are often totally black in color, but give rise to more typical colored aphids later on in the season.

Although aphid counts in small grains seldom reach economically important levels, bird cherry-oat aphids are the most efficient vector of **barley yellow dwarf virus**. Spring or summer efforts to lessen symptoms of barley yellow dwarf virus once they become apparent are futile. Instead, measures to prevent virus transmission should be initiated during the fall. Aside from their role in virus transmission, economic important outbreaks in small grains are unusual in Wisconsin.

**English grain aphid** – Migrants are appearing in very low numbers in southern grain fields, ranging from 1-3 per 100 sweeps in Racine, Kenosha, and Walworth Cos.. No English grain aphids were detected in fields surveyed in Green and Lafayette Cos..

English grain aphid colonies often develop on leaves and then move to heads in the boot stage. Aphids may cluster about the bracts of wheat heads or other grains. Like the bird cherry-oat aphid, this aphid is also a vector of barley yellow dwarf virus. The body of the English grain aphid is green, but both conicles and legs are completely black. It is commonly found in the heads of wheat, but seldom reduces yield and generally does not require control. Further, English grain aphids are vulnerable to many kinds of common aphid parasites and predators like lady beetles and lacewing larvae.

**Rust** – Reports of rust from southern states indicate that **leaf rust** of wheat is lighter than usual this year, but **stripe rust** continues to be found at record levels through central Texas, Louisiana and Georgia. Once uncommon outside of the Pacific Northwest, stripe rust has been found in significant amounts in Louisiana four out of the last six years. In 2000, stripe rust was found in Wisconsin, a rare event. Very little **stem rust** has been reported nationwide.

Rust of small grains in Wisconsin is typically caused by inoculum which blows north from southern states each spring, though some rust does overwinter in the state. Efforts to eradicate common barberries from 1916 to 1976 reduced the ability of stem rust of to complete its life cycle in the state.

Reports on the current rust situation in the U.S. are available in the USDA Cereal Rust Bulletin, available at <http://www.cdl.umn.edu/crb/crbupd.html>

### SOYBEANS

**Bean leaf beetle** – Reports from Illinois indicate overwintered beetles are abundant in several counties. These reports suggest the predictive model we used to estimate winter mortality may not tell the complete story. It remains unclear whether the 2002-2003 winter was harsh enough to reduce number of overwintering beetles. DATCP surveyors have not yet detected any overwintered adults, but we expect to find them soon. Last year the earliest beetles of the season were found in western Dane Co. during the week of May 9. We

anticipate emerging adults will migrate first to forage fields where they'll mate and wait for soybeans to emerge. Once soybeans emerge, the beetles move from forage crops to soybean fields where females lay eggs and the adults can severely defoliate soybean seedlings. We'll be closely monitoring the activity of adults in forage fields in the weeks ahead, and with luck, this may offer some idea of what to expect for soybeans later this summer.

#### **FOREST, SHADE TREE, ORNAMENTALS AND TURF**

**Honeylocust plant bug** – A report of an infestation of tiny nymphs at a Dane Co. apartment complex suggests it may be helpful to briefly discuss the honeylocust plant bug, describe how to recognize an infestation, and offers some suggestions for plant bug control.

Honeylocust plant bugs overwinter as eggs in the bark of honeylocust twigs and begin hatching at budbreak in spring. The tiny, bright green nymphs are problematic because they feed on new growth as the leaves unfold in the spring. Leaves injured by honeylocust plant bugs appear deformed, speckled, chlorotic and stunted. When infestations are heavy, the leaves may drop causing plants to become almost completely bare. Injury is most visible by the end of June or early July, and the adults, which are not as damaging as the nymphs, are present from late May until early July. Only one generation occurs each year in Wisconsin.

When a heavy plant bug population is detected, foliar sprays may be applied at bud break, but only if plant bug feeding is observed and high numbers of nymphs are present. Look for nymphs by shaking a branch over a sheet of paper. A single spray application of acephate (Orthene), bifenthrin (Talstar), cyfluthrin (Tempo), or summer oil at when new foliage begins to expand (that's now!) will effectively reduce nymph and subsequent adult populations. These sprays are toxic and should only be used when nymphs are present. Feeding by adults during the summer months may also result in leaf discoloration or distortion, but symptoms are often less severe and can be tolerated, so treatment during the summer is not recommended.

#### **STATE/ FEDERAL PROGRAMS**

**Gypsy moth trapping program** - We will be setting approximately 28,000 traps this year so the amount of data collected is quite large. Since we started using GPS units to mark each trap location, the amount of work to produce maps showing trap location and moth capture has been greatly reduced. Trap locations are based on the trapping density of a particular county and the southwest corner of a section in a township. If a one trap per sq. mile grid is used, there would be 36 traps in a typical township. We use the southwest corner as a grid point so that traps are equally spaced and all trappers use the same method of placing traps. Most of Wisconsin is being trapped at a one trap per two sq. mile grid

or 18 traps per township. A target circle, typically one mile in diameter, is placed around each grid point. Our protocols require that the trap be put inside the target circle to be considered a good data point.

Trappers are trained to select the grid point as their first choice for placing a trap, the second choice is anywhere inside the target circle. Sometimes there may be no intersection or trees at the grid point but there should be a tree somewhere inside the target circle to set the trap. If there are no roads that go into the target circle, trappers try to get as close as possible without setting the trap too close to the next trap. The last option is omitting the trap completely because a trap cannot be set because of inaccessibility due to large bodies of water or swamps or there is just no way to get there.

Typically, we set 90% of our expected trap total. Thanks to our dedicated and diligent trappers and leadworkers, we often exceed that by another 5-7%. Each trapper set about 600 traps. Depending on the terrain, road access, and the weather, some trappers can set 700-800 traps while others may only set about 500 traps. The main point here is that we get excellent trap coverage by our trapping crews throughout the state. Trapping begins around Memorial Day and continues to around July 4th. Traps are checked once in mid-summer and all traps should be down by the end of September or early October.

For more information on the gypsy moth trapping program, please call our hotline at 1-800-642-MOTH.

#### **FRUIT**

**Spotted tentiform leafminer** – High trap catches noted by our Iowa Co. cooperator indicate peak flight is nearing in the southwest portion 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. Bear in mind that spotted tentiform leafminer pheromone traps catches do not indicate the level of infestation. Instead, counts are a measure of relative abundance, and should be used to time leaf sampling. The first leaf mines usually appear approximately one week after peak adult flight, or once 329 DD have accumulated. Any decisions to control should be made based on the number of mines per leaf rather than the number of moths per trap.

**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 expected around 200 DD (base 45°F), while peak egg laying generally occurs once 350 DD (base 45°F) have accumulated. The highest count recorded this week was 56 moths per trap, at a

Racine Co. orchard.

**Codling moth** - Degree day accumulations are right for the emergence of the first moths of the season throughout the south, although cool nights or windy conditions may temporarily keep pheromone trap catches down in some areas. The first trap catches typically occur around 248 DD (base 50°F). As adults emerge it will be especially important to closely monitor pheromone trap catches. Pheromone trapping, when done correctly, can be used to time sprays. Sprays should target newly hatched larvae before they have the chance to enter the fruit and chew their way toward the core.

**Fire blight of apples** (and pears and raspberries and quince and hawthorn and cotoneaster...) – As we near bloom in apples, growers should be on the lookout for fire blight. The disease is sporadic, but the effects of an outbreak can be disastrous. Susceptible trees (such as many pear varieties) may be killed in a single year. In 2000, Michigan fruit growers lost an estimated 350,000-450,000 trees, and suffered an estimated \$42 million loss from this disease. (Loss estimates by Mark Langstroth, MSU Extension.)

This disease is caused by a bacterium, *Erwinia amylovora*. Fire blight overwinters in cankers from previous infections, and oozes from these old wounds about the time that apple trees blossom. The bacterium multiplies and spreads rapidly during conditions of free water (fog or rain) and warm temperatures. Though able to cause infection through stomates, the incidence of disease is greatly increased when the bacterium uses an entry pathway into the plant, either through flowers or as a result of wind or hail damage. Fire blight moves through the vascular tissue of infected trees, causing browning, shepherd's crooking, wilt and tree death. Fire blight was the first plant disease shown to be spread by honey bees, suggested by M. B. Waite in 1891.

Controlling fire blight requires an integrated approach involving rootstock and variety selection, sanitation, copper and streptomycin. Strains of *E. amylovora* resistant to streptomycin have been detected in various areas, so proper use of antibiotics and resistance management is imperative. Several predictive computer programs (Maryblyt and Cougarblight) are available, and may provide useful guidance in management of the disease. For details on fire blight control in Wisconsin, consult the Extension publication *Commercial Tree Fruit Spray Guide* (A3314).

**Apple scab**—Most orchards around the state have accumulated enough degree days to be in the primary apple scab season. After a long dry spell, recent rains have likely created conditions conducive to an infection period.

**ODDS-N- ENDS**

**Clover mite**- A trickling of clover mite problems are being

reported to the UW-Extension entomology lab. These tiny critters, cousins of spiders, look like walking pepper and leave a red streak if smashed. In the late fall and early spring mites can sometimes be found crawling by the thousands both indoors and along siding outdoors. The front legs are very long and may appear to be antennae. The source is outside where they have overwintered along the foundation. They are harmless and they do not bite or infest plants. The only concern is that if they are mishandled and crushed, they can stain painted walls and furniture. Indoors you can vacuum them up. If you decide to treat, treat along the outside foundation. Soapy water and many outdoor landscape insecticides will work - but you need to use a moderate volume - so a hose end spray will be your best bet. If untreated, they should disappear when they move out into the lawn. **(UW-Extension)**

**CALENDAR OF EVENTS**

**Sixth International Christmas Tree Research and Extension Conference**- September 14-19, 2003. Henderson and Boone, North Carolina. More information can be found at [www.ncsu.edu/feop/ctre](http://www.ncsu.edu/feop/ctre).

**QUOTE OF THE WEEK**

“That which is not good for the beehive, cannot be good for the bees.”  
Antoninus Marcus Aurelius, 121-180 AD

**WEBSITE OF THE WEEK**

Wisconsin State Herbarium  
<http://www.botany.wisc.edu/herbarium/>  
A wonderful botany site, with databases of the vascular plants and lichens of Wisconsin, PDFs of the out-of-print ‘Atlas of Wisconsin Prairie and Savanna Flora’, and a great interactive ARCIMS ‘Wisconsin Biomapper’ program.

Apple Insect Trapping Results					
County	Date	STLM	RBLR	CM	OBLR
Crawford Co.					
Gays Mills-W2	4/15-4/27	100	25		
Dane Co.					
Madison	4/24-5/1	2	23	1	1
Deerfield	4/21-4/28	750	30	1	
Sauk Co.					
Spring Green	4/24-5/1	1	21	0	1
Iowa Co.					
Dodgeville	4/24-5/1	960	23		
Pierce Co.					
Beldenville	4/21-4/30	17	16	0	0
	4/21-4/28	8	5	0	0
Spring Valley	4/27-5/1	25	13	0	
Jackson Co.					
Hixton	4/21-4/28	17	2		
Fond du Lac Co.					

<b>Orchard</b>	<b>Green tip</b>	<b>Latest report</b>	<b>Latest growth stage</b>	<b>GDD</b>	<b>In primary season</b>
Prairie du Chein	4/13	4/21	tight cluster	166	yes
Racine	4/14	4/28	tight cluster	244	yes
Gays Mills	4/14	4/21	pink	217	yes
Eau Claire	4/16	4/29	tight cluster	164	yes
Pierce Co.	4/14	4/29	tight cluster	302	yes