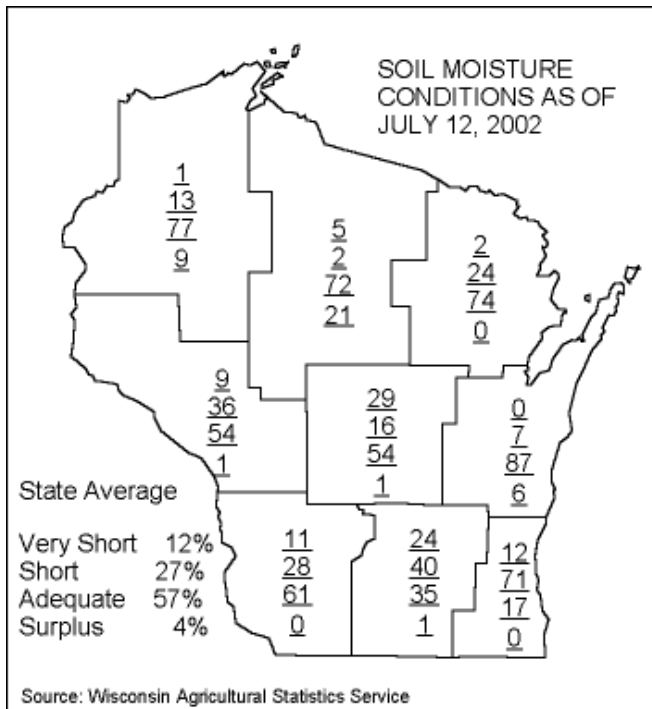


Cooperative Pest Survey Bulletin

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

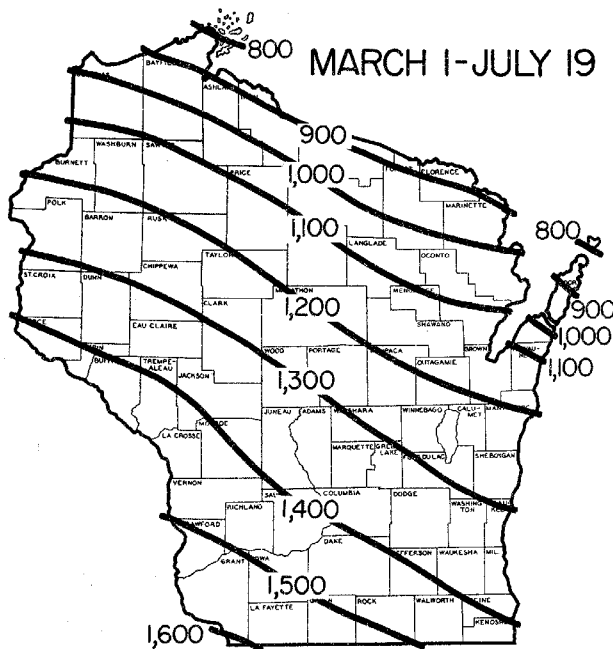


WEATHER AND PESTS

Dusty fields and spiked corn are reminders of low soil moisture throughout the state. Potatoes are in bloom and strawberries are winding up in northern Wisconsin, while sweet corn is tasseling in the south.

Growing degree days from March 1 through July 17 were:

Site	GDD*	2001 GDD	Normal GDD	Base 48	Base 40
SOUTHWEST					
Dubuque, IA	1464	1437	1562	1423	2397
Lone Rock	1388	1333	1454	1334	2292
SOUTH CENTRAL					
Beloit	1438	1457	1492	1331	2375
Madison	1365	1342	1437	1298	2256
Sullivan	1378	1396	1381	1265	2298
Juneau	1348	1369	1317	1266	2231
SOUTHEAST					
Waukesha	1347	1326	1370	1240	2245
Hartford	1321	1318	1307	1240	2190
Racine	1313	1243	1366	1212	2177
Milwaukee	1283	1218	1343	1199	2131
EAST CENTRAL					
Appleton	1230	1218	1199	1186	2056
Green Bay	1124	1124	1131	1080	1917
CENTRAL					
Big Flats	1325	1254	1310	1267	2173
Hancock	1313	1256	1294	1257	2153
Port Edwards	1249	1179	1295	1223	2059
WEST CENTRAL					
LaCrosse	1468	1377	1424	1342	2379
Eau Claire	1339	1295	1311	1254	2177
NORTHWEST					
Cumberland	1173	1207	1228	1185	1937
Bayfield	869	889	809	885	1521
NORTH CENTRAL					
Wausau	1137	1098	1188	1181	1907
Medford	1072	1078	1182	1110	1814
NORTHEAST					
Crivitz	1049	1062	1023	1026	1807
Crandon	1005	1068	1025	1016	1718



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

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.

LOOKINGAHEAD

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

European corn borer - The degree day model for European corn borer predicts the first moths of the second flight can be expected at 1400 DD (base 50°F). In most of the southern region of the state this should occur within the next 3-5 days.

Potato leafhopper – Pay particularly close attention to escalating populations in the week ahead. The hot, dry weather conditions we've been experiencing promote the rapid development of this insect, and high leafhopper populations can have a devastating effect on drought-stressed alfalfa.

Corn leaf aphid – The most effective time for controlling corn leaf aphids infestations is fast approaching in the central part of the state. A single insecticide application may be warranted when 50% of the plants have populations exceeding 50 aphids per plant. Sprays should be applied before tassels emerge, but not before upper whorl leaves open to expose tassels.

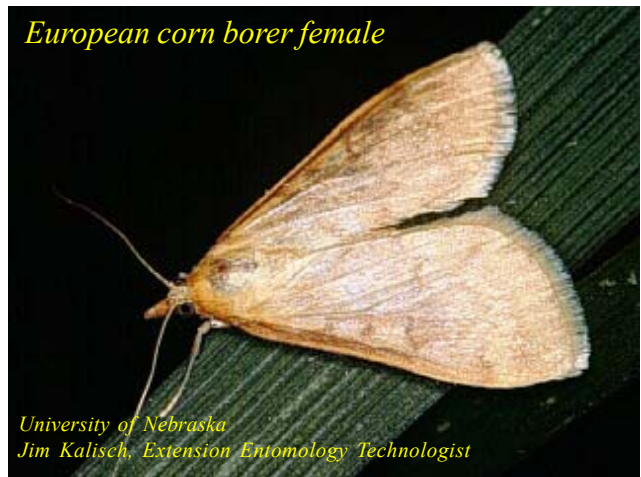
Soybean aphid – Continue to scout soybean fields closely. Per plant counts remain low at this time, but observations from preceding years suggest a substantial population increase could occur by the end of the month.

CORN

European corn borer – Populations are moderate to high in the southwest, with the heavier infestations involving as many as 78% of the plants. Pupation is well underway in this region, indicating that the second flight of moths will begin soon, where it has not already. In Waupaca and Shawano Cos., infestations ranging from 40%-50% were observed. Significantly lighter infestations were observed in Marathon Co., where infestations ranged from 3-10 plants per 100. Larvae in these fields were 2nd-5th instar.

The degree day model for European corn borer predicts the first moths of the second flight can be expected at 1400 DD (base 50°F). Throughout the state, degree day accumulations have been 19-22 DD each day this week, suggesting corn borer development is progressing at a rapid pace. At this rate, moths should begin appearing in Madison black light traps by this weekend, in Hancock by the 23rd or 24th, and in the Wausau area around the 31st of July. The outlook continues to be for a relatively heavy, possibly prolonged second flight of moths. Late-planted sweet corn is most vulnerable to this second flight of moths.

Armyworm – Light to moderate amounts of foliar damage

European corn borer female

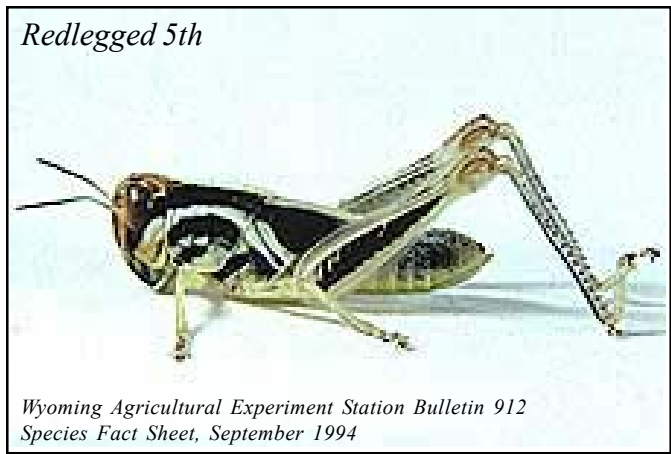
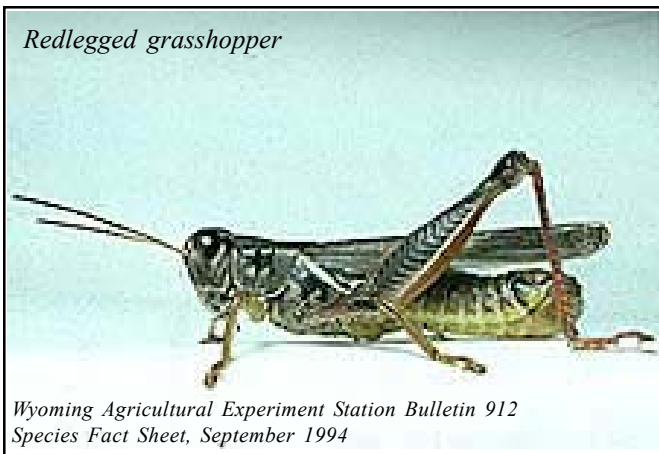
*University of Nebraska
Jim Kalisch, Extension Entomology Technologist*

were observed in fields throughout the southwest corner of the state. In Grant Co., at least 4 fields had damage on 5-15% of the plants. Several Lafayette Co. corn fields sustained moderate amounts of damage in scattered locations within fields, but damage was mostly concentrated at the field margins. In Green Co. fields, very little damage, less than 6% of the plants, was noted.

Corn rootworm – Both western and northern adults were observed in increasing numbers in the southwest. Counts were variable, ranging from 0.4 to 9 per plant in Grant, Lafayette and Green Co. fields. In Grant Co., light amounts of silk damage were evident in nearly all of the fields surveyed. As corn matures in this region, adults will tend to concentrate in late-planted corn and may reduce pollination by clipping the silks. In the southwest, the western variant was the more numerous of the two species this week.

Corn leaf aphids – Aphids were present in low to moderate numbers in all corn fields surveyed this week. Some fields had colonies of 170 aphids per plant, but only on a small percentage of the plants examined. The highest infestations, 50-170 aphids per plant, were noted in southern Lafayette Co., but counts were highly variable, and a number of the fields surveyed in the same region had fewer than 10 aphids per plant. Monitoring corn leaf aphid activity is especially important at this time. The UW-Extension recommendation is as follows: Examine 10 sets of 5 consecutive plants during the late whorl to early tassel emergence stages. When 50% of the plants have populations exceeding 50 aphids per plant, a single insecticide application before tassels emerge, but not before upper whorl leaves open to expose tassels, may be necessary.

Picnic beetles - Numbers are increasing. Aggregations of 3-5 beetles were noted in **European corn borer** tunnels in several Grant Co. fields. A major picnic beetle emergence usually coincides with the emergence of **corn rootworm** beetles.



Corn earworm – Pheromone trap counts from the west central and northwest regions of the state were low again this week.

Alternaria leaf spot- This fungal pathogen was found on corn in Dane Co. Leafs show chlorotic streaks that become necrotic. Alternaria is a weak pathogen and relies on tissue damage for example from insect feeding and long dew periods to be able to infect leaf tissue.

FORAGES

Potato leafhopper – Populations were high in the southwest, where the ratio of nymphs to adults suggests populations are continuing to build. Fields with 20-54% of the plants exhibiting signs of **hopperburn** were not uncommon. High numbers of nymphs and damage to new seeding were reported from Wood Co. as well. Dry, warm conditions, much like what we've been experiencing, promote the rapid development of this insect. High leafhopper populations, in combination with excessive numbers of **pea aphids**, can be particularly damaging to alfalfa, especially during prolonged dry periods. Unfortunately, once the v-shaped yellowing associated with potato leafhopper feeding becomes evident, some amount of quality and yield reduction has already occurred; therefore, routine sweeping and early detection of potentially damaging, above-threshold populations is key to preventing potato leafhopper injury to the third crop.

Pea aphid – Relatively high populations of 22-93 aphids per sweep continue to be found in 12-16" alfalfa fields. Counts in the few pea fields surveyed in the south central district were high as well, ranging from 19 to 122 aphids per sweep. Given the current dry conditions, damage is likely to occur in fields with counts exceeding 100 per plant. Close monitoring of aphid populations in peas is critical at this time.

SOYBEANS

Soybean aphid – Per-plant counts of aphids remain relatively low, but based on observations from the previous 2 years, a

dramatic population increase could occur near the end of the month. At this time it appears populations are spreading throughout fields and are becoming increasingly prevalent throughout the state, but in most fields surveyed, fewer than 25 aphids per plant were observed.

Redlegged grasshopper – Nymphs nearing maturity were present in fields throughout the southwest. Higher counts were detected in grassy field margins rather than in the interior of the fields. Consequently, damage to border rows was more common in the fields surveyed, while little defoliation was noted farther in. Later in the season, damage is likely to become more widespread throughout individual fields, and can be expected to peak in August. The economic threshold for grasshoppers in soybeans is based on the amount of defoliation. Control may be warranted when 30% defoliation is observed prior to bloom or when 20% defoliation is noted between bloom and pod fill.

SMALL GRAINS

Bacterial stripe of oats-This causes light brown, water soaked spots or streaks on oat leaves. Small yellow drops are exuded by infected leaf tissue under wet conditions. Bacterial stripe of oats is caused by *Pseudomonas striafaciens*.

VEGETABLES

Comment on special cranberry pesticide registration- This special registration, if approved, will allow cranberry growers to continue to make post-bloom applications of acephate pesticides to control fruitworms and other cranberry insects. Wisconsin citizens have until July 22 to review and comment on the proposed four-year special pesticide registration.

This registration will allow cranberry growers to apply Orthene 75S, Orthene 75WSP and Acephate 75SPAG after the cranberry plants have bloomed to better control the insect *Sparganothis* fruitworm and other cranberry insects. Post-bloom applications were granted under a special pesticide registration in 1996.

The three products contain the active ingredient *acephate*. Orthene 75S and Orthene 75WSP are manufactured by Valent USA Corp. Acephate 75SP AG is distributed by the Micro Flo Company and is identical to Orthene 75WSP. The products are already registered for pre-bloom applications on cranberries.

For a copy of the environmental assessments, contact Ed Bergman, P.O. Box 8911, Madison, WI 53708-8911, (608)224-4546 or review the assessment at the department, Mon.-Fri., 7:45 a.m.-4:30 p.m., 2811 Agriculture Dr., Madison, 2nd floor. Comments received on or before 4:30 p.m., Monday, July 22, 2002 will become part of the preliminary environmental assessment record. Send comments to Ed Bergman by mail at the above address, or fax to 608/224-4656, or send an email to ed.bergman@datcp.state.wi.us.

Striped cucumber beetle - Adults were numerous and mating on July 12 at a Dane Co. site. Feeding injury was obvious on cucumber blossoms on July 17. There were no symptoms of **bacterial blight**, transmitted by the beetles, at this site yet.

Striped cucumber beetle



<http://entweb.clemson.edu/cuentres/cesheets/veg/ce21.htm>

APIARY

Honey bee meetings— The following organizations are announcing their Canadian/ United States 2002 Joint Apicultural Meetings in Niagara Falls, Ontario December 2 – 7, 2002 with two days of Apicultural Research Symposium, Trade Show and Honey Competition from Dec 5 - 6, 2002:
 American Association of Professional Apiculturists
 Apiary Inspectors of America
 Canadian Association of Professional Apiculturists
 Canadian Honey Council
 Empire State Honey Producers' Association
 Ontario Beekeepers' Association
 Where: Sheraton Fallsview Hotel & Conference Centre
 Niagara Falls, Ontario
 Reservations: Sheraton Fallsview (www.fallsview.com),

Earwig life stages



<http://www.ivyhall.district96.k12.il.us/4th/kkhp/Insects/earwig.html>

Niagara Falls, Ontario, 1-877-353-2557 or 905-374-1077. Quote HONEY for special rates. For more information check out the web site at www.honeycouncil.ca or www.ontariobee.com.

HUMANS AND ANIMALS

European earwig - Several dead earwigs were observed in situations where the earwigs go into hiding in the morning then later die from exposure to intense mid-day sunlight and heat. **European earwigs** have a tendency to collect in cool, shaded places, such as under plant material, boards, lumber or mulch. For suggestions on controlling earwigs, see UW-Extension publication number A3640, available by calling toll free (877) WIS-PUBS.

FOREST, SHADE TREE, ORNAMENTALS AND TURF

Ash flower gall- Leprechaun ash at a nursery in Brown Co. had a few galls. These abnormal growths on the flowers are caused by small eriophyid mites. The galls are unsightly but rarely kill a tree.

Bark beetle- Found in a Scotch pine Christmas tree field in Jackson Co. (DNR)

Bronze birch borer- This destructive borer was found in whitespire clump birch in St. Croix and Waukesha Cos.

Chafer beetles- These pests, most common in sandy soils, were found in red twig dogwood and shrub rose in St. Croix Co. nurseries.

Eriophyid mite- Black Hills spruce, river birch and linden nursery stock in Pierce and Waukesha Cos. had feeding damage from this small pest.

Gypsy moth larvae- Large (5th instar) caterpillars were found in nursery stock, including birch, crabapple, chokecherry and linden in Brown, Oconto, Ozaukee, and Waukesha Cos.

In a report from south-central Wisconsin, approximately 780 acres of scattered pockets of defoliation by gypsy moth were observed in Portage Co. during recent aerial surveys. In Columbia Co. 40 acres of defoliation was estimated. Dane, Green, Dodge Cos. each had a single isolated area of defoliation that had previously been confirmed on the ground. An isolated heavy infestation of gypsy moth was confirmed during a site visit in the town of Westford, south of Fox Lake. Numerous yard trees were moderately to heavily defoliated. The male moths were actively flying and the female moths were laying eggs. In Dodge Co., in the city of Beaver Dam along Highway 33 west of Franklin Street, an isolated heavy infestation of gypsy moth was observed on three oak trees. At a gypsy moth infestation in Dane Co., first flight was observed on Monday, July 15th.

The caterpillar fungal pathogen, *Entomophaga maimaiga*, has naturally appeared again this year. Two infestations in Dane Co. have been hit hard by this fungus. Last year it was also observed as occurring naturally in a heavy infestation in downtown Madison.

Trappers from the Crivitz area are also reporting massive gypsy moth caterpillar death from either *E. maimaiga* or the caterpillar virus, **nucleopolyhydrovirus virus (NPV)**. **(DNR in part)**

Honeylocust plant bug- Light to heavy amounts of feeding damage were noted on honeylocust in Brown, Waukesha and Ozaukee Cos.

Horned caterpillar –Found on assorted apples and crabapples in light amounts at a nursery grower in Burnett Co.

Japanese beetle- These colorful but destructive exotics were found feeding on *Prunus*, beech and linden in Waukesha Co. A heavy infestation of Japanese beetles in Dodge Co. was also reported. **(DNR in part)**

Leafhoppers- Discoloration and stunted, cupped leaves from these small pests feeding were noted on red and Norway maple and assorted crabapples in Burnett, Brown, Oconto, Ozaukee, Polk, St. Croix, Waukesha and Wood Cos.

Linden borer- Linden in Brown and Waukesha Cos. were infested with this borer.

Pale green weevil- This pest was noted feeding in Door, Marathon and Waukesha Cos., defoliating yellow, river and crimson birch, hornbeam, and linden nursery stock. This pest is an exotic that was first reported in 1906 on the east coast. Adult weevils feed on many broadleaved plants.

Root collar weevil- Found in a Scotch pine Christmas tree field in Jackson Co., on nearly every tree examined. **(DNR)**

Turpentine beetle- Found in a Scotch pine Christmas tree field in Jackson Co. **(DNR)**

Shoot tip borer- Found in Tatarian maple in moderate amounts at a nursery grower in Polk Co.

Spruce needleminer- Colorado blue spruce and Black Hills spruce nursery stock in Pierce and Waukesha Cos. had tip death from these small pests.

Two-lined chestnut borer and **Armillaria root rot-** Scattered bur oaks in southwestern Wisconsin are showing signs of dieback. Infestation by the two-lined chestnut borer and Armillaria root disease appear to be involved. The hot dry weather during the summers of 2001 and 2002 may be playing a role. **(DNR)**

Yellownecked caterpillar – A localized infestation was found on linden trees at a nursery in Waukesha Co. Larvae were still small, about a quarter of an inch long.

Viburnum shoot tip borer- Nannyberry viburnum nursery stock in St. Croix Co. had tip damage from this borer.

White grubs- White grubs were found on red pine seedlings, feeding on roots and killing seedlings. The area was site prepped last fall with Accord. **(DNR)**

Anthracnose- This fungal disease continues to infect crabs, maples, ash, birch, daylilies and oak throughout the state.

Asteroma leaf spot- Linden nursery stock in Brown and Waukesha Cos. had small, round, dark spots peppering their leaves.

Black knot- Various cherry cultivars in Brown, Ozaukee, and St. Croix Cos. had this common fungal disease.

Cedar quince and **cedar apple rusts-** Various hawthorn varieties throughout the state had leaf and twig infections from these gymnosporangium rusts.

Golden twig and **Botryosphaeria canker-** Pagoda dogwood in Brown and St. Croix Cos. had light amounts of dieback from these cankers.

Fir needle rust- Found on concolor fir in heavy amounts at a nursery grower in Polk Co.

Frog-eye leaf spot- Crabapples in Brown and Waukesha Cos. had the round, distinctly-edged leaf spots that are typical of this disease.

Iron chlorosis –Found in monge lilac, *Syringa vulgaris* ‘Monge’ in moderate amounts at a nursery grower in Burnett Co.

Lophodermium needle cast - Found on red pine in Langlade Co. *Lophodermium seditiosum* is a major pathogen on smaller pines. Seedlings of red and Scots pine are especially susceptible. A variety of *Lophodermium* species are weak pathogens or saprophytes on pines, spruces, firs, cedars and junipers.

“**Mystery disease of spruce**” - This new fungus, not yet named, was found in Colorado blue spruce and Black Hills spruce in 5 different counties this week.

Oak leaf blister- Red oak in Brown and Oconto Cos. had this fungal disease.

Phomopsis tip blight- Tip death from this fungus was noted in arborvitae and juniper nursery stock in Door and Brown Cos.

Phyllosticta leaf spot- Maple nursery stock, including red, silver, amur, and sugar maple varieties in 7 different counties had this common leaf spot.

Rhizosphaera needle cast- *Rhizosphaera kalhoffii* was found on white spruce and Colorado blue spruce nursery stock in Portage, Wood, St. Croix, Waukesha and Ozaukee Cos. White spruce is not quite as susceptible to this needle cast disease as Colorado blue spruce. Serious defoliation during 3-4 successive years may cause branches of smaller trees such as Christmas trees to die. Yellow mottling of 1st year needles is a first indication of *Rhizosphaera* needle cast. The disease overwinters in infected needles on the tree and in leaf litter. *Rhizosphaera* forms characteristic fruiting bodies that are pushed through the stomata and appear as rows of tiny black dots on the underside of needles.



Sphaeropsis collar rot- Found on red pine seedlings in Jackson Co. (DNR)

Sphaeropsis shoot blight- Found in a Scotch pine Christmas tree field in Jackson Co. (DNR)

Swiss needlecast- Waukesha Co. douglas fir nursery stock had this fungal disease.

Venturia tip blight- Blackened shoot tips with shepherd's crooks, typical of this disease, were noted on aspen in Brown and Marathon Cos.

Verticillium wilt- A Norway maple in Waukesha Co. had this disease.

STATE/ FEDERAL PROGRAMS

Gypsy moth spray program- Application of pheromone flakes for gypsy moth mating disruption continue again starting Sunday, July 21st. Counties being sprayed include: Price, Oneida, Vilas, Iron, and Bayfield.

Gypsy moth trapping program - Trappers have completed the trap setting phase of our program. Trappers have set 25,261 (94%) of the expected 27,000 traps statewide. A big thank-you to all trappers for getting all their traps up and to landowners who allowed traps to be set on their property.

Trappers began checking traps for male gypsy moths south of Highway 10 on July 17. A report on the number of moths caught per county will be sent in for the next Pest Bulletin. Trappers north of Highway 10 will start spot checking traps on July 24. Moth flight is about 1-2 weeks behind in the far northern parts of the state.

During trap check, trappers will perform routine trap maintenance on the traps and get a moth count to report in. Trap check will last three weeks.

FRUIT

Apple maggot - A few adults are turning up on yellow sticky board traps, at scattered sites in the west central and central districts, but low soil moisture appears to be delaying emergence of apple maggot flies in most areas of the state. Twenty percent soil moisture is most favorable for the emergence of apple maggot flies, while lesser amounts generally cause desiccation of pupae.

Codling moth - Dissections of untreated Cortland apples yielded 3 larvae per 20 fruits at a site in northern Dane Co. on July 17. Two larvae were in the 4th instar and the other was a 3rd instar.

Plum curculio - No larva were found in dissections of 20 untreated Cortland apples at a site in northern Dane Co. on July 17. (Several of the apples had earlier been injured.)

BLACKLIGHT TRAPPING RESULTS									
through July 17									
Trap Site	Euro. Corn Borer	Army- Worm	Black Cutworm	Vari. Cutworm	Spot. Cutworm	Celery Looper	Forage Looper	Corn Earworm	Corn Earworm <i>Pheromone</i>
South Central									
Arlington ² <small>7-9 to 7-15</small>	1								
Madison	3	7	14						
Mazomanie	7	33	2	0	4	2	0	1	
Janesville	0	293	20	0	0	58	1	1	
<small>thr</small>	15	208	0	0	9	22	2	0	
West Central									
Coon Valley <small>7/4-7/11</small>									1
East Central									
Oakfield	9	1	0	0	0			0	
Manitowoc	21				7	1			
Central									
Marshfield	26	29	3	0	9	0	21	13	
Northwest									
Chippewa	125								1
<small>thru 7</small>	54							3	
New Richmond	4								
Cameron	3								

APPLE INSECT TRAPPING RESULTS							
County	Date	STLM	RBLR	CM	OBLR	AM red ball	AM sticky
Crawford Co.							
Crawford Co							
Gays Mills-W2	7/8-7/15	50	3	0	0	0	0
Gays Mills-E2	7/10-7/17	310	27	1	3	0	0
Richland Co.							
Hill Point	7/9-7/15	114	13	0	4	0	0
Richland Center-W	7/10-7/17	350	27	8	6	1	0
Richland Center-E	7/10-7/17	115	18	0	5	0	0
Green Co.							
Brodhead	7/10-7/17	4	33	3	0	0	0
Pierce Co.							
Beldenville	7/6-7/16	11	0	0	1	0	0
Spring Valley	7/10-7/17	456	10	0	0	0	0.5
Trempealeau Co.							
Galesville	7/9-7/16	0	4	11	0	0	1
Jackson Co.							
Hixton	7/9-7/15	10	0	2	1	0	0
Fond du Lac Co.							
Rosendale	7/8-7/15	18	4	2	1	0	0
	7/2-7/9	6	16	3	5	0	0
Adams Co.							
Oxford	7/8-7/15	368	45	8	7	0	0
Marquette Co.							
Montello	7/8-7/15	421	20	0	0	2	3
Sheboygan Co.							
Plymouth	7/11-7/18	600+		5		0	0
Ozaukee Co.							
Mequon	7/9-7/15	1650	26	1.2		0	0
Racine Co.							
Rochester	7/11-7/18	92	0	4.5	0	0	
Brown Co.							
Oneida	7/7-7/14	10	2	0	0	0	0

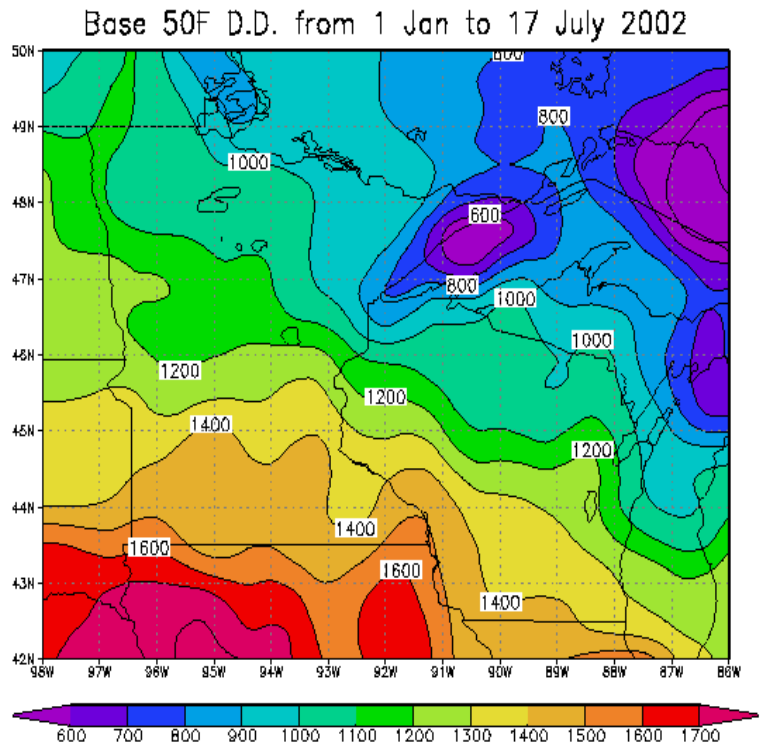
Website of the Week:

Indoor Plantscape Biological Control Project

<http://www.mda.state.mn.us/biocon/plantscape/>

The Indoor Plantscape Biological Control Project (IPBCP) is committed to educating the public on the effective use of biological control products and supporting efforts to adopt biological control as a method for managing plant pests in settings such as greenhouses, conservatories, atriums, and homes.

Our plant pest fact sheets provide basic management information (with emphasis on biocontrol) for common plant pests such as aphids, scales, mealybugs, fungus gnats, spider mites, thrips, and whiteflies. (from the Minnesota Department of Agriculture)



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