Wisconsin Pest Bulletin

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Wisconsin Department of Agriculture, Trade & Consumer Protection

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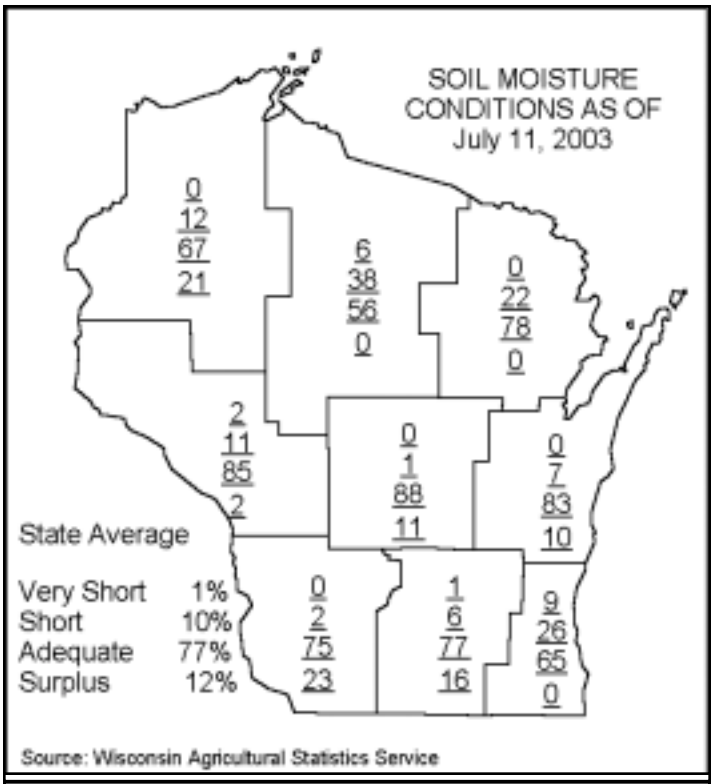
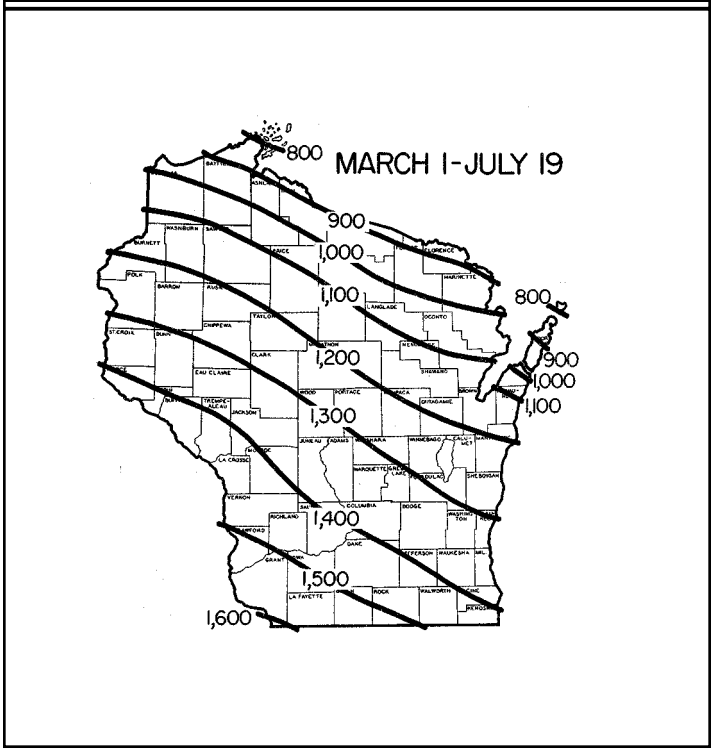




Historical Average Growing Degree-Days Accumulated Since March 1. (Wisconsin Agricultural Statistics Service)

Weather and Pests

A storm early in the week brought heavy rainfall and left some south central corn fields with standing water and tattered foliage. Fortunately, soils dried fairly quickly and hot weather prevailed during the remainder of the week. The warm, dry conditions favored the development of corn and the insects that (*next page*)

Growing degree days from March 1 through July 17 were:

Site		2002	Normal	Base	Base
	GDD*	GDD	GDD	48	40
SOUTHWEST					
Dubuque, IA	1355	1464	1562	1380	2291
Lone Rock	1340	1388	1454	1330	2260
SOUTHCENTRAL					
Beloit	1327	1438	1492	1338	2273
Madison	1291	1365	1437	1314	2221
Sullivan	1249	1378	1381	1263	2170
Juneau	1226	1348	1317	1249	2147
SOUTHEAST					
Waukesha	1168	1347	1370	1187	2075
Hartford	1164	1321	1307	1197	2071
Racine	1079	1313	1366	1125	1966
Milwaukee	1076	1283	1343	1112	1957
EAST CENTRAL					
Appleton	1147	1230	1199	1198	2023
Green Bay	1001	1124	1131	1072	1841
CENTRAL					
Big Flats	1255	1325	1310	1279	2142
Hancock	1233	1313	1294	1275	2125
Port Edwards	1164	1249	1295	1199	2027
WEST CENTRAL					
LaCrosse	1341	1468	1424	1345	2257
Eau Claire	1299	1339	1311	1330	2206
NORTHWEST					
Cumberland	1155	1173	1228	1192	1989
Bayfield	840	869	809	838	1526
NORTH CENTRAL					
Wausau	1062	1137	1188	1099	1887
Medford	1026	1072	1182	1071	1842
NORTHEAST					
Crivitz	982	1049	1023	1023	1793
Crandon	956	1005	1025	983	1735

** GDD (Growing Degree Days) are synonymous with degree-days above modified base 50º F, with no low temperature below 50º F or above 86º F used in calculation.*

feed upon it; both the northern and western variants of corn rootworm beetle were active in fields nearing the early tassel stage. Further, the dry conditions permitted the completion of second growth alfalfa harvest in areas that were delayed because of last week's rainshowers.

Looking Ahead

Corn rootworm - Adults were noted in increasing numbers this week. The northern species was more numerous than the western in the southern fields surveyed, and a few of the fields surveyed had populations in the threshold range of 0.75 beetles/plant. Scouting to determine if populations are high enough this summer to warrant applying an insecticide before planting corn next spring should begin in early August. Check fields at least 3 times between August and early September, measuring the average number of beetle per plant, to decide if a soil insecticide treatment is necessary. See CORN section for more details.

European corn borer - Warm conditions in the last week favored development of this species. Late instar larvae are much more common than they were last week, and stalk tunneling can be readily observed in most fields. Pupation is also underway in the southern area, and the second flight of moths should begin about July 24 in the Madison area and by August 3 in the Wausau area if the heat continues.

Soybean aphid - Populations are continuing to build, and the treatment window may be approaching for growers who are considering management to reduce soybean aphid pressure in heavily infested fields. Current control strategies are aimed at reducing aphid numbers at their peak level when aphid pressure is highest, but before soybean plants show the crinkling, cupping and yellowing symptoms associated with soybean aphid feeding.

Common maize rust -- We've not seen any rust yet, but sweet corn and seed corn producers may want to begin scouting fields for this fungal disease soon.

Forages

Potato leafhopper - Populations are high and increasing in alfalfa in the southern part of the state. Counts have been on the rise with many fields containing levels of five to 14 adults and nymphs per sweep. With reproduction occurring at a rapid rate, third crop alfalfa in some regions is beginning to show signs of stress. Levels of 10% to 40% hopperburn were observed in some Green, Grant, Iowa and Lafayette Co. fields. Pressure may be increasing in the central part of the state as well. Some Waushara and Adams Co. fields had 50% hopperburn and a 90% level of hopperburn. Cutting may reduce much of the problem, but in third crop fields that are already showing signs of stress because of high populations, spraying may be beneficial. As a reminder, the economic thresholds for potato leafhopper on alfalfa are 0.2/sweep on 3" tall alfalfa, 0.50/sweep on 6" alfalfa, 1.0/sweep on 8-11" alfalfa and 2.0/sweep on alfalfa greater than 12".

Corn

Western and Northern corn rootworm - Adult emergence continued in the south this week. In Green and Rock Co. fields relatively few beetles were detected on corn plants, but numerous beetles of the Northern species were observed feeding on Queen Anne's-lace (*Daucus carota)* adjacent to corn fields. In southwestern fields both species were numerous in several fields approaching tassel emergence. In Iowa, Grant and Lafayette Cos. counts ranged from 0.1 to 1.2 beetles/plant; generally a count exceeding 0.75/plant is considered high. Several fields with counts in the range of 0.6 to 1.2 beetles/plant were encountered in Grant Co. Interestingly, little or no lodging was observed in fields with high numbers of beetles where it was apparent that storm and wind damage had affected corn foliage.

The time for to begin scouting for corn rootworms beetle is approaching. The UWEX recommends scouting three times between August and early September. If the field average exceeds the economic threshold of 0.75 beetle/plant during any one of the three scouting trips, growers will probably need to treat with a soil insecticide next year, or rotate out of corn.

Scouting for corn rootworm is fairly simple. You'll need to count the number of beetles on five plants in 10 separate areas of the field (50 plants). Be sure to check five non-consecutive plants because the beetles will fly off when corn plants are disturbed. Check from the tassel to the base of the plant, cupping your hand over the silks while counting. Once the stalk is checked, carefully pull your hand away from the silks and count the beetles in your hand. Also check the tip of the ear to find any beetles that may be hiding in the top 2" of the cob. Scout at 7-10 day intervals before early September.

Western corn rootworm adult

If the field average is greater than 0.75 beetles per plant (38 beetles/50 plants) on any of the scouting trips, consider treating with a soil insecticide next spring.

European corn borer - Populations are light to moderate in most areas, with the heaviest infestations seldom involving more than 42% of the plants; however, few southern and central fields have spots where 70% to 90% of the plants are infested. Reports from the east central region of the state suggest that only 1st and 2nd instar larvae and a few moths of the first flight are present in field corn, with generally less than 25 % of the plants infested.

In the central part of the state some heavy infestations were observed this week. For instance, 80% of the plants were infested in a Wood Co. field where 4th instar larvae were detected, and in Waushara Co., levels ranging from 5% to 90% were found. In Adams Co. only 5% infestations were noted.

In the south central and southwest districts, all stages from 3rd instar larvae through pupae were noted in field corn. The most common stages encountered by survey staff were 4th and early 5th instar larvae. Pupae have begun appearing in advanced southern fields, indicating that the second flight of moths should begin shortly, perhaps by July 24 in the south central district. The range of larval stages being observed suggests that the first flight of moths was able to lay eggs over a somewhat extended period of time, thanks to favorable weather conditions, and that a prolonged second flight of moths may be in the forecast if the warm conditions continue.

Armyworm - Survey staff are finding larvae in every corn field checked, but numbers are well below the treatment threshold in most instances. Grassy corn fields and small grains fields may develop high populations. In Green, Iowa, Rock, Lafayette and Grant Cos. most fields surveyed had damage on 5 to 10% of the plants.

Corn leaf aphid - Colonies are growing fast in the south. In Rock Co. fields counts of 80 to 250 aphids were found on tassels that had not yet emerged. In Grant and Lafayette Cos. counts ranged from 50 to 100/plant. Corn plants are most susceptible to corn leaf aphid injury during the late whorl to pollen shed stage. 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.

Eyespot-- Corn fields in Columbia and Dodge Cos. had trace levels of eyespot, caused by *Aureobasidium zeae (=Kabatiella zeae)*. This leaf blight is more prevalent in northern parts of the corn belt, and often associated with residue from the previous year's corn crop. As are many leaf blights, eyespot is generally a greater concern on sweet corn or seed production inbreds.

Soybeans

Japanese beetle - Adults were observed feeding on soybean foliage in the Janesville area. Although the amount of defoliation that could be attributed to Japanese beetles was minimal, their presence reminds us that Japanese beetles are becoming a growing concern in Wisconsin field crops. In soybeans, Japanese beetle adults feed on the tissues between leaf veins, giving

foliage a lacy or skeletonized appearance. Scouts who suspect soybean defoliation is being caused by Japanese beetles should first locate an adult to confirm Japanese beetle presence in the field. To determine if the extent of feeding is economically important, surveyors will need to estimate the percent of leaf defoliation. There is currently no threshold based on the number of Japanese beetles per unit area, but treatment can be considered when defoliation reaches 30% before bloom, 20% between bloom and pod fill, or 25% after pod fill to plant yellowing. When sampling, select at least five areas of the field and at each location estimate the amount of defoliation that has occurred, keeping in mind that most scouts tend to overestimate the amount of loss. When you have made five estimations, average your figures to obtain a single estimate for the whole field.

Bean leaf beetle - Beetles were present in nearly all southern fields surveyed this week, while relatively little defoliation was noted. In most fields less than 5% defoliation was observed.

Soybean aphid - Pressure is high in many southern fields where counts are exceeding 1,600 aphids per plant in some cases. The highest counts were observed at the UWEX Rock Co. farm in Janesville and at sites in Jefferson and Walworth Cos. Interestingly, fields surveyed just a few miles from the Rock Co. farm had colonies of fewer than 100 aphids per plant, so aphid pressure is highly variable from field to field. In the southwest, most fields had 80% to 100% levels of infestation, and fewer than 25 to 50 aphids per plant were common. In Green Co., all fields had 100% infestations with fewer than 26 aphids/infested plant. One hundred percent infestations were also commonplace in Lafayette Co., but per plant counts were surprisingly low, averaging 3 aphids/infested plant. In Iowa Co. fields infestations ranged from 90% to 100% and most plants had fewer than 12 aphids in the fields surveyed. In Fond du Lac and Dodge Cos. 100% infestation were common, and most plants had fewer than 50 aphids.

In the fields survey staff have been observing week to week since the aphids first arrived, counts have grown dramatically in the last two weeks. One hundred percent infestations were observed at each of the 12 sites, and the number of aphids per plant has risen 20x in many cases **(see table pg 139)**. Based strictly on aphid pressure, the Jefferson and Walworth Co. sites may be candidates for spray treatments.

Soybean aphid populations are expected to reach peak levels in the next couple of weeks. Peak populations usually coincide with the R2-R4 stages of soybean growth. In fields where aphid pressure is high or is expected to grow substantially in the near future, growers may want to consider applying an insecticide soon. Sprays should target peak levels of aphids, but should be applied before injury appears. Treatment guidelines for soybean aphids are 200 aphids per plant at full bloom, and increasing numbers thereafter, 1000 aphids per plant at 3/16" pod stage, and 1500 aphids per plant at ¾" pod stage (Eileen Cullen, Field Crop Entomologist UW-Madison). Conversely, fields that still have low levels of aphids should be checked over the next 2 to 3 weeks; however, if aphid populations don't explode in the next few weeks, control will probably not be needed this season.

Potatoes

Late blight --A week deeper into the growing season and no late blight statewide. This is beginning to sound redundant, but it beats the alternative by a long shot. Severity values crept up during the past week, especially as you travel from north to south. In the northern regions of Rhinelander and Antigo, growers are working hard to keep up with irrigation. After a wet start to the growing season, it's been dry for much of June and July. Sprays are being applied on a 7 to 10 day schedule to establish a base residue of fungicide and to keep new growth protected. The crop is growing rapidly in these northern areas and should be at peak bloom in the next two weeks. As you travel south, there has been more rainfall and weather more conducive for disease development.

In the Central Sands area, the crop is beginning to lay down and it is not uncommon for foliage to remain moist from irrigation, dew, or rainfall well into midday. Symptoms of early blight continue to progress ever so slowly and fungicide programs appear to be keeping this disease in check. Most growers in the central part of the state are spraying with fungicide every 7 days. Some of the earliest planted fields of early maturing cultivars are being harvested green and still others will be killed in the week ahead. Some of these fields have received minimal fungicide treatment, and with no or very low early blight severity, the growers have an advantage of reduced inputs. This will be very helpful for those fields being grown for "Healthy Grown" labeling since the contribution of fungicide to the total pesticide toxicity scores will be minimal this year for those early harvested fields. It's a great example of using disease forecasting models to target fungicide sprays when there is a clear need and backing off on the intensity of fungicide treatment when weather conditions do not favor disease development.

Some have asked in recent days about the 18 severity value and 300 P-Day concepts used in disease forecasting and IPM programming. Computation of 18 severity values relies on maximum and minimum temperatures each day, the duration of relative humidity periods above 90% and the maximum/minimum temperatures during the relative humidity periods above 90%. We start the severity value calculations at emergence - a point where we can see a greenrow and where there is roughly 50% plant emergence. When we reach a total of 18 severity values, we issue a warning. An additional alert is issued when the first symptoms of late blight appear anywhere in the state. This information is published in a newsletter sent to each grower through the courtesy of the WPVGA. When things are moving quickly, this can sometimes mean two newsletters in a single week since we want all growers to be on the same page of awareness and reaction to the late blight problem. In some years, we reach the spray threshold of 18 severity values early in the season. Once we reach 18 severity values, spray recommendations

generated by the Wisdom software for late blight can vary from 5 to 7 to 10 day intervals, depending on environmental conditions and the appearance and progress of late blight in the area. You may recall that we surpassed 18 severity values during early June of last year (2002). At times last year, we gained up to four severity values per day. This year (2003) we didn't reach 18 severity values until the past two weeks for much of Wisconsin. We've been accumulating severity values at a very leisurely pace this year, only one or two per day during rainy periods and none for most of the days. We eventually reach 18 severity values each and every year, but what makes a difference in our response and recommendations is how early and how many days does it take to reach this treatment threshold?

The other major factor in late blight development beyond weather conditions and the planting of thousands of acres of late blight susceptible cultivars is the presence or absence of late blight inoculum. This year we started the year with pathogen-free seed since most seed production areas of the US did not report late blight in 2002. We also had a hard winter and thus started the year without volunteer potatoes growing in fields where potatoes were grown last year. In addition, Wisconsin growers have been very careful in destroying cull potatoes taken from their warehouses during the shipping season. Culls were spread during mid-winter and allowed to freeze and rot away or were buried in landfills before the new crop emerged. How far we get into the growing season without seeing late blight remains to be seen, but at least as of this moment, there have been no reports of late blight in Wisconsin.

We also worry about early blight and use a P-Day accumulator to generate early blight recommendations. Once we reach 300 P-Days, calculated from emergence on, our spray recommendations take both the P-Day and severity value totals into account to generate 5 day, 7 day or 10 day spray interval recommendations. The interval is variable depending on prevailing weather conditions and the presence of disease in the area. In dry years like 2003 with a low risk of disease, growers have an opportunity to save fungicide sprays. In wet and cool years such as 2002 with a high risk of disease, growers are provided timely spray recommendations that reflect this risk.

White mold and bacterial stem rot--There were two reports of white mold affecting potato vines in the past week. White mold appears as a decay of vines that is generally covered with a white cottony mass of fungal mycelium. Black sclerotia of the white mold fungus are usually embedded in the masses of fungal mycelium and may even appear inside the hollowed stems, especially in late stages of the disease. As the affected stems die and dry, the affected portions of the stem appear bleached and have a papery white appearance. This is the same fungus that attacks a broad range of broadleaf plants including snap beans, soybeans, cucumber, peas and sunflowers.

There are several fungicides registered for control of white mold such as Rovral, Omega and Botran. All are protectant materials and these will be of little value in controlling established infections.

White mold development is indicative of long periods of soil and foliage wetness. It's very possible that growers with extensive white mold are keeping the plants too wet for excessively long periods. Use of an irrigation scheduling program that helps to match water application with water needs of the plant will help to minimize white mold while maximizing plant productivity. Given the appearance of white mold this early in the season, I also expect to see bacterial stem rot developing on wet vines in the week ahead. Now that the vines are lying down and staying wet for long periods, soft rotting bacteria are likely to begin rotting stems injured by wind, hail and other storm related factors. Water management is key to management of bacterial stem rot. (UW)

Current P-Day and Severity Value Accumulations for 2003 (http://www.plantpath.wisc.edu/wivegdis/index.htm)

Location	Calculation Date	P-Day total	Severity total
Antigo emerging June 4	7/14	292	26
Antigo emerging June 14	7/14	221	8
Antigo emerging June 24	7/14	150	8
Grand Marsh emerging 5/19	7/09	356	24
Grand Marsh emerging 5/24	7/09	332	24
Grand Marsh emerging 5/28	7/09	309	24
Hancock emerging 5/13	7/14	441	26
Hancock emerging 5/17	7/14	418	26
Hancock emerging 5/25	7/14	371	24
Plover emerging 5/13	7/14	431	12
Plover emerging 5/24	7/14	371	12
Plover emerging 6/3	7/14	309	12

Note: We have experienced difficulty this past weekend in downloading data from the Grand Marsh weather station. Hopefully this is temporary and we will be able to update our website with the newest data in the very near future, possibly before you read this newsletter.

Vegetables

Tomatoes --Early blight and Septoria leaf blight are increasing on tomatoes in southern WI. Both diseases are relatively easy to control with fungicide sprays. It's important to treat early with protective sprays before the occurrence of extensive infection of the lower leaves. Protectant fungicide sprays such as azoxystrobin, pyraclostrobin, chlorothalonil or mancozeb witll also control fruit anthracnose.

Peppers--Bacterial leaf spot was reported on a commercial pepper planting during the past week. Symptoms include brown to black water soaked and greasy appearing lesions on the foliage. Extensive leaf loss can

occur under ideal conditions for disease development and later in the season, the disease can lead to blossom loss and unattractive fruit lesions. The pathogen is seed borne and can also arrive on infected transplants. Treatment with copper sprays (Kocide, Champ) is sometimes helpful, but the main factor is weather. Blowing rains, overhead irrigation and warm conditions favor continued bacterial multiplication and spread. Bacterial leaf blight is one of the most difficult diseases to control on pepper. There has been some progress in breeding cultivars with field tolerance to this disease and growers should consult their seed distributors for details on available planting materials.

Cucumbers and Pumpkins--Phytophthora blight Warm wet weather is favorable for the development of Phytophthora blight on cucumbers that can kill individual seedlings and decay the fruit. Infected fruit become covered with masses of white powdery growth and the affected fruit rapidly decay. Control practices consist of crop rotation to crops out of the cucurbit family, very careful watering to avoid long periods of plant wetting and the use of registered fungicides such as Acrobat combined with fixed coppers such as Kocide or Champ. All currently available cultivars of cucumber and pumpkin appear to be susceptible.

Forest, Shade Trees, Ornamentals and Turf

Ash Plant Bug - A common summer insect find during our grower inspections, ash plant bug has been found in Calumet, Dane, Racine, Walworth and Waukesha Cos. in light to moderate amounts. This pest can be identified in the field by the injury it causes to ash trees. High populations cause stippling on the leaves with some crinkling and browning of foliage. Treat when the plant bugs are still nymphs and very vulnerable, when saucer magnolia is finishing bloom and ash trees are breaking bud (Coincide). There are 2 generations per year.

Honeylocust Plant Bug - Light numbers were found during grower inspections in Brown, Dane, Fond du Lac, Kewaunee, Racine, Sheboygan, St. Croix, Walworth and Waukesha Cos. Injury may increase as the season progresses. There is one species that is most common, although the name is given to several species of plant bugs that attack honeylocust. There is one generation per year, unlike ash plant bug. The eggs are laid in the previous seasons' twigs. Feeding on new leaves causes smaller leaf size, curled or stunted leaves, and sometimes, early leaf drop. Treatments to control this pest should be made in early June with a labeled insecticide.

Leafhoppers - Increasing numbers of leafhoppers were found during nursery grower inspections throughout the state. Injury varies from trace to moderate levels and has been found in Calumet, Dane, Racine, Sawyer, St. Croix and Waukesha Cos. High populations cause leaf curling and hopper burn. Feeding near branch tips causes leaf curling when the leaf is expanding. Control of immigrant populations should begin in early June or when feeding is first seen. If high populations are present now and inflicting heavy injury a rescue treatment maybe required. Always follow the label when applying any pesticide.

Linden Borer- This borer was found on *Tilia* sp. during grower inspection in Brown and Calumet Cos. Look for frass or wood dust accumulating at the base of the tree. This borer will attack both healthy and stressed trees, but generally, stressed trees are preferred. The borers usually start their attack at the basal sprouts. Each life cycle takes two to three years. Adults fly from mid-June to mid-Sept. and insecticides with a good residual should be used during the flight period. Many times trees will break off at ground level when pushed or when strong winds occur. The adult is a longhorn beetle, light yellow to yellow-gray with three black spots on each wing cover. Linden borer prefers littleleaf linden but will attack any of the lindens.

Redheaded Pine Sawfly - colonies of this sawfly were feeding on jack pine saplings in LaCrosse County. (DNR)

Fall Webworm - Tents/webbing are becoming noticeable in hardwood tree branches in Eau Claire County. (DNR)

Japanese beetle (*Popillia japonica* Newman) was first discovered in the United States in New Jersey in 1916. Currently it can be found in every state east of the Mississippi except Florida. It is native to northern Japan where it is not a serious pest. The cooler climate in Japan means the beetle requires two years to complete its life cycle, rather than the one year cycle in the United States. There is also a parasitic fly in Japan that helps to suppress populations.

Damage--Adult Japanese beetles feed on over 300 species of plants. Rose, birch, linden, maples and fruit trees are some of their favorites, however they also feed on perennials, vegetables, field crops and weeds. The beetles eat away the upper leaf surface between the veins, giving the leaves a lacey appearance.

The grubs feed on roots below the ground. They prefer to feed on turf. Heavy infestations will result in patches of pale, dying grass that can be picked up like a piece of carpet.

Identification and Life cycle--Adults: Just under 1/2

long, Japanese beetles are metallic green and bronze with white tufts of hair on their sides. They emerge in June and will continue to feed through September.

Grubs: Creamy white to gray "C"-shaped larvae hatch out at 1/8 inch and quickly grow to over an inch long. The eggs are laid in July and hatch after about two weeks. They then begin feeding on roots until they pupate late the following May.

Control--Some of the control options for treating Japanese beetle include planting nonhost plants; physically removing or trapping adults (though the beetles may move long distances); chemically treating either adults or grubs; biological control (parasites and diseases) of grubs; or keeping soil moisture low during peak grub activity.

For more information--Visit the University of Wisconsin-Extension website at http://www.uwex.edu/ces/wihort/gardenfacts/X1062.pdf For pesticide recommendations, contact your local Extension office or see http://cf.uwex.edu/ces/pubs/pdf/A3597.pdf.

References--
http://www.entomology.wisc.edu/mbcn/fea508.html
http://www.uwex.edu/ces/wihort/gardenfacts/X1062.pdf
http://ohioline.osu.edu/hyg-fact/2000/2504.html
http://www.entm.purdue.edu/Entomology/ext/targets/e-series/EseriesPDF/E-75.pdf

Anthracnose-We are still finding many plants injured by anthracnose this season. Light to heavy amounts of injury were found on ash, birch, maple, oak, daylilies, and hosta in Calumet, Dane, Fond du Lac, Kewaunee, St. Croix, Walworth and Waukesha Cos. Early season injury may be mistaken for frost. On the plants listed above you'll find a wilted, black, irregular, dead patch on the leaf. This fungal pathogen is common in persistent, cool, wet weather, especially during bud break and early leaf expansion. Once infection has occurred, chemical control is not effective. Increase air circulation around the host plants, rotate crops in the nursery, and clean up dropped leaves to lessen the infection rate. Generally this disease does little lasting damage to the trees. Trees that have heavy amounts of anthracnose should be watered when drought occurs and fertilized, if needed, during the growing season.

Dothistroma Needle Blight -- This common needle disorder was found on Austrian pine in Calumet, Fond du Lac, Sheboygan and Waukesha Cos. in trace to moderate levels. When looking for this disease, examine needles for brown-colored bands. Often needles are half-brown and half-green. This fungal pathogen affects older needles in the tree first, but may affect new needles by mid summer. Current season infections show the most noticeable symptoms in the fall. Splashing water spreads the pathogen. Further, pine windbreaks may be a reservoir for this disease. To control needle blight, treat with a registered fungicide in mid-May to protect susceptible, newly emerging needles from infection. Apply a second application in mid-June when needles are fully elongated. This disease may be confused with brown spot needle blight, which is more common in Scotch pine. Scotch pines have good resistance to dothistroma, while Austrian pines are susceptible to dothistroma, and generally don't get brown spot. Differentiation of the two diseases requires microscopic examination of the fungal spores.

Entomosporium Leaf Spot - Trace to light levels of this fungal leaf spot were found on European mountain ash in Fond du Lac and Sheboygan Cos. This leaf spot may affect apples, crabapples, chokeberry, cotoneaster, hawthorns, pears, quince and serviceberry. The injury generally begins as a dark spot on the leaf, which develops a yellow halo that progresses to leaf yellowing. This leaf spot starts to develop in early summer and is spread by water splash. The spores overwinter on fallen leaves. Clean up of these infected leaves is important. Chemical control may be used to reduce infection rates if this disease is persistent.

Phomopsis Tip Blight - Light to heavy amounts of this disease were found on junipers during grower inspections in Calumet and Dane Cos. This fungal pathogen causes needle blight and tip dieback in many types of junipers. This pathogen attacks new growth at the branch tips. Older needles are more resistant to the blight. Visible symptoms include reddish brown dead tips that turn gray. Small, gray cankers are sometimes apparent. Use a 10-power hand lens to look for small, black spores that form in and around the lesions. High humidity, rain or irrigation favors this fungal pathogen. Space plants to increase air circulation, water plants in the morning, and prune in the summer rather than the spring or fall.

State/Federal Programs

Gypsy Moth Spray Program -- Mating distruption treatments continue in the northern part of the state, with pheromone flake treatments scheduled to begin in Lincoln and Price Cos. on Monday July 21.
Gypsy Moth Trapping Program - Trappers have completed setting traps for this season. The final total set is 26,310 traps which is 95% of the expected total. Trappers will begin checking traps south of State Highway 10 on Monday, July 21 and will take 3 weeks

to complete. Traps north of State Highway 10 will be spot checked for evidence of moth flight. Moth flight has been reported in these counties: Rock, Dane, Marathon, Marquette, and Sheboygan. Trappers north of Highway 10 will start their check on Monday, July 28. Moth flight typically lasts about 4-5 weeks and trap takedown will begin in mid to late August. For more information about the GYPSY MOTH PROGRAM, please call our hotline at 1-800-642-MOTH.

Apiary

Swarming - Beekeepers reported unusually high swarming activities of their colonies this spring. During the Spring Survey of Wisconsin Apiaries, - infection rate of **Chalkbrood** was up from 5.6% in 2002 to 15.1% this spring! This fungal disease (*Ascosphaera apis*) does very well under humid conditions when pollen sources are scarce. Queen stock also plays a role in resistance to chalkbrood. Hive should be adequately ventilated by providing a venting hole in the top and keeping the main entrance clear of debris and weeds. Honeybees usually manage to clean up dead mummies over the summer. **American foulbrood** (*Paenibacillus larvae*) incidence is down with 0.3% hives infected compared to 3.5% last spring. Only three **small hive beetles** were found during a survey of 344 hives in five apiaries.

Calendar of Events

Central WI Potato Field Day
July 22, 2003. Hancock Research Station
8:30-noon, lunch at noon
(715) 249-5961

Northeast Wisconsin Potato Field Day
July 23, 2003. Langlade County Airport
1:00 pm
Contact: Ken Williams, UWEX (715) 627-6236

American Phytopathological Society Annual Meeting
Aug 9-13, 2003. Charlotte, NC
www.apsnet.org/meetings/2003/

The WI Nursery Assoc. summer field day
Wednesday, August 13th, at Silver Creek Nursery, in Manitowoc, WI. It is an all day event. Contact Brian Swingle at 414-529-4705 or email bswingle@toriiphillips.com

WI Christmas Tree
Producers Association Summer Convention
Aug. 15-16, 2003
Menominee Casino-Bingo-Hotel, Kesheena
Tour Hanauer's Tree Farms, Shawano
Contact: Cheryl Nicholson, Executive Secretary
www.christmastrees-wi.org
Phone (608)745-5802

West Madison Horticultural Field Day
featuring a Mexican Garden
August 16, 2003.
Contact: Judy Reith-Rozelle at West Madison 608-262-2257

Black Light Trapping Results
through July 17

Trap Site	European corn borer	Armyworm	Black Cutworm	Variegated Cutworm	Spotted Cutworm	Celery Looper	Corn Earworm	Forage Looper	Corn Earworm Pheromone
South Central									
Arlington		7	2						
Madison		50	50						
Mazomanie	3	20	6	0	14	2	0	0	
West Central									
Coon Valley									2
East Central									
Manitowoc	4	4	4		5				
Central									
Marshfield	7	5	0	4	4	3	0		
Northwest									
Chippewa Falls	14	1	1	1					
New Richmond	3								2
Cameron	2								

Apple Insect Trapping Results

County City	Date	STLM	RBLR	CM	OBLR	AM red ball	AM sticky
Crawford Co.							
Gays Mills-W2	7/7-7/14	140	3	1	2	0	0
Gays Mills-E2	7/9-7/16	675	23	5	0	1	0
Richland Co.							
Hill Point	7/11-7/17	205	5	1	2		0
Richland Center -W	7/9-7/16	720	14	3	2	0	0
Richland Center-E	7/9-7/16	375	44	0	0	0	0
Sauk Co.							
Baraboo	7/9-7/16	540	32	1	7	0	0
Dane Co.							
Deerfield	7/7-7/14	308	23	0	0	1	0
Green Co.							
Brodhead	7/9-7/16	5	16	0	3	0	0
Iowa Co.							
Dodgeville	7/10-7/17	240	27	4	17	2	0
Pierce Co.							
Spring Valley	7/11-7/18	120	4.5	0	0.5	0.5	0.5
Beldenville	7/9-7/16	100's	5	0	0	2	0
Jackson Co.							
Hixton	7/8-7/14	13	0	0	1	0	0
Fond du Lac Co.							
Malone	7/10-7/17	60	6	3	5	0	0
Marquette Co							
Montello	7/6-7/13	160	0	0	0	0	0
Door Co.							
Sturgeon Bay	7/9-7/15	90	2	4	3	0	0
Brown Co.							
Oneida	7/7-7/14	180	7	1	0	0	0
Marinette Co.							
Wausaukee	7/11-7/18	12	0	0	5	0	0
Ozaukee Co.							
Mequon	7/8-7/15	200	5.5	1.6	2	3	
Waukesha Co.							
Waukesha	6/30-7/11			6			
Racine Co.							
Rochester	7/11-7/18	1416	54	7.5	15	0.1	1

Figure 1. Weekly Soybean Aphid Counts 6-24 to 7-17 2003

	Week 1		Week 2		Week 3	
Site	% of Plants Infested	No. Aphids per Infested Plant	% of Plants Infested	No. Aphids per Infested Plant	% of Plants Infested	No. Aphids per Infested Plant
Dodge 1	0	0	0	0	100	59
Dodge 2	16	24	20	18	100	56
Jefferson 1	0	0	3	20	100	67
Jefferson 2	23	14	93	33	100	611
Walworth 1	33	23	98	27	100	609
Walworth 2	8	17	18	25	100	255
Sauk 1	13	17	3	2	100	10
Sauk 2	53	9	48	7	100	25
Iowa 1	0	0	30	7	100	60
Iowa 2	0	0	0	0	100	34
Lafayette 1	0	0	5	5	100	43
Lafayette 2	0	0	8	93	100	42

Department of Agriculture,
Trade & Consumer Protection
Division of Agricultural Resouces Management
PO Box 8911
Madison WI 53708-8911

Web Site of the Week

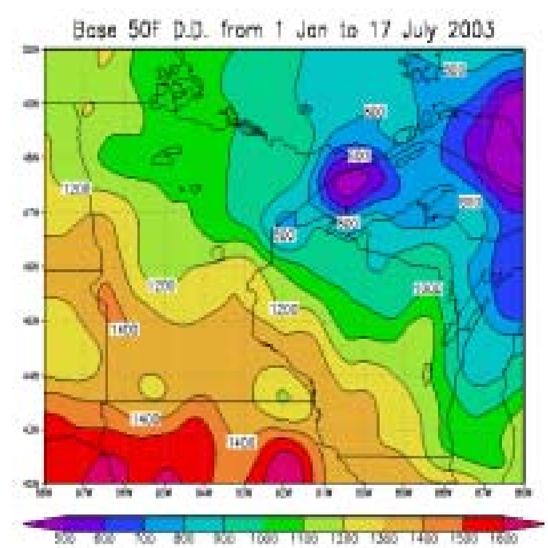
The Federal Noxious Weeds Program
http://www.aphis.usda.gov/ppq/weeds/

Thinking about bringing in sessile joyweed or Asian sprangletop? Better think again. This web site has information on the Federal Noxious Weed List, Weed Action Plans, Weed Alerts and links to many state and local weed efforts.

Quote of the Week

I believe in the forest, and in the meadow, and in the night in which the corn grows.

Henry David Thoreau (1817-1862), U.S. philosopher, author, naturalist.



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