

WISCONSIN PEST BULLETIN

Timely crop pest news, forecasts, and growing season conditions for Wisconsin



STATE OF WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION PLANT INDUSTRY BUREAU
2811 Agriculture Dr. Madison, WI 53718 • <http://pestbulletin.wisconsin.gov>

WEATHER & PESTS

The growing season of 2010 featured an array of climatic extremes. Record humidity, high temperatures and frequent heavy precipitation profoundly influenced crop production and pest management. Dry, favorable weather in April and May allowed significant early planting of corn, oats and potatoes, and crop progress advanced at very rapid pace in June. Development of both plants and insects remained 2-3 weeks ahead of normal throughout the season. After a mild, dry spring, a series of storm systems delivered above-average rainfall during the second half of June. The frequency of the rain delayed harvest operations and treatment for diseases, insects and weeds. Most notably, portions of the state received in excess of 8 inches from July 22-24, leading to widespread flooding and crop damage in many fields. Heavy rains again saturated the state in August and September, perpetuating the wet spell that began in June. October offered a reprieve from the showery conditions and the fall harvest season ended early. Many plant diseases were uncommonly prevalent due to the excessive moisture this year, and a few rare pest occurrences were charted.

PEST HIGHLIGHTS

CORN ROOTWORM: The survey of adult rootworms in late August found a state average of 0.3 beetle per plant,

a 50% decline from last season's population and the lowest count in 40 years. Heavy rainfall and extensive use of Bt-rootworm corn hybrids are thought to be major contributing factors to the historically low beetle numbers.

GREEN CLOVERWORM: Larvae became prevalent in soybeans during the week of July 19 and many acres required chemical treatment by mid-August to reduce populations. Defoliation was common statewide, with the most severe infestations occurring in Grant, Iowa, Lafayette, Rock and Walworth counties. Damage by this insect was the worst in many years.

LATE BLIGHT: The first case of 2010 was confirmed on July 14 in a Marquette County potato field. Weather conditions favored its development in subsequent weeks, and by early September, potatoes afflicted by late blight had been confirmed in Adams, Langlade, Portage, Sauk and Waushara counties. Infected tomatoes were reported from Brown, Kewaunee, Manitowoc, Monroe, Ozaukee, Portage, Vernon and Waukesha counties. Fungicide programs were continued at 5-day intervals through September.

SOYBEAN APHID: Densities statewide were the lowest in six years. The annual survey of 168 soybean fields showed 85% of sites contained very low counts of less than 25 aphids per plant by the R6 (full seed) stage in August, while only 15% developed moderate densities

of 26-146 aphids per plant. Chemical control for this pest was rarely economical in 2010.



Soybean aphids

ZeaMays flickr.com

GYPSY MOTH: Larvae defoliated 346,749 forested acres this season, greatly surpassing the previous record of 65,000 acres set in 2003. Aerial surveys documented severe defoliation in Langlade, Marinette, Menominee, Oconto and Shawano counties, and moderate defoliation in localized areas of Brown, Columbia, Dane, Juneau, Rock, Sauk and Waupaca counties. Larval populations collapsed by late June due to natural controls, but fall egg mass surveys indicate that treatment may be warranted for parts of the northeast next spring.

FORAGES

ALFALFA WEEVIL: The first larvae were collected on April 26 from Dane County alfalfa. By May 21, weevils were prevalent but not abundant, and most of the first crop was at the optimal stage for harvest. Frequent precipitation early in June delayed the completion of harvest, and leaf tip feeding injury became pronounced in a few scattered fields. Pupation began at advanced locations by June 10. Although some carryover of larvae into the second crop was observed, their feeding did not result in significant damage.

POTATO LEAFHOPPER: Migrants were detected in Richland County on April 13, and by late May had become well distributed across the state. Reproduction was noted by June 4. Populations in alfalfa remained low throughout June and much of July, with representative counts averaging below 0.5 per sweep statewide. Nymph production intensified in late July and continued into September.

Economic counts of 2.0 or more leafhoppers per sweep were found in 17% of all fields surveyed in August, but control was seldom warranted.

PEA APHID: Populations in alfalfa declined abruptly after the first cutting in June and remained very low for the duration of the season. This insect was very scarce this year, likely due to prevailing wet weather facilitating the spread of fungal pathogens.

CORN

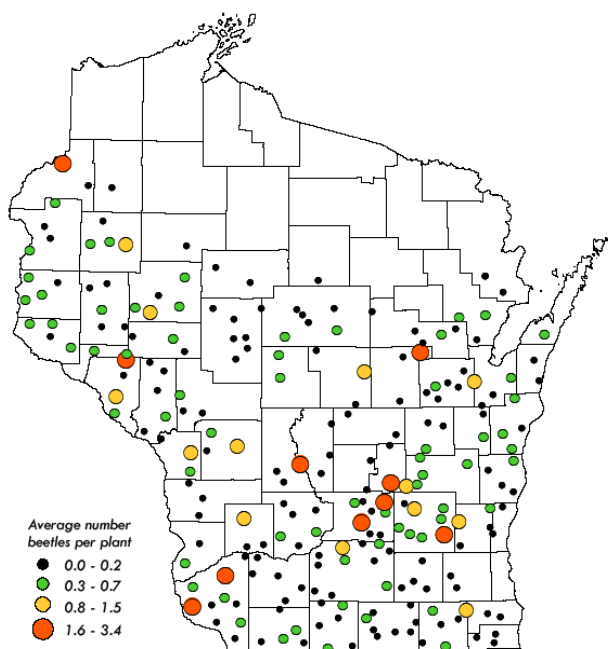
CORN EARWORM: Moth collections increased sharply from July 20-27 and peaked by August 20. Four successive weeks of significant flights produced scattered infestations statewide, but control efforts by sweet corn producers mostly kept damage in check. On the basis of pheromone trap counts, the primary migration occurred earlier and was almost five times larger than that of 2009. The cumulative seasonal capture was 4,867 moths in 2010, compared to 990 moths in 2009, 5,624 moths in 2008 and 8,055 moths in 2007.

BLACK CUTWORM: Migrants arrived in significant numbers by April 23, and larvae produced by the early spring flight appeared about four weeks later. The peak moth flight occurred from May 1-7. Damage to corn was rare this season, except for a few instances in the southwest and south-central areas.

CORN ROOTWORM: Beetle populations were the lowest in 40 years, according to the results of the annual survey in August. The state average of 0.3 beetle per plant is about half that of last season and the lowest since prior to 1970. District averages were uniformly low and did not exceed 0.4 beetle per plant. The most drastic reduction occurred in the south-central area, where the average count decreased from 1.1 beetles per plant last year to 0.3 per plant in 2010. Economic populations of 0.75 or more beetle per plant were found in only 10% of the 229 evaluated fields, compared to 23% in 2009.

Excessive rainfall and dramatically increased use of Bt-rootworm corn hybrids accounted for part of this historic decline in beetle numbers. Aerial treatments of both corn and soybean fields with insecticides and fungicides for other pests also may have contributed to the decrease. The table on page 110 provides an indication of the 2010 district averages and the 10-year population trend.

2010 Corn Rootworm Beetle Survey Results



Wisconsin Department of Agriculture, Trade and Consumer Protection

TRUE ARMYWORM: Larvae began concentrating in wheat and corn fields by June 16. Many thousands of acres, principally in the east-central and central counties, were treated with insecticides during the next two weeks. Based on reports from county extension agents and local cooperatives, areas of heaviest infestation occurred in wheat in Brown, Calumet, Fond du Lac, Green Lake, Washington and Winnebago counties. Numerous acres in Dane, Dodge, Manitowoc and Sheboygan counties were also affected.

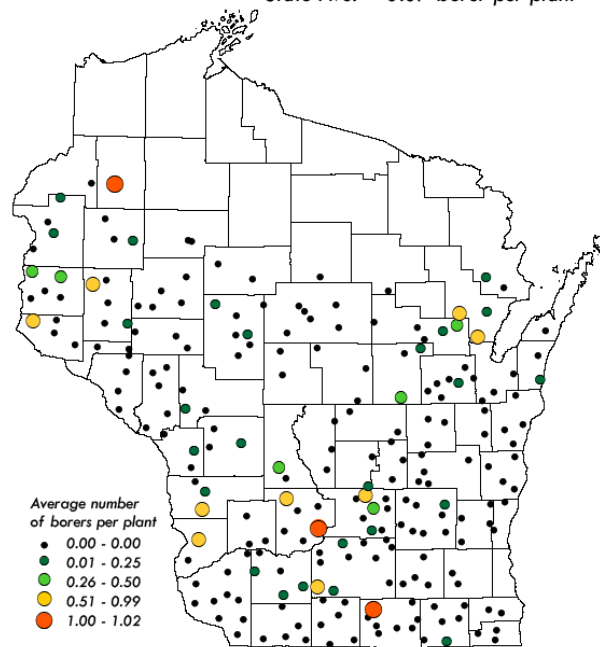
The armyworm outbreak subsided by July 2 due to pupation and chemical treatment of many fields. In most instances, the infestations were detected early and sprayed to prevent serious damage.

STEWART'S AND GOSS'S WILTS: Inspections for export certification were performed on 58 seed corn production fields in eight Wisconsin counties. Stewart's wilt infected seven fields in Columbia, Dane, Rock and St. Croix counties, compared to 4 of 62 sites last year. Goss's wilt was diagnosed from 36 sites in Columbia, Dane, Eau Claire, La Crosse, Rock and Sauk counties. The incidence of both regulated bacterial diseases increased from 2009, particularly Goss's wilt, which showed a 10-fold increase. Reports from Illinois and Iowa indicated that Goss's wilt was also more common and widespread in those states this year.

EUROPEAN CORN BORER: Larval populations increased slightly in 2010. The fall abundance survey found a state average of 0.07 borer per plant in grain corn, a minor increase from 0.06 in 2009, but the third lowest average since 1942. The northeast, northwest, south-central and southwest were the only districts to show higher larval numbers. Population reductions were charted in the east-central, north-central and west-central areas, while averages in the central and southeast districts remained unchanged. The largest decline, from 0.09 per plant in 2009 to 0.01 per plant in 2010, occurred in the east-central district. Non-economic infestations were observed in 99% of 229 fields surveyed this fall and only 1% of sites had economic counts of 1.0 or more borer per plant. The low population entering the winter of 2010-11 serves as the base for a potentially small flight of moths next spring.

2010 European Corn Borer Survey Results

State Ave. = 0.07 borer per plant

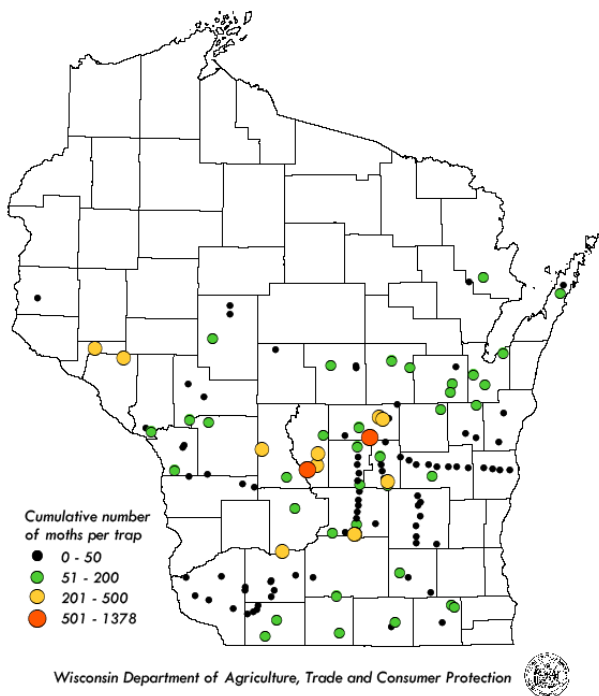


Wisconsin Department of Agriculture, Trade and Consumer Protection

WESTERN BEAN CUTWORM: The sixth annual trapping survey documented a 54% increase in western bean cutworm counts in the state, from 4,928 last year to 10,807 this season. Moths appeared in pheromone traps by June 17 and the first egg masses on corn were noted the following week. Larvae were present in scattered fields by mid-July. Approximately 5,000 acres of sweet corn were treated on July 22 in Adams County, where individual fields showed 10-32% of plants with eggs and small larvae. Other counties reporting problems were

Columbia, Dane, Green Lake, Juneau, Marquette, Marinette, Monroe, Portage, Shawano and Waushara. Trap collections for most sites peaked from July 18-22 and activity subsided by mid-August. The western bean cutworm was again the most destructive pest insect of corn in Wisconsin.

2010 Western Bean Cutworm Trap Counts



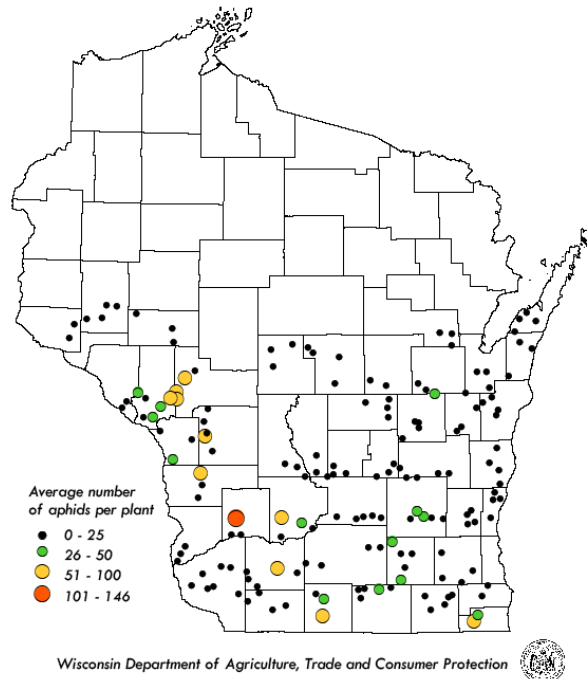
SOYBEANS

GREEN CLOVERWORM: Damaging populations developed in soybeans throughout Wisconsin and the Midwest in 2010. Defoliation became pronounced by late July, and many fields in Grant, Green, Iowa, Lafayette, Rock and Walworth counties were treated at that time. Less serious infestations were reported or observed in all areas of the state in August. Damage moderated by late summer, and a less destructive brood of larvae occurred in September. Populations were the highest in many years.

CELERY LEAFTIER: Remarkably high numbers appeared in crops, lawns, gardens and at lights during the last two weeks of July. Nearly every soybean field surveyed in August was moderately-heavily infested with the small, European corn borer-like moths. The larvae, which are not considered a threat to field crops, generally occupied the lower canopy, while green cloverworm larvae were more common in the upper canopy. The reason for their abundance this summer remains unclear.

SOYBEAN APHID: Populations in soybeans were the lowest since 2004. The annual survey found very low counts of less than 25 aphids per plant in 85% of fields, while only 15% showed moderate densities ranging from 26-146 per plant. Of the 168 fields examined in July and August, none had economic populations of 250 or more aphids per plant. The state average of 16 aphids per plant compares to 53 in 2009, 72 in 2008, 164 in 2007, 69 in 2006, 118 in 2005, 11 in 2004, and 758 in 2003. As illustrated in the map below, the higher populations were found mostly in the western half of the state. Abundant precipitation, unfavorably high temperatures, and natural enemies are thought to have suppressed aphid population growth this season.

Soybean Aphid Survey Results August 2010 R5-R6 Growth Stages

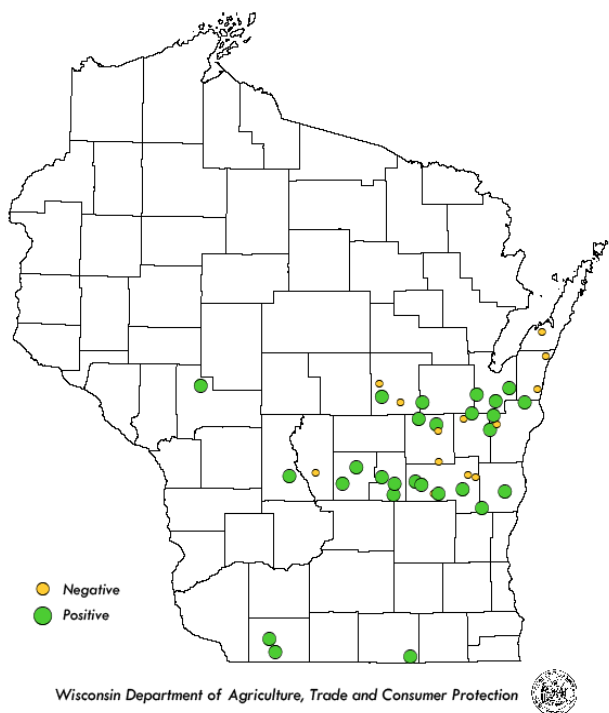


JAPANESE BEETLE: Defoliation by this insect was very common as far north as Eau Claire County, but numbers in southern Wisconsin were down from previous years. The recent decline of Japanese beetles may be associated with the establishment of natural enemies in those areas of the state with a longer history of infestation.

FROGEYE LEAF SPOT: This foliar disease was unusually prevalent in 2010. Sixty-eight percent of leaf samples collected from 40 soybean fields in August showed lesions caused by the frogeye leaf spot pathogen, while the remainder were infected with common diseases such as brown spot. Frogeye leaf spot has occurred sporadically

in the state since 2003. Humid, hot weather favored its development in Wisconsin soybeans this season.

2010 Frogeye Leaf Spot Survey Results



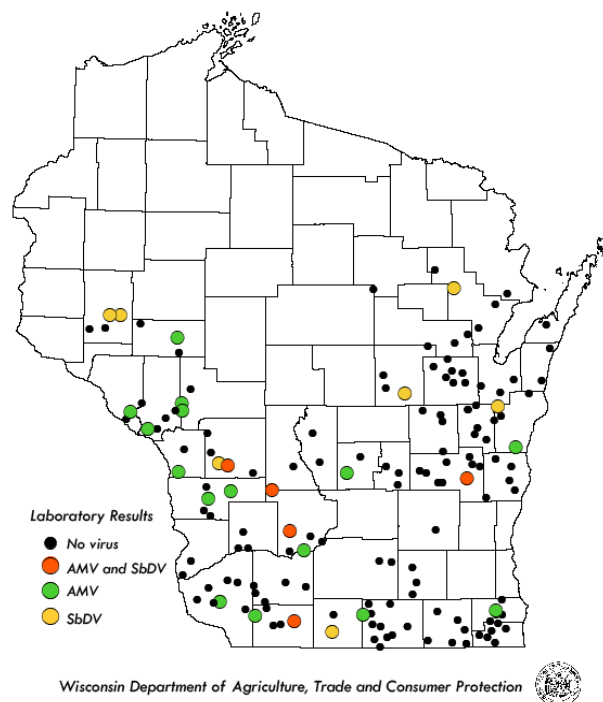
PHYTOPHTHORA ROOT ROT: The third annual survey of 45 soybean fields in 32 counties found 27% of fields showed some degree of infection with *Phytophthora* root rot (*Phytophthora sojae*). This represents an increase from 18% in 2009 and 20% in 2008. Counties in which the disease was detected include Buffalo, Calumet, Clark, Dunn, Green, Kenosha, Lafayette, Shawano and Winnebago. Results of the survey indicate that the incidence of *Phytophthora* root rot has increased steadily in Wisconsin soybeans over the last three years.

SOYBEAN SEED INSPECTION: Frogeye leaf spot infected 5 of 11 soybean seed production fields examined in August. Inspections were negative for the following diseases of export significance: anthracnose, bacterial tan spot, bean pod mottle virus, bean southern mosaic virus, Cercospora leaf blight, pod and stem blight, tobacco ringspot virus, tomato ringspot virus and soybean cyst nematode.

SOYBEAN VIRUSES: Below is a map summarizing the results of the soybean virus survey conducted from July 21-August 26. Twenty of 155 soybean fields in the R4-R6 stages tested positive for alfalfa mosaic virus (AMV) and 12 were infected with soybean dwarf virus (SbDV). Both viruses have become increasingly common since sur-

eys began eight years ago. Alfalfa mosaic virus is aphid- and seed-transmitted and may contribute to reduced seed quality and marketability. SbDV, detected for the first time in Wisconsin soybeans in 2003, is spread by colonizing aphids and can cause significant yield losses. Recent studies have shown soybean aphid to be capable of transmitting SbDV among soybean plants.

2010 Soybean Virus Survey Results



FRUITS

PLUM CURCULIO: Adult migration into orchards began by late April and the first oviposition scars were found on crabapples in southern Wisconsin on May 7. The oviposition period, which ordinarily extends for six weeks or longer, was hastened this season by abnormally warm spring temperatures. Counts in pyramid traps set near orchard perimeters peaked from May 28-June 3 and the migration ended by June 11 at most locations.

APPLE MAGGOT: The first apple maggot fly of the season was captured on June 9 at Dodgeville in Iowa County, about three weeks ahead of normal. Emergence at most sites peaked by July 29 and 1-2 weeks later in the southeastern and northern areas. The seasonal high count of 66 flies on a baited red sphere trap was reported from Mequon in Ozaukee County during the second week of August. Damage appeared on fruits in a few ineffectively

treated orchards, but problems were not as extensive as anticipated after last year's record large emergence.



Rhagoletis sp.

magikcanoe.com

SPOTTED WING DROSOPHILA: This invasive fruit fly was collected from two Racine County sites earlier this fall, constituting a new state record. One specimen was trapped at Sturtevant on October 2 and two others were captured nearby later in the month. Spotted wing drosophila infests intact, ripening fruit, posing a greater risk of fruit contamination at harvest than native fruit flies. A follow-up survey is tentatively planned for 2011.



Spotted wing drosophila male and female

www.growingproduce.com

CODLING MOTH: Emergence of spring moths was noted by April 30 and biofix was established from May 17-19 in the south. Large flights were registered statewide over the next three weeks, with the peak first flight occurring from May 27-June 4. Rainy weather early in June coincided with egg deposition and hatch, and some growers became concerned about the effectiveness of larvicides

against first brood larvae entering fruits. In many instances, a second treatment was required. Adults of the summer flight were reported by late June and the second biofix was set around July 1. The latter flight was more variable, but smaller than the first in most orchards. Populations were generally heavier than last season.

VEGETABLES

SLUGS: Excessive rain and resultant growth of rank vegetation favored activity by this pest throughout the season. Reports of injury to field crops, perennials and vegetables were received from all areas of the state beginning in mid-June. A wide variety of plants were affected in home gardens, and a few weedy corn fields in Fond du Lac and Wood counties suffered severe defoliation. Slugs were a persistent problem in 2010.

SNAP BEAN VIRUSES: The Plant Industry Lab surveyed 78 snap bean fields during the 2010 season, testing samples for alfalfa mosaic virus (AMV), bean pod mottle virus (BPMV), cucumber mosaic virus (CMV), potyvirus group (POTY), southern bean mottle virus (SBMV), and tobacco ringspot virus (TRSV). Of the fields and viruses tested, only 5% were laboratory-confirmed to have virus. Four CMV-positive fields were detected in Waushara County, one of which was infected with both a potyvirus and CMV. The incidence of soybean aphid was 0% in all fields at the time of sampling.

Field observations and grower perception of disease pressure over the past two years suggest that the current sampling protocol (trifoliates collected from 10 plants at each of four locations per field) may be inadequate, or symptoms are being caused by a virus for which testing was not conducted. This concern led to SBMV being added in 2010, but no additional virus detection resulted. Further testing for other viral pathogens and expansion of nucleic acid based test methods is warranted.

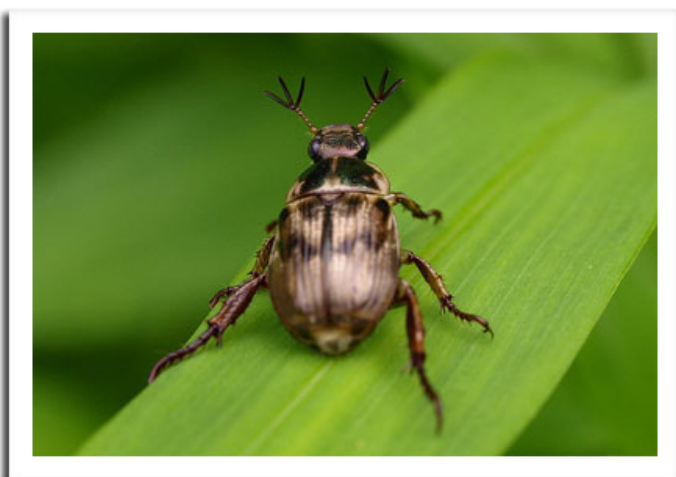
PUMPKIN DISEASES: A disease survey of 14 pumpkin fields was conducted in Buffalo, Chippewa, Dane, Jefferson, Pierce, Kenosha, Walworth and St. Croix counties in September. Powdery mildew was found most often (10 fields), followed by anthracnose (5 fields), gummy stem blight (5 fields) and Fusarium wilt (3 fields). One pumpkin field and a nearby planting of peppers had been decimated by Phytophthora blight (*Phytophthora capsici*), a newly reported fungal disease of vine crops in Wisconsin.

sin. This blight is very difficult to control and can destroy many vegetable crops besides cucurbits. Symptoms include damping-off of seedlings, vine blight, crown rot and fruit rot. Rotating crops out of cucurbits for three years, selecting pathogen-free seed, and promptly tilling infected debris after harvest are the recommended cultural controls.

CUCUMBER DISEASES: Laboratory analysis of foliage from seven cucumber seed production fields confirmed the presence of angular leaf spot, downy mildew, Fusarium wilt and gummy stem blight. No diseases of regulatory concern were detected.

NURSERY & LANDSCAPE

ORIENTAL BEETLE: The total number of Oriental beetles collected at garden centers this year was 19. Ten were trapped in Ozaukee County, four in Kenosha County, two each in Grant County and Milwaukee counties, and one in Washington County. No beetles were collected in traps in Brown, Columbia, Dane, Green, Green Lake, Iowa, Rock and Sauk counties. The annual total of 19 beetles represents an increase from 11 in 2009 and 2 in 2008.



Oriental beetle

velocity of sound flickr.com

VIRUSES: Standard inspections found an abundance of viruses again this season. Hosta virus X (HVX) was encountered most frequently, noted on the hosta varieties 'Albo marginata', 'Aurea marginata', 'Fortunei', 'Funkia', 'Sum and Substance' and 'Undulata'. Other viruses detected were Arabis mosaic virus (ArMV) on hosta, cucumber mosaic virus (CMV) on astilbe and clematis, rose mosaic virus (RMV) on tea roses, tombusvirus on clematis, and tobacco rattle virus (TRV) on anemone,

barrenwort, bleeding heart, bluebells, Oriental lily and peony. All nursery stock expressing viral symptoms was removed from sale and destroyed.



Hosta 'Royal Standard' with virus symptoms

Konnie Jerabek DATCP

REJECTED NURSERY STOCK: Nursery stock intended for export may be rejected if found to be infested with certain regulated insects or diseases. Some of the plants included in this category in 2010 were ash with oystershell scale, arborvitae and yews rejected due to Fletcher's scale, birch with bronze birch borer, Austrian pines with pine shoot beetle euonymus with winged euonymus scale, maple with cottony maple scale, spruce with Rhizosphaera needlecast, viburnum with viburnum crown borer, and white pine with white pine weevil.

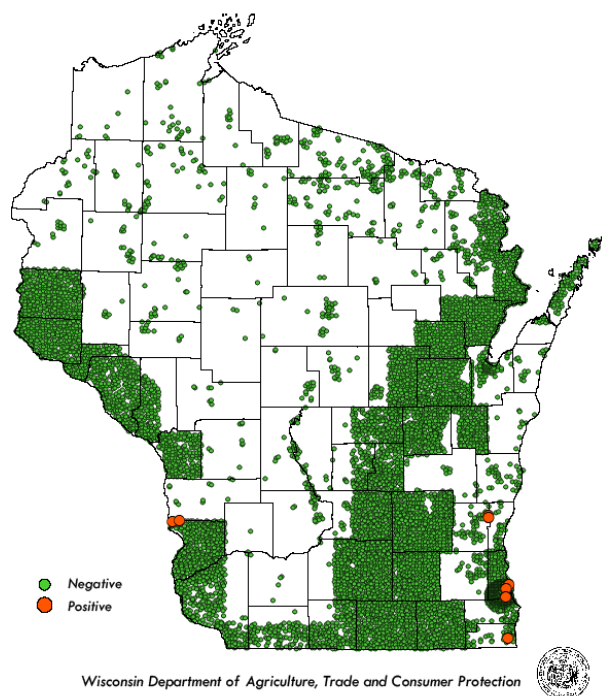
JAPANESE BEETLE: The number of beetles trapped at Wisconsin nurseries decreased for the second consecutive year. The annual survey yielded 16,079 beetles in 127 traps, a 68% decline from 51,035 beetles collected in 2009. High counts of 201 or more beetles per trap were registered in Grant, Kenosha, Rock, Walworth and Waukesha counties, while moderate counts of 51-200 beetles were found in Columbia, Dane, Eau Claire, Iowa, Marquette, Racine and Sauk counties. Nineteen counties averaged fewer than 50 beetles per trap. As previously noted, their recent decline may be due to an increase in natural enemies that regulate beetle populations.

FOREST

EMERALD ASH BORER: Trapping by DATCP forestry technicians resulted in the capture of 27 specimens on eight traps in Crawford, Kenosha, Milwaukee and Washington counties. A total of 7,861 panel traps were set this year.

Adult emergence began on June 3 and peaked from June 17-July 8. Beetles and infested ash trees were detected in two new locations, near Cudahy in Milwaukee County and at West Bend in Washington County. Emerald ash borer currently infests portions of Brown, Crawford, Kenosha, Milwaukee, Ozaukee, Vernon and Washington counties.

2010 Emerald Ash Borer Trapping Survey



GYPSY MOTH: Larvae began emerging from overwintered eggs on April 9 in Rock County, two weeks earlier than in 2009 and one of earliest emergence dates on record for Wisconsin. Aerial applications of Btk and the gypsy moth nucleopolyhedrosis virus (NPV) started on May 5. Approximately 39,393 acres were treated with Btk at 61 sites in Ashland, Barron, Bayfield, Chippewa, Crawford, Douglas, Dunn, Eau Claire, Green, Iowa, Jackson, La Crosse, Monroe, Richland, Taylor, Trempealeau and Vernon counties by May 28. Eight additional sites in Clark and Jackson counties received NPV treatments. Pheromone flake applications to disrupt the mating cycle were made from June 21-July 9 at 23 sites in Bayfield, Buffalo, Chippewa, Clark, Crawford, Douglas, Eau Claire, Grant, Iowa, Jackson, La Crosse and Vernon counties (181,920 acres).

Trapping program statistics documented a minor increase in male moth counts in 2010. The 28,150 pheromone traps deployed as part of the annual survey registered 142,409 moths, as compared to 132,275 last year. Most

of the 45 counties trapped showed population increases, although numbers declined in a few southeastern Wisconsin counties.

BIOLOGICAL CONTROL

LEAFY SPURGE: Biological control efforts against this invasive weed continued in 2010. Releases of *Aphthona* flea beetles were conducted at 19 sites in 10 counties, including new introductions in Ashland, Barron, Buffalo, Kenosha, Marinette, Oneida and Rusk counties. Attempts to establish these agents were started in 2003 in Wisconsin and the beetles now occur at collectable levels at 13 sites. Another six locations in Burnett, Douglas, Marathon, Polk, St. Croix and Trempealeau counties are expected to have collectable populations by 2011.

SPOTTED KNAPWEED: Introductions of seed head-attacking weevils (*Larinus* spp.) were made at 46 sites in 19 counties as part of a 10-year spotted knapweed control study. Propagation of 18,000 weevils was carried out at WDNR insectaries across the state and the organisms were distributed to 25 individuals who performed the releases. *Larinus* weevils have become well established in approximately 68 locations in Adams, Burnett, Jackson, Juneau, Monroe, Portage, Washburn, Waushara and Wood counties in the last several years.



Leafy spurge

www.wildflowerchild.info

CORN ROOTWORM BEETLE SURVEY RESULTS 1997-2010 AVE. NO. OF BEETLES PER PLANT

DISTRICT	1997	1998	1999	2000	2005	2006	2007	2008	2009	2010	*AVE.
NW	0.0	0.5	0.2	0.9	0.4	0.1	0.4	0.5	0.4	0.3	0.4
NC	0.2	0.1	0.2	0.2	0.8	0.9	0.7	0.9	0.4	0.1	0.5
NE	0.5	0.2	0.4	0.1	0.3	1.8	0.5	0.6	0.5	0.1	0.5
WC	1.6	0.5	0.8	1.1	0.8	0.8	0.4	0.6	0.5	0.4	0.8
C	0.8	0.2	0.4	0.6	0.9	0.7	0.8	0.5	0.4	0.4	0.6
EC	0.9	0.4	0.8	1.5	1.1	2.2	1.4	1.0	0.6	0.3	1.0
SW	1.2	0.9	0.6	0.7	3.2	2.2	0.4	1.1	0.7	0.3	1.1
SC	1.8	0.5	0.5	0.6	1.9	1.7	2.2	1.5	1.1	0.3	1.2
SE	1.1	0.3	0.3	0.2	3.8	1.4	1.0	1.6	0.3	0.2	1.0
STATE AVE.	0.9	0.4	0.5	0.7	1.6	1.4	1.0	1.0	0.6	0.3	0.8

Survey results based on average number of beetles per plant per 10 plants examined. *Survey was not conducted 2001-2004.

EUROPEAN CORN BORER FALL SURVEY RESULTS 2001-2010 AVE. NO. OF LARVAE PER PLANT

DISTRICT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	10-YR
NW	0.33	0.44	0.20	0.13	0.01	0.27	0.24	0.12	0.06	0.08	0.19
NC	0.05	0.26	0.14	0.20	0.36	0.16	0.35	0.18	0.10	0.02	0.18
NE	0.07	0.75	0.23	0.22	0.33	0.23	0.07	0.12	0.12	0.19	0.23
WC	0.67	0.71	0.16	0.05	0.24	0.42	0.52	0.04	0.10	0.08	0.30
C	0.48	1.21	0.44	0.06	0.44	0.51	0.42	0.11	0.06	0.06	0.38
EC	0.33	0.44	0.20	0.22	0.25	0.11	0.21	0.20	0.09	0.01	0.21
SW	0.87	0.65	0.34	0.10	0.49	0.20	0.28	0.05	0.06	0.12	0.32
SC	0.48	0.86	0.51	0.05	0.67	0.38	0.33	0.07	0.02	0.07	0.34
SE	0.36	0.61	0.21	0.02	0.35	0.16	0.12	0.04	0.00	0.00	0.19
STATE AVE.	0.40	0.66	0.30	0.10	0.40	0.29	0.31	0.09	0.06	0.07	0.27

Survey results based on number of mature (4th and 5th instar) corn borer larvae per plant.