

Wisconsin Department of Agriculture, Trade and Consumer Protection

Report to the Central Plant Board

PLANT INDUSTRY BUREAU
2811 Agriculture Drive Madison, WI 53718-8911
2006

APIARY PROGRAM

Apiary Program statistics showed an increase in imported colonies from 38,218 in 2004 to 40,031 in 2005, and an increase of imported queens and packages from 20,642 in 2004 to 23,342 in 2005. Wisconsin received honeybees from 42 beekeepers residing in 10 different states and Wisconsin certified 11,450 colonies for export in 2005. The statewide fall survey of Wisconsin apiaries showed a record high percentage of varroa mite (*Varroa destructor* Anderson and Trueman) infested bee hives, 94% in 2005 compared to 77% in 2004, and 58 % in 2003. High numbers of varroa mite in CheckMite and Apistan treated hives indicate a high level of resistance in varroa mite. Two new miticides, Apilife Var and Mite-AwayII, showed some promise in controlling varroa in 2005. Infections with American foulbrood (AFB) are also on the rise with 3.5% of hives showing symptoms. This is most likely due to drug resistant AFB. A new drug, Tylan, was recently approved.

CHRISTMAS TREE PROGRAM

Wisconsin's Christmas tree program licenses Christmas tree growers, inspects and certifies Christmas trees as being reasonably free of injurious insects and diseases. This program provides a service to interstate and international shippers of Christmas trees who require an inspection certificate prior to shipping. Growers who sell Christmas trees locally also benefit from the program by receiving inspections to inform them of pests and diseases affecting their trees. The Christmas tree licensing and inspection program is authorized in s94.10, Wis. Stat., and regulated in ATCP 21, Wis. Adm. Code.

ACTIVITIES IN 2005

In 2005, staff conducted group inspections during a five-week time period in counties which are currently under quarantine for gypsy moth and/or pine shoot beetle, and have a large number of Christmas tree fields. Those five quarantined counties are: Jackson, Langlade, Lincoln, Marathon, and Waushara. The remaining counties, both counties under quarantine and counties not under quarantine, were inspected by individual inspectors. At each field location GPS readings were recorded. Staff also inspected several wreath and roping producers in the state who requested plant health certificates.

2001-2005 CHRISTMAS TREE FIELD INSPECTION FINDINGS

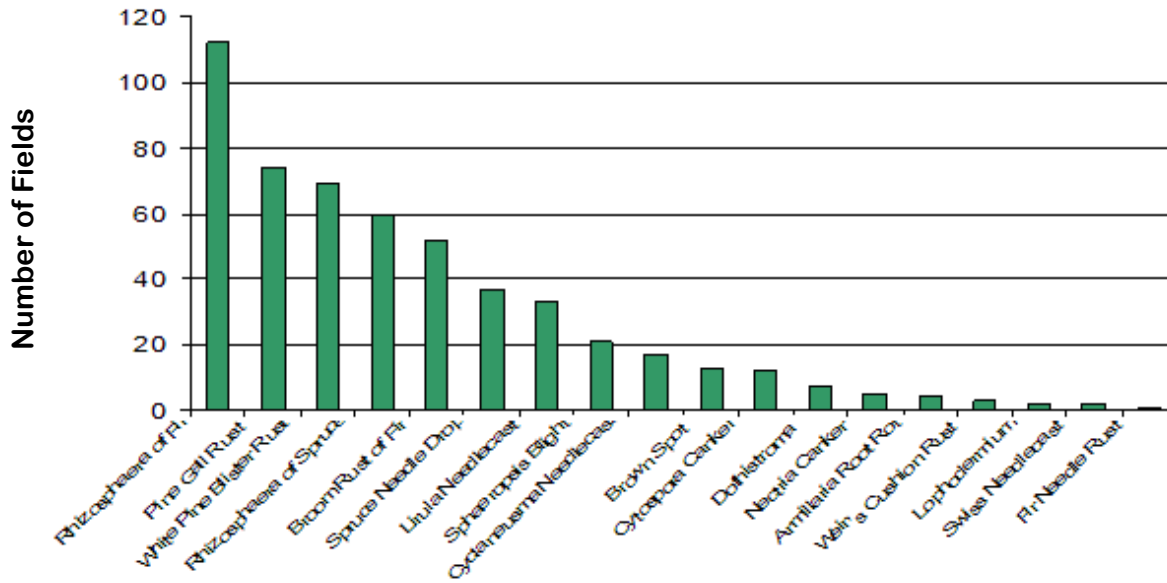
YEAR	# FIELDS INSPECTED	# OF FIELDS WITH GYPSY MOTH FINDS	# OF FIELDS WITH PINE SHOOT BEETLE FINDS
2001	420	9	0
2002	487	35	0
2003	600	61	0
2004	703	20	1
2005	661	34	0

FIELD INSPECTIONS OF CHRISTMAS TREES

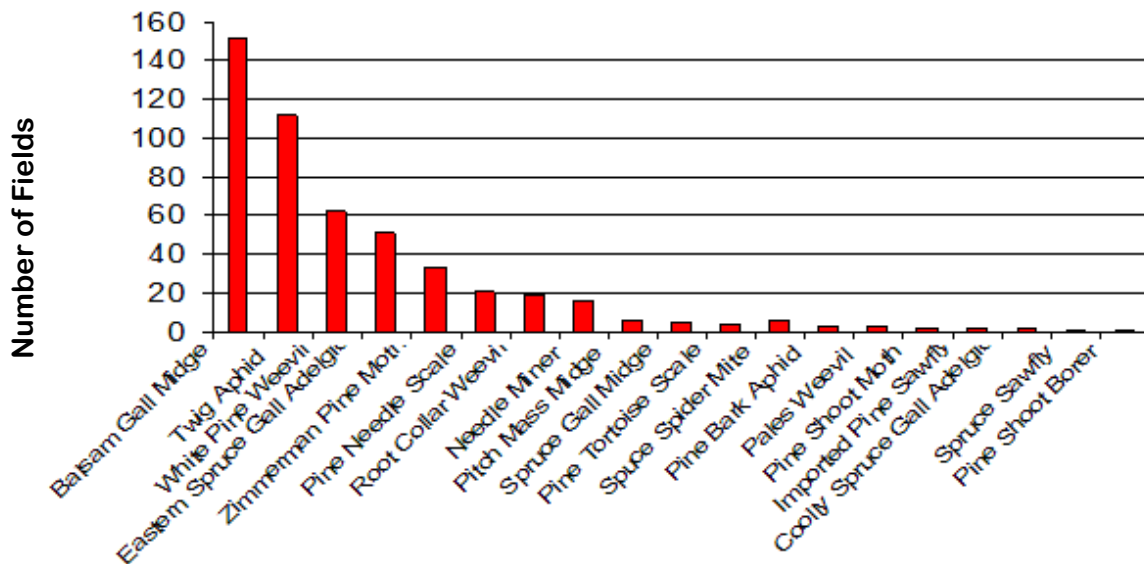
Christmas tree inspections begin once the gypsy moth egg mass deposition is complete, typically after September 1. In addition to Christmas trees, staff inspect fence rows and wood lots adjacent to each field for evidence of gypsy moth life forms as well as indicators of pine shoot beetle. Christmas tree growers who plan to ship trees interstate and/or request a plant health certificate are the focus of high-priority inspections that must be completed by October 15. Field location information is collected from growers and entered into a database. Support from

the Gypsy Moth Trapping Program provides county-level gypsy moth trap count maps that are used to facilitate inspections and inform growers. Field inspection reports of pest and disease incidence levels, along with any plant sample lab results are provided to growers.

Christmas Tree Diseases 2005



Christmas Tree Pest Insects 2005



SHIPPING CERTIFICATES

Growers who ship Christmas trees, wreaths or roping out of Wisconsin may request a phytosanitary certificate or plant health certificate prior to shipping plant material.

Following is a summary of certificates issued in 2005:

- **80 Federal Phytosanitary Certificates** for 74,917 Christmas trees shipped to Canada, Puerto Rico or Bahamas.
- **162 Plant Health Certificates**

PLANT PEST SURVEY & CONTROL PROGRAM

EXOTIC FOREST PEST DETECTION SURVEYS

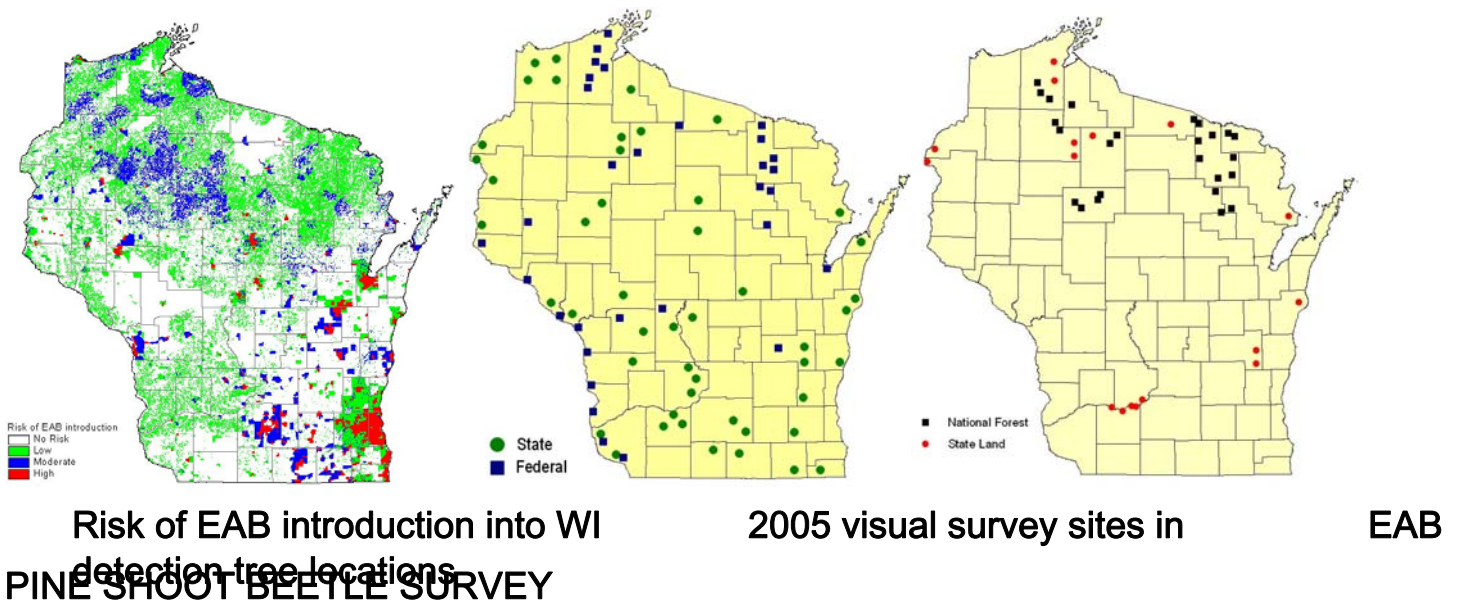
EMERALD ASH BORER

The recent detection of emerald ash borer in Michigan's Upper Peninsula means an increased risk of EAB introduction into Wisconsin, where an estimated 717 million forest ash trees are at risk. EAB survey, detection and education efforts are being carried out cooperatively by the Wisconsin Dept. of Agriculture, Trade & Consumer Protection (WDATCP), the Wisconsin Dept. of Natural Resources (WDNR), the University of Wisconsin, the USDA APHIS and the USDA Forest Service Research.

Wisconsin's 2005 EAB efforts took several different, cooperative approaches to EAB detection, including: visual surveys of campground and urban areas, trap tree detection surveys, and a ferry blitz. Due to the large number of private campgrounds in Wisconsin (~ 600), WDNR focused EAB campground surveys in the northeastern and southeastern parts of the state, where risk of EAB introduction is highest. Visual surveys of urban ash were conducted in Kenosha, Milwaukee, and Racine Counties to determine whether the emerald ash borer was present in southeast Wisconsin. Surveys were conducted by University of Wisconsin personnel between June and August. A WDNR detection tree survey included 24 trees set at 12 northern and east central sites (two trees per site). Prior to the start

of the survey, green and white ash trees were girdled between May 11 and 21, 2005. Twenty six detection trees were also prepared on National Forest land by Michigan Technological Univ. personnel. **EAB was not detected in Wisconsin in 2005.**

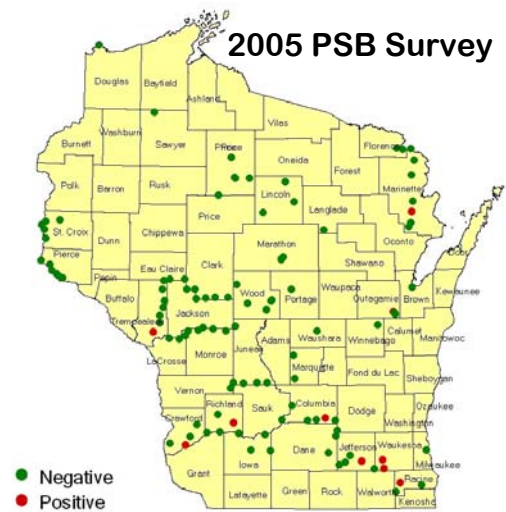
Another potential pathway of EAB introduction into Wisconsin are two car ferries traveling across Lake Michigan, specifically the vehicles aboard that could be carrying firewood. A cooperative blitz was conducted over the July 4 weekend in both Michigan and Wisconsin. Two vehicles transporting firewood were found, but none of the firewood was ash. The drivers voluntarily disposed of the wood before boarding the ferry. In addition, the ferry companies placed signs alerting passengers to the prohibition of firewood movement from Michigan's Lower Peninsula.



In 2005, Wisconsin's conducted its largest pine shoot detection effort since the survey first began in 1994. A total of 120 Lindgren funnel traps baited with a combination of alpha-pinene and ethanol were set in 32 counties by mid-February

and maintained through May. The collection cups for each trap were filled with propylene glycol to preserve any beetles that were trapped.

The trapping plan for 2005 reflected the establishment of five new PSB quarantine counties in 2004: Dane, Jackson, Lafayette, Sauk and Walworth Cos. Traps were placed at five-mile intervals along the borders of the newly-quarantined counties to delimit the extent of new infestations. Lindgren funnel traps were also placed in counties that present a higher risk for PSB infestation, such as counties with ports or high numbers of Christmas tree farms, lumber mills, etc.



In 2005, nine new Wisconsin counties were placed under quarantine for PSB, bringing the total to 18 regulated counties, including: Columbia, Crawford, Dane, Green, Grant, Jackson, Kenosha, Lafayette, Jefferson, Marinette, Outagamie, Racine, Richland, Rock, Sauk, Trempealeau, Walworth and Waukesha. The capture of PSB in Marinette Co. in the far northeastern region of the state, suggests a statewide distribution for *Tomicus piniperda* (Linnaeus) in Wisconsin.

UPDATE: On January 9, 2006, a Federal Order was issued for quarantine of all Wisconsin counties for PSB. This action was in response to the decision made by the State of Wisconsin to end intrastate quarantine of counties where PSB has been detected, communicated to the USDA APHIS by the State Plant Regulatory

Official. Wisconsin is surrounded by quarantined areas and regulations are no longer halting the spread of PSB.

EXOTIC WOOD-BORING BEETLE & BARK BEETLE SURVEY

Last season staff placed 10 Lindgren funnel traps baited with ultra-high release ethanol, alpha-pinene, *S. schevyrewi* and *Monochamus* lure, or a combination of two lures, at four high-risk sites to detect exotic wood-boring or exotic bark beetles. The target sites included a landfill, a paper mill, a flooring company, and a woodyard. Traps were deployed in May and checked at two-week intervals through August. The survey found numerous native cerambycid and buprestid species, but no exotics.

In addition, surveyors contacted about 16 Wisconsin businesses and industries, and conducted telephone interviews to determine the need for warehouse inspections and trapping. The survey for exotic wood boring beetles will continue through the winter months, and 13 new "high risk" businesses are scheduled to be contacted for telephone interviews.

SUDDEN OAK DEATH SURVEY

For the second year in a row, DATCP nursery inspectors visited nurseries at risk of importing plant material from California, Oregon and Washington infected with *Phytophthora ramorum*. Fifty-four nurseries and garden centers were surveyed from May 5 to August 26, 2005. Three hundred samples, primarily *Rhododendron*, *Syringa* and *Viburnum*, were collected from sites in 20 counties. The samples were submitted to DATCP's Plant Industry Laboratory for processing; all samples tested

negative for *P. ramorum*. However, several other species of *Phytophthora* were detected in the samples.

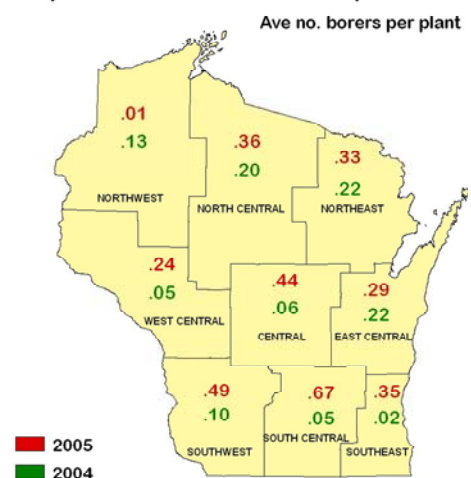
In addition, University of Wisconsin personnel hired by the DNR surveyed for symptoms of *P. ramorum* outside of 22 of these nurseries, and in nearby forested areas at an additional eight nurseries. All of the collected samples tested negative for *P. ramorum*.

STATEWIDE FIELD CROP INSECT SURVEYS

EUROPEAN CORN BORER

The annual fall survey showed the average European corn borer population in the state to be 0.39 borer per plant (39 borers per 100 plants). This compares to 0.10 in 2004 and a 50-year average of 0.49. Increases occurred in every district except the northwest, a probable outcome given last fall's record-low population. The most substantial increases were noted in the southwest, south central and southeast districts where populations rose from 0.10 in 2004 to 0.49, 0.05 in 2004 to 0.67, and 0.02 in 2004 to 0.35, respectively. Approximately 87% of the corn fields surveyed had larval populations below 1.0 borer per plant (194 of 224 fields), while 13% of the corn fields had high larval populations, ranging from 1.0-3.5 borers per plant (30 of 224). A corn borer

European Corn Borer Fall Population



Wisconsin Department of Agriculture, Trade & Consumer Protection

population of 1.0 borer per plant is economically important, having been shown to reduce yield by as much as 5% in the first generation,

and 2.5% by the second generation. A statewide average of 0.39 borer per plant suggests a light to moderate first flight of corn borer moths should be anticipated next spring. What follows the first flight, an increase or decrease in corn borer densities, depends on factors such as activity of natural enemies and weather conditions during May and June.

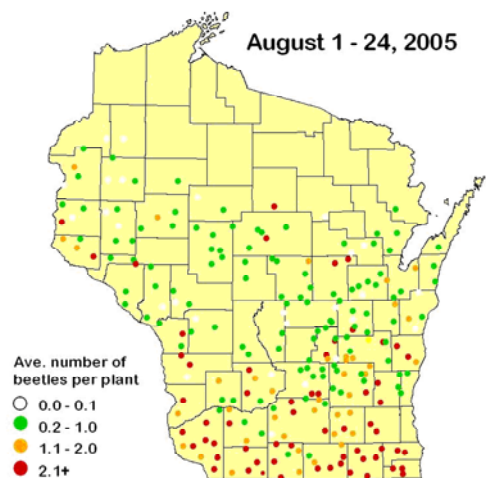
CORN ROOTWORM BEETLE

The annual corn rootworm beetle survey began during the first week of August, with preliminary findings indicating heavy beetle populations in the southern half of the state. The survey, which was timed to correspond with peak adult emergence during the first two weeks of August, found high adult rootworm populations across much of the state, with the exception of the north central and northeast districts. The statewide average of 1.6 beetles per plant more than doubled the 0.75 beetle per plant threshold widely considered to indicate a potential for corn rootworm problems in continuous corn the following year.

Corn rootworm beetle populations were particularly high in the southwest and southeast districts, where averages of 3.2 and 3.8 beetles per plant were recorded, respectively.

In addition, the beetle survey showed the western species, *Diabrotica virgifera* LeConte, to be the dominant species statewide, comprising 58% of all rootworms present.

2005 Corn Rootworm Beetle Survey Results



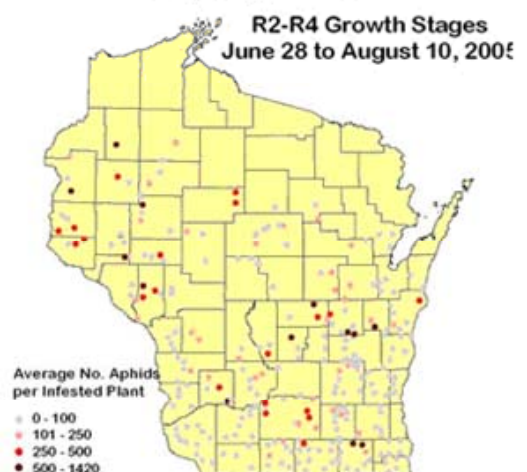
Emergence of rootworm adults was essentially complete by August 19, although weather conditions continued to favor rootworm activity into early October.

WESTERN BEAN CUTWORM

In 2005, Wisconsin's first coordinated WBCW trapping network was established to track the emergence of moths and to monitor flight activity. WBCW is a new pest of corn to the Midwest that has a reputation of causing 30 to 40% yield loss in its native western cornbelt states. Pheromone traps were placed at 14 southern and east central sites during the week of July 15, and within a week's time captures began to escalate. Egg laying in corn began by mid-July, either the week of July 15 or July 22, although DATCP specialists found no evidence of WBCW in corn fields during general surveys. Moth flight peaked by August 4. The following week, fewer and fewer moths were registered at trapping sites, and no WBCW moths were trapped after August 25. The highest WBCW moth captures of 2005 were recorded between July 30 and August 4.

Last summer WBCW was recorded for the first time in Calumet, Kewaunee, Manitowoc, Outagamie and Shawano counties. Interestingly, the WBCW moth counts registered in Wisconsin pheromone traps were not comparable to those recorded in neighboring states. The highest cumulative

Soybean Aphid Peak Densities Summer 2005



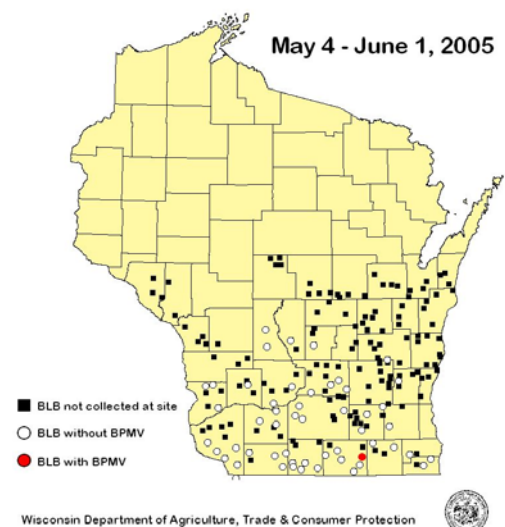
capture of WBCW this season was 38 moths at the McFarland site in southern Dane County; treatment guidelines for WBCW are based on a cumulative capture of 700-1000 moths. Although WBCW now appears to have a widespread distribution in Wisconsin, low localized populations indicate the risk of significant western bean cutworm damage is low, for now.

SOYBEAN APHID

The soybean aphid season began early in 2005, with the first detection of aphids on June 1 in western Dane Co. The annual soybean aphid survey, conducted from June 28 to August 22, found the statewide average number of aphids per infested plant increased to 120 in 2005, up from 14 in 2004, and down from the average of 770 aphids per infested plant in 2003. Soybean aphids were detected in all but five of the 274 fields surveyed this season (98%), an increase from 73% in 2004, and a slight decrease from 100% in 2003. A total of 88% of the survey sites

had noneconomic aphid levels, while 34 of the 274 (12%) sites had peak aphid densities above the 250 aphids per plant threshold. In comparison to previous years, the peak aphid densities recorded in 2005 were moderate. Peak densities were considerably higher than in 2004, but significantly lower on average than those encountered in 2003 and in preceding years. High temperatures through the months

2005 Spring Survey for Overwintered Bean Leaf Beetle and BPMV in Alfalfa



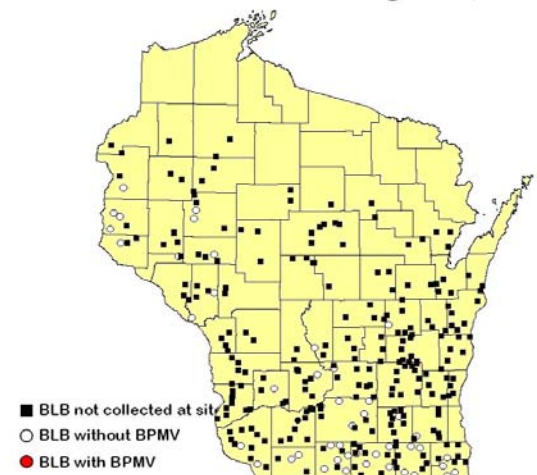
of July and early August (>90°F) helped to limit aphid population growth in 2005.

BEAN LEAF BEETLE

The spring survey for overwintered bean leaf beetles began in Green County on May 4, and advanced as far as Adams, Juneau and Marquette counties by June 1. The survey found overwintered beetles in 51 of 204 (25%) southern and central alfalfa fields visited. Laboratory analyses of the beetles collected from the 51 sites found bean pod mottle virus (BPMV) in one beetle from a Rock County field, while bean leaf beetles from the other 50 fields tested negative for BPMV. Testing of beetles was conducted using DAS ELISA kits from Agdia Inc., Elkhart, Indiana.

A summer follow-up survey of first generation bean leaf beetles, conducted between June 28 and August 22, found bean leaf beetles at 47 of 276 survey sites (17%). Individual beetles were tested for BPMV using the same DAS ELISA method used to test beetles from the spring survey. No summer bean leaf beetles tested positive for BPMV. In addition, soybean leaflets from each of the 276 fields were collected tested for BPMV. No BPMV was found in any of

2005 Summer Survey for BLB & BPMV
June 28 - August 22, 2005



Wisconsin Department of Agriculture, Trade & Consumer Protection



the 276 soybean fields sampled. Survey findings suggest early-season BPMV transmission by bean leaf beetles should not be an issue in 2006.

STATEWIDE FIELD CROP DISEASE SURVEYS

SOYBEAN VIRUS SURVEY

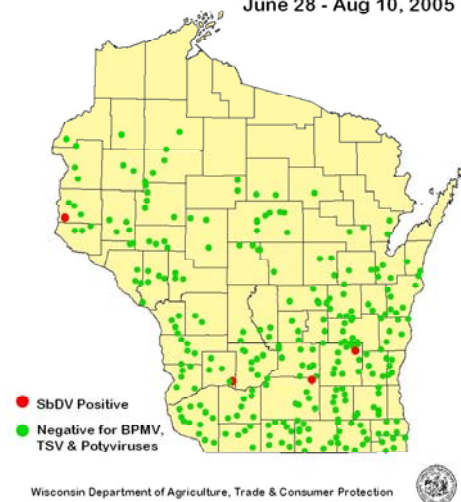
A statewide survey for viruses and soybean aphid prevalence was conducted from June 28 to August 10, 2005. Observations and samples were collected from 276 R2-R5 soybean fields across Wisconsin. At four points in each field, the uppermost fully-unfurled trifoliolate was picked from 10 plants and stored on ice until delivered to the Plant Industry Laboratory. Soybean aphid populations were counted, an estimation of defoliation percent made, and plants were examined for soybean rust.

In the laboratory, samples were ground and tested by ELISA for bean pod mottle virus (BPMV), soybean dwarf virus (SbDV), tobacco streak virus (TSV) and a broad potyvirus test (includes bean common mosaic virus, bean yellow mosaic virus, soybean mosaic virus and others). Tests were conducted using DAS ELISA kits from Agdia Inc., Elkhart, IN, in accord with manufacturer's protocols.

In the samples tested, no BPMV, no TSV and no potyviruses were detected, and only four of the 276 fields were positive for soybean dwarf

Soybean Virus Survey Summary

June 28 - Aug 10, 2005



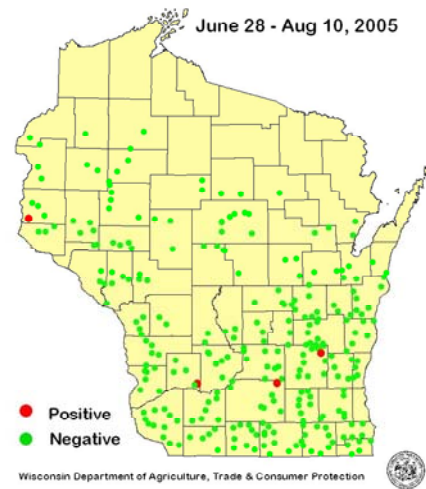
virus. No soybean rust was detected in any surveyed Wisconsin field in 2005.

SOYBEAN DWARF VIRUS

Soybean dwarf virus was first detected in soybeans in Wisconsin in 2003. In 2004, the virus was detected in five of 293 soybean fields sampled. In 2005, SbDV was detected in four of 276 fields sampled. Companion surveys of clover (also reported to be a host) found the virus in 33 of 77 samples in Wisconsin collected in 2005. (One note regarding the clover results was difficult with clover, due to "noise" in the system. The clover may be less than indicated.)

Several strains of SbDV are known to exist, with different aphid vector relations. Work is underway to classify the strain or strains in Wisconsin soybeans and clover. Certain strains of SbDV have been shown to be vectored by *Aphis glycines* under greenhouse conditions, but the apparent large reservoir of virus present in clover and the relative low rate of infection in the soybean crop suggest that the soybean aphid is an inefficient vector of the disease, or that as-yet-unrecognized differences in strains exist in the state. *A. glycines* will feed on red clover under greenhouse conditions, but is rarely reported to do so in the field, and does not overwinter on clover.

Soybean Dwarf Virus Survey in Soybeans



The apparent widespread prevalence of the virus in clover does raise concerns about the potential threat from a mutation in either insect or virus, or from a new vector entering the system in the future.

SOYBEAN CYST NEMATODE

In 2005, four counties (Lafayette, Richland, Clark and Rusk) were added to the list of Wisconsin counties known to be infested by soybean cyst nematode, *Heterodera glycines*. This brings the total number of counties infested in Wisconsin to 37, comprising the great majority of the soybean acreage in the state. Growers in counties where SCN has been identified should test for the organism. Guidance in management of the nematode is available at <http://www.plantpath.wisc.edu/soyhealth/scn.htm>.

FROGEYE LEAF SPOT

A soybean field in Richland County was found to have frog-eye leaf spot, caused by *Cercospora sojina*. This disease is common in the Mississippi delta region, and is reportedly increasing in incidence in Iowa. *C. sojina* overwinters on soybean residue. The first reported DATCP detection was made in 2000 in Iowa County; one detection was made in 2001 in Richland County. Frog-eye leaf spot may be a growing concern for WI soybean growers in the future.

VIRUSES ON SNAP BEANS

A survey of 33 commercial snap bean fields detected cucumber mosaic virus in three fields, and one field (Portage County) tested positive for the potyvirus group. All samples were negative for BPMV and TSV.

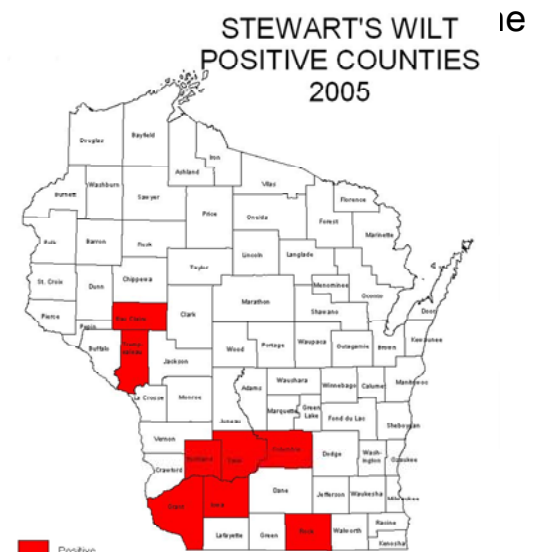
WHEAT STREAK MOSAIC VIRUS, MAIZE DWARF MOSAIC VIRUS AND HIGH PLAINS VIRUS

A survey of the state's wheat crop for wheat streak mosaic virus (WSMV), the High Plains virus (HPV) and maize dwarf mosaic virus (MDMV) was conducted from June 6 to June 20, 2005. High Plains virus is not known to occur in Wisconsin, nor is the vector of both HPV and WSMV, the wheat leaf curl mite (*Aceria tosichella*), known to occur here. Samples were collected at 82 wheat fields across the eastern half of the state and tested in the laboratory. No WSMV, MDMV or HPV was detected in wheat.

Between August 28 and September 9, samples were collected from 44 fields of corn seed production inbreds. These samples were also tested for the three viruses. All samples were negative for all three viruses. Stewart's Wilt was found in Eau Claire County, which tested positive for MDMV.

STEWART'S WILT

Since appearing in 1999 after a 56-year absence, Stewart's wilt (caused by the bacteria *Pantoea stewartii* (Smith) has been found in inbred and sweet corn fields almost every year. In 2000, the disease was found in 10 counties of the state; in 2001, no disease was detected. In the years 2002-2004, only one or two infected fields were detected each year. The 2005 seed field inspections found the disease in 21 of 44 fields surveyed, or 48% of the fields visited. The disease occurred in eight counties, as far north as Eau Claire County.



Stewart's wilt is of regulatory concern, and importation of seed from *Pantoea*-infected fields is prohibited by at least 23 countries worldwide. The bacteria is vectored by the corn flea beetle (*Chaetocnema ulicaria* Melsheimer), which also serves as the overwintering reservoir. Winter

temperatures are likely the primary factor regulating the incidence of this disease in Wisconsin, by influencing flea beetle winter mortality.

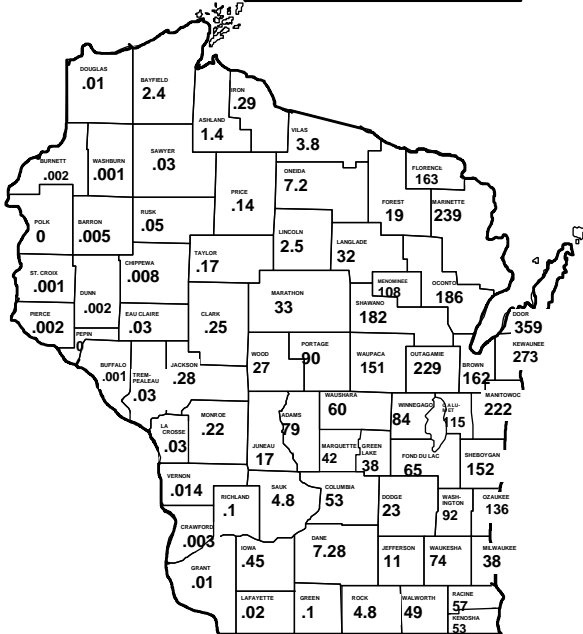
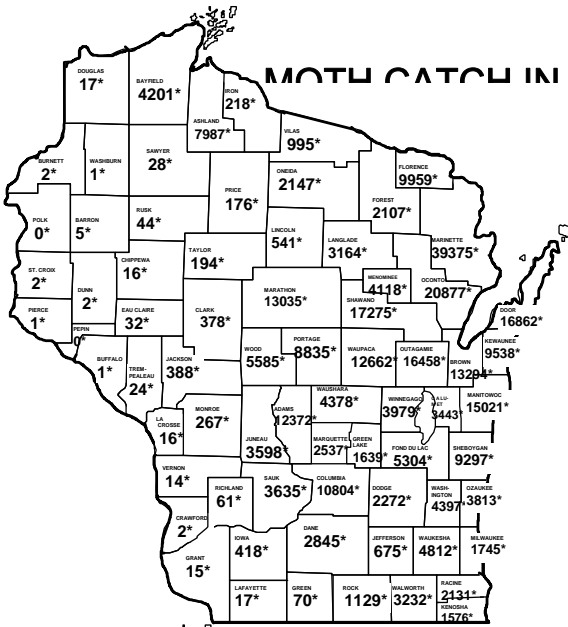
GYPSY MOTH PROGRAM

GYPSY MOTH TRAPPING AND EGG MASS SURVEY

WDATCP gypsy moth trappers set 28,778 traps on a regular grid and 5,344 traps in delimit blocks for a total of 34,122 traps throughout Wisconsin. Regular grid trap densities included 1 trap per square mile, 1 trap per 4 square miles and 1 trap per 9 square miles. Delimitation traps were set at a density of 4 or 9 traps per square mile. Delta and milk carton traps were used to detect and delimit populations, monitor existing populations, identify new infestations, and determine treatment efficacy. A total of 308,178 moths were caught by trappers and 7,844 moths by cooperators for a grand total of 316,022 male gypsy moths. Egg mass surveyors inspected a total of 365 sites covering 1500 acres. Fifty-one positive sites were found outside the regulated counties.

MOTH CATCH IN 2005

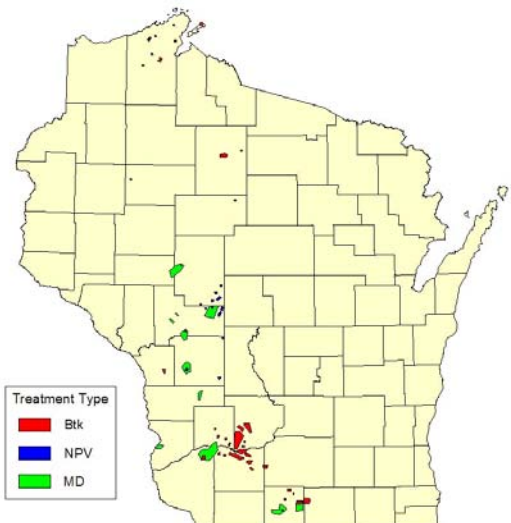
MOTHS PER TRAP



2005 Proposed Gypsy Moth Treatment Sites

GYPSY MOTH TREATMENT PROGRAM

The 2005 Gypsy Moth Slow The Spread treatment program in western Wisconsin began on May 14 and concluded on July 8, helping to guide a subsequent reduction in the leading



edge of the moth spread and a decline in moth catches statewide.

Overall, the STS program sprayed a total of 195,507 acres on 67 sites in 19 western Wisconsin counties. Sites were treated either twice (5-10 days apart) with the bio-pesticide Btk or else once with the bio-pesticide NPV (Gypchek). Other sites were treated once with pheromone flakes, a synthetic pheromone that disrupts mating between male and female gypsy moths, as it confuses the male moth by simulating the female scent.

SLOW THE SPREAD REGULATORY PROGRAM SUMMARY

In 2005, 174 STS Regulatory traps were set. A total of 67 traps were placed at privately owned campgrounds, 39 were placed in Christmas tree fields, and 68 were set at lumber mills. Of these traps, 25 traps at campgrounds registered gypsy moth catches, seven traps at Christmas tree fields were also positive, and nine lumber mills registered moth catches.

Educational outreach was also a major focus of the STS Program in 2005. More than 250 people, both public and industry, were certified on the identification, reporting procedures and the regulatory requirements of the gypsy moth through 20 training sessions and educational presentations. Affected industries in Wisconsin include: timber, moving companies, nursery growers and dealers, Christmas tree growers and dealers, firewood producers and dealers, campgrounds and any other industry moving regulated articles. Program staff also exhibited booths at seven public and industrial tradeshow. By working cooperatively with the Wisconsin

Department of Natural Resources, informational gypsy moth inserts were included in 227,000 boat/snowmobile/atv license renewal notices. Mass mailers were sent out to 165 firewood producers and dealers and 539 privately-owned campgrounds informing them of quarantine issues pertaining to the gypsy moth and also including information on a number of other relevant pests and diseases.

PLANT INDUSTRY LABORATORY

The Plant Industry lab performs disease diagnosis for crop survey, the nursery, Christmas tree and phytosanitary programs, as well as the pesticide section. The plant pathologist provides technical expertise and maintains up to date information on the status of regulated nematodes and disease in the state. In addition, she documents historical information about plant and nematode problems in Wisconsin. In 2005 the Plant Industry lab processed 1,299 samples diagnosing 43 diseases and 12 viruses on 87 hosts.

Plant Industry lab is a USDA APHIS authorized facility to screen for certain select agents regulated under the Agricultural Bioterrorism Protection Act of 2002 and other federal legislation. The lab conducted testing of nursery samples for *Phytophthora ramorum* in 2005 and 2004, screening of geraniums for *Ralstonia r2b3* in 2003, and screening of potatoes for potato mop top virus (PMTV) in 2002.

Category	Pest or Disease	No. of Samples
Agronomic	Asian Soybean Rust	3
Agronomic	Bean leaf beetle	97
Agronomic	Clover SbDV	92
Agronomic	Potato rot nematode	2
Agronomic	Powdery scab	13
Agronomic	Seed corn certification	44
Agronomic	Soybean cyst nematode	48
Agronomic	Soybean seed certification	8
	Soybean multiple	

In 2005 soybeans, clovers and snap beans were tested for a variety of viruses including: bean pod mottle virus (BPMV), cucumber mosaic virus (CMV), potyviruses, tobacco streak virus (TSV) and soybean dwarf virus (SBDV) using enzyme-linked immunosorbant assays (ELISA). Four soybean fields tested positive for SbDV, three snap bean fields tested

positive for CMV and one for potyviruses, and clover samples showed a high incidence of SbDV (66%). Further, a number of wheat samples and sweet corn hybrids were tested for high plains virus (HPV), maize dwarf mosaic virus (MDMV) and wheat streak mosaic virus (WSMV). positive for MDMV, and only one positive field was detected.

In addition, molecular methods such real time polymerase chain reaction (PCR) were used to test potatoes for powdery scab, but detected no new finds in 2005. A PCR protocol was set up for Asian soybean rust detection. Asian soybean rust was not detected on soybeans in Wisconsin in 2005. ELISA testing of nursery stock revealed that 31% of

Categories of Sample Submitted in 2005		No. of Samples
Ag Bioterrorism/Federal		
Quarantine		303
Compliance		3
Export Certification		54

* Some categories overlap

hostas were infected with hosta virus X (HVX).

POTATO ROT NEMATODE

WDATCP inspected eight potato fields for Potato Rot Nematode (PRN) during the 2005 fall harvest, totaling 292 acres. One 37-acre field was found positive for PRN. Four fields going into seed potato production for the first time were found negative for PRN and three fields with a prior history of PRN showed no evidence of PRN. Three fields were released from the Notice of Infestation based on two successive potato crops grown on the fields with no evidence of PRN. However, potatoes grown from these fields can be marketed only as table stock because the fields were not fumigated prior to the two inspections. Potato Rot Nematode infested potatoes were also found during a shipping point inspection of potatoes being marketed for table stock. The grower was issued a Notice of Infestation stating that the potatoes grown from his 70-acre field were found to be infested with PRN.

WISCONSIN SEED PROGRAM

During the 2005 season, WDATCP's Seed Program focused efforts on seed labelers with poor compliance records or histories that showed they were moving in the wrong direction. Seven companies were targeted for priority sampling. Also targeted were companies that had not been sampled in two years, mixtures and lawn grasses. In 2005 WDATCP had 691 licensed labelers and collected seed samples from 107 of the labelers, for a total of 340 samples. The overall violation percentage of 13% was the same as last season, and comparably low for the program over the past 10 years. Seven Technical, 20 Minor and 17 serious

violations were issued. Nineteen seed lots were relabeled in order to meet compliance standards, two lots were removed from sale by the labeler, three lots were returned to the labeler, one lot was ground for feed, while fifteen lots were sold and planted before compliance actions could be taken. One lot with a PVP Title 5 seed was found being sold as VNS, all information regarding the sample and case was referred to the owner of the PVP seed.

VIOLATIONS FOR CLASS OF SEED – 2005

Seed Class	Germ	Purity	Noxious Weed	Technical
Cereals	4	0	3	1
Large Grain	1	1	0	0
Mixtures	8	0	2	2
Small Seeded Legumes	1	2	1	1
Grasses	7	2	2	3
Total	21	5	8	7

Based on the following tables and compliance records, WDATCP's seed sampling efforts in 2006 will be directed toward cereals, lawn grasses and mixtures. Program staff will again focus on labelers with poor compliance records.

PROBLEM SEED IN 2005

Crop	Samples	Violation %	Technical	Minor	Serious
Oat	49	14%	1	2	4
Lawn Grass	63	13%	1	4	3
Pasture Mix	35	20%	1	2	4
Smooth Brome	8	25%	0	1	1
Pea Mixtures	24	21%	1	2	2

Class of Seed	Kind of Seed	Samples	Violations
Cereals	Barley	9	1
	Oat	49	7
	Rye	4	2
	Wheat	2	0
	Rape	1	1
Total Samples/Violations -Class		65	11
Violation Percentage for Class			17%
% of Total Samples/Violations		19%	25%
Large Grains	Corn	15	0
	Soybean	10	1
	Pea	8	1
Total Samples/Violations -Class		33	2

Violation Percentage for Class			6%
% of Total Samples/Violations		10%	5%
Grasses	Fescue	3	0
	Lawn Grass	66	8
	Orchardgrass	5	1
	Pasture Mix	35	7
	Perennial Rye	8	2
	Smooth Brome	8	2
	Festulolium	5	1
	Timothy	8	0
	Total Samples/Violations -Class		138
Violation Percentage for Class			15%
% of Total Samples/Violations		41%	48%
Mixtures	Pea/Barley	5	0
	Pea/Oat	10	3
	Pea/Triticale	9	2
Total Samples/Violations -Class		24	5
Violation Percentage for Class		-	21%

% of Total mples/Violations		7%	11%
Small Seeded Legume	Alfalfa	37	2
	Clover	20	3
	Trefoil	2	0
Total mples/Violations -Class		59	5
Violation Percentage for ass		-	8%
% of Total mples/Violations		17%	11%
Vegetable	All Veggies	20	0
Total mples/Violations -Class		20	0
Violation Percentage for ass		-	0%
% of Total mples/Violations		6%	0%
Flower & Prairie	Marigold	1	0
Total mples/Violations -Class		1	0
Violation Percentage for ass		-	0%
% of Total mples/Violations		0%	0%
Total mples/Violations		340	44

Violation Percentage			
total			12.94%

PHYTOSANITARY CERTIFICATION PROGRAM

The phytosanitary certification program is a cooperative program with the United States Department of Agriculture (USDA) and with other states in the Union. It provides an integral service to shippers of plants and plant commodities by certifying their shipments are free of regulated pests before moving into international or interstate commerce. The program helps to prevent the spread of injurious plant pests from Wisconsin to other states or countries while serving the general public. This program was responsible for the export of over **\$93,274,485** of plant products in Wisconsin in 2005 (*see table on next page*). The phytosanitary certification program is a service program driven by demand, and is authorized in section 93.07(12), Wisconsin Statutes, and regulated in chapter ATCP 21, Wisconsin Administrative Code. It is supported in part by program revenue funds according to a fee schedule in s. ATCP 21.05, Wis. Adm. Code as authorized in s. 94.11, Stats.

PLANNED ACTIVITIES

- Process 1,271 applications and issue state or federal certificates. (based on a 9 year average)
- Conduct special inspections
- Respond to applicants requests for import requirements of state or foreign countries

END-OF-YEAR SUMMARY

- 1,830 certificates were issued in 2005.
 - 1,706 were Federal Certificates
 - 233 Processed Plant Product Certificates
 - 1,473 Phytosanitary Certificates

124 were State Certificates

- 103 Phytosanitary Certificates
- 21 Plant Inspection Certificates

The table on the following page represents 99% of the phytosanitary certificates issued in 2005; the remaining 1% were “Plant Inspection Certificates” which were not specific to commodity or were shipments with no value. The table shows the total number of plant products and the estimated dollar values of those products for the certificates issued. The estimated values were collected from the industry representatives for whom we issued the certificates to.

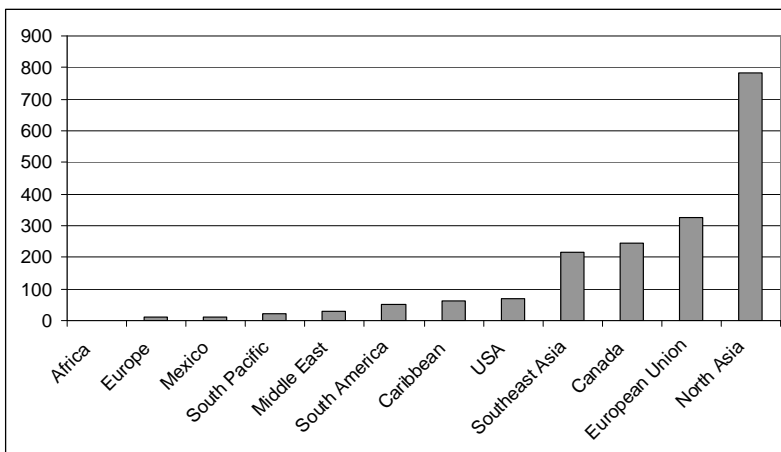
2005 PHYTOSANITARY CERTIFICATES ISSUED AND ESTIMATED PRODUCT VALUES

Number of Certificates	Total Commodity and Unit	Estimated Value Per Unit	Estimated Total Value of Commodity
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es Issued			
80	74,917 cut Christmas trees	\$14.38	\$1,077,306.46
138	235,780,300 pounds Corn grain	\$0.05	\$11,789,015.00
53	16,924 pounds Corn seed	\$0.94	\$15,908.56
57	1,662,072 pounds Cranberry fruit	\$0.90	\$1,495,864.80
27	942,555 pounds Cranberry vine cuttings	\$0.75	\$706,916.25
20	1,438,874 pounds Kidney bean grain	\$0.29	\$417,273.46
550	8,315,205 board feet Lumber	\$1.35	\$11,225,526.75
88	123,627 Nursery plants	\$2.00	\$247,254.00
6	11,844 pounds Nursery seed	\$4.00	\$47,376.00
6	84 pounds Ginseng seed	\$45.00	\$3,780.00
16	15,444 tissue culture Potato plantlets	\$0.96	\$14,826.24
84	3,976,692 pounds seed Potatoes	\$0.08	\$318,135.36
2	85,000 pounds table stock Potatoes	\$0.07	\$5,950.00
4	55,875 pounds Lycopodium moss	\$1.20	\$67,050.00
272	300,122,600 pounds Soybean grain	\$0.12	\$36,014,712.00
52	30,177 pounds Soybean seed	\$0.36	\$10,863.72

212	6,102,047 board feet Veneer	\$4.65	\$28,374,518.55
26	8,560,240 pounds Wheat grain	\$0.07	\$599,216.80
30	4,098,832 pounds Barley grain	\$0.08	\$327,906.56
12	4,810,658 pounds distiller's dried Corn grain	\$0.05	\$240,532.90
2	201,080 pounds gluten Corn meal	\$0.05	\$10,054.00
3	129,000 pounds Horse Raddish	\$0.40	\$51,600.00
23	75,250 pounds shredded Aspen bedding	\$0.05	\$3,762.50
7	75 pounds Soybean plant material	\$1.00	\$75.00
6	2,157 pounds Vegetable seed	\$0.96	\$2,070.72
33	2,957 Veneer logs	\$70.00	206,990.00
		TOTAL	\$93,274,485.63

TOTAL CERTIFICATES ISSUED IN 2005 AND FINAL COUNTRY DESTINATIONS



European Union: Austria / Belgium / Czech Republic / Cyprus / Denmark / Estonia / Finland / France / Germany / Greece / Holland / Hungary / Ireland / Italy / Latvia / Luxembourg / Malta / Monaco /

Middle East Arab Countries: Saudi Arabia / United Arab Emirates

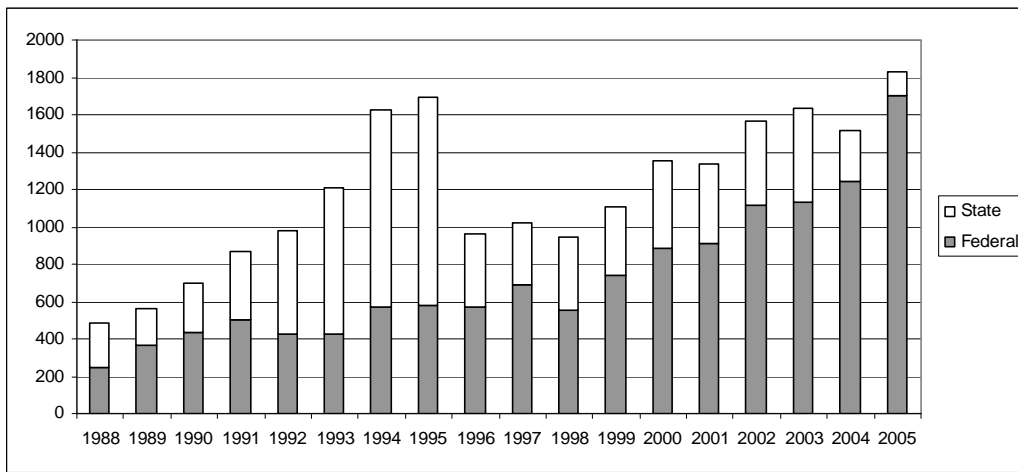
East Asia: Hong Kong / Japan / Macau / People's Republic of China / Republic of Korea / Taiwan

Miscellaneous European: Bulgaria / Norway / Romania / Switzerland / Turkey

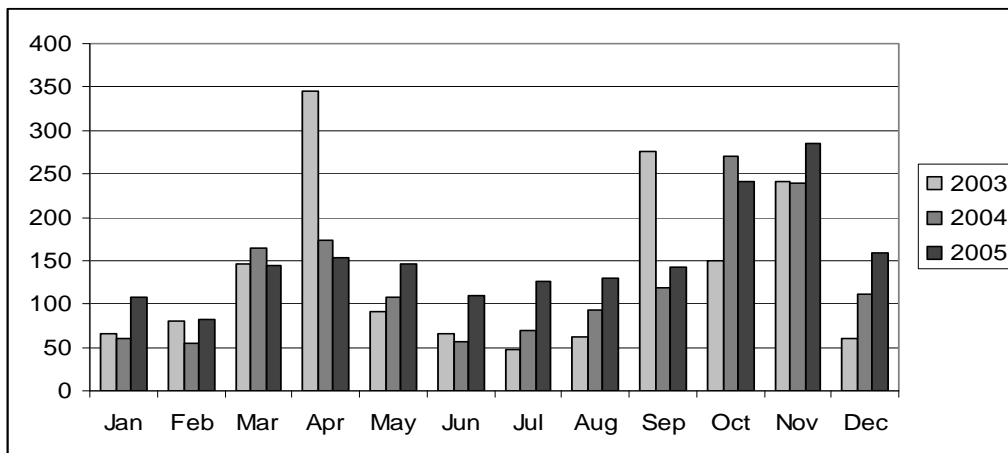
Southeast Asia: Indonesia / Malaysia / Philippines / Thailand / Vietnam

South America: Argentina / Belize / Brazil / Chile / Costa Rica / Honduras / Nicaragua / Republic of Panama

The Former Soviet Republics: Belarus / Russian Federation

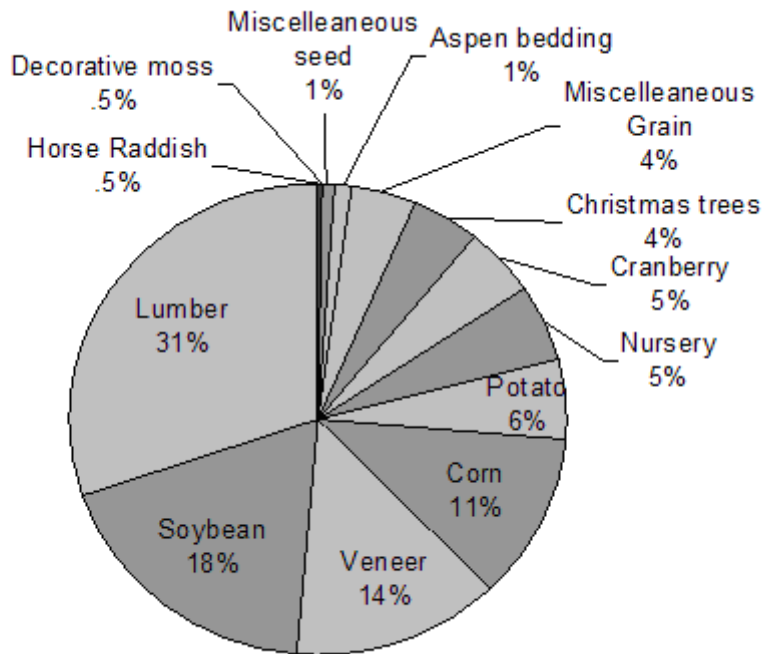


FEDERAL AND STATE PHYTOSANITARY CERTIFICATES 5 YEAR TREND



TOTAL NUMBER OF PHYTOSANITARY CERTIFICATES ISSUED BY MONTH

COMMODITIES & CERTIFICATES ISSUED IN 2005



NURSERY PROGRAM

In 2005, nursery program personnel inspected 312 of the 762 licensed nursery growers in the state compared to 426 growers inspected in 2004. The decrease was due to the loss of two inspectors for much of the year. A total of 447 of the 1072 licensed nursery dealers in the state were inspected in 2005 compared to 514 nursery dealer inspections in 2004. Again, the decrease from the previous year was due to a staffing shortage.

2005 was the year of the virus, specifically hosta virus X. Inspectors found this virus at both dealers and growers with most having originated from the Netherlands. Tobacco rattle virus was another significant find on a wide range of host plants. Tobacco ringspot virus was found on daylilies at one grower, and the usual viruses such as tomato spotted wilt and impatiens necrotic spot viruses were detected. Weir's cushion rust was more widespread than in 2004 and growers who missed even one spray in the spring saw major needle loss.

Christmas tree field inspections began on September 1 and were completed for interstate growers near the end of October. Staff inspected 661 fields belonging to 479 licensed Christmas tree growers. Inspections of smaller growers and choose-and-cut growers were carried out until Christmas day.

NURSERY ACREAGE AND NUMBER INSPECTED 2000-2005

Year	Acres	Increase	Number	Increase
2000	7,300	-2900	350	-225
2001	8100	+800	446	+94
2002	9577	+1477	400	-46
2003	16, 669	+7092	398	-2
2004	1	1	426	+28
2005	1	1	312	-114

1= with the change in the computer system numbers are not available

PROGRAM CHANGES, NEW PERSONNEL

1. Lenny Weiss transferred from our agrichemical management bureau into plant industry. Lenny has the southeast portion of the state where many of our larger nurseries are located. Lenny has an extensive

background in agriculture and horticulture and is welcome pleasure to our team of inspectors

2. Brooke Voelker was moved to the east central portion of our state and is located in Oshkosh.
3. Thad Kohlenberg left state service earlier this year and took a position with The Bruce Company, a large Madison-area nursery.
4. Paula Noel, our program assistant, also left state service this year and took a job in private industry.
5. Stacy Chic left state service earlier this year to be a stay-at-home mom.
6. We will be hiring two people to take Thad and Paula's positions in the near future.

EXOTIC FRUIT MOTH SURVEY

For the second year in a row, a 31-member network of apple growers was enlisted in an effort to detect four species of exotic fruit moths in Wisconsin apple orchards: apple ermine moth, cherry bark tortrix, apple tortrix, and fruit tree tortrix. These fruit moths are currently established in the Pacific Northwest and could be introduced into Wisconsin on nursery stock. In 2001, live AEM larvae were found at a nursery near Portage, Wisconsin (Columbia Co.). The AEM larvae found in Portage are thought to have hatched from eggs that were brought in on nursery stock from Oregon. In that case, a quarantine zone was established and treatment was ordered. No established populations of AEM have been found in Wisconsin since then, and no exotic fruit moths were detected in Wisconsin in 2005. A third season of exotic fruit moth trapping is planned for 2006.