



Michigan Department of Agriculture

Pesticide & Plant Pest Management Division Annual Report 2007

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The mission of the Pesticide and Plant Pest Management Division is to:
Protect human health and the environment, while fostering a diverse, viable Michigan agriculture.



Kenneth Rauscher
Director

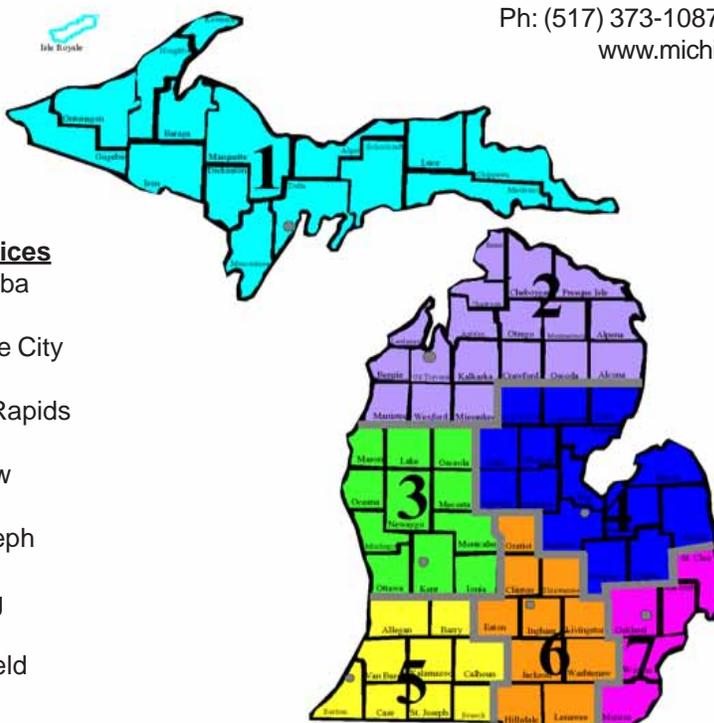
Introduction

In 2007, the Pesticide and Plant Pest Management Division (PPPM) continued to place an emphasis on our role in managing invasive species that threaten food and fiber agriculture. We have proactively conducted surveys and implemented control measures where necessary for such pests as emerald ash borer, plum pox virus, and hemlock woolly adelgid with the intent to protect our resources from the increasing attack of invasive pests. Food safety and environmental protection continued to be a primary goal as well as insuring the integrity of the feed supply and that pesticide products are utilized by trained applicators in an appropriate manner. Through an effective and conscientious pesticide registration program, we assure safe pest management products are available to producers and homeowners. Our agricultural products inspection activities prevent contamination of the food supply, assure consumers that feed, seed, and fertilizers are efficacious and safe, while providing a level playing field for business. Fruit and Vegetable inspection personnel make sure that fresh produce meets federal grading standards, is accessible to interstate markets, and allows for accurate payment for producers. Additionally, PPPM continued to facilitate domestic and international trade by insuring agricultural commodities such as beans, grain, lumber, and nursery stock meet rigorous phytosanitary standards.

PPPM staff are proud of these accomplishments and our responsibilities to serve the citizens of Michigan in these diverse regulatory and management activities. We welcome your comments as we strive to improve our services and efficiencies.

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PPPM Table of Contents

Introduction	2
Section 1 – Exotic & Invasive Species Pest Management.....	4
Emerald Ash Borer	4
Cooperative Agricultural Pest Survey	7
Hemlock Woolly Adelgid	7
Plum Pox Virus	7
Section 2 – Plant Pest & Commodity Certification	8
Nursery Program	8
Export – Interstate Certification	9
Foreign Export	9
Plant Pathology Laboratory Activities in Support of Export	9
Biotechnology and Plant Post-Entry Quarantine (PPQ) Import Permits	9
Fruit and Vegetable Inspection Program	10
Controlled Atmosphere Storage Licensing Program	11
Wholesale Potato Dealer Licensing Program	11
Seed Potato Inspection	11
Dry Edible Bean Inspection	11
Michigan Organic Registration Program	11
Section 3 – Emerald Ash Borer, Plant Pest & Commodity Certification Statistics	12
Emerald Ash Borer Statistics	12
Plant Pest & Commodity Certification Statistics	13
Plant Pathology Laboratory Statistics	14
Section 4 - Food Safety & Consumer Protection	15
Nationwide Pet Food Recall	15
Bovine Spongiform Encephalopathy (BSE or “Mad Cow Disease”)	15
Medicated Feed	15
Annual Feed Contaminant Survey	16
Animal Remedies Program	16
Elevator and Feed Mill Sanitation Program	16
Seed Program	16
Fertilizer and Liming Program	16
Section 5 – Pesticides & Agrichemicals	17
Inspections/Investigations	17
Certification	17
Registration	17
Worker Protection Standards	18
Pesticide Enforcement Activities	18
Agrichemical Safety and Security	18
Bulk Storage Program	19
Section 6 – Food Safety, Consumer Protection, & Environmental Protection Statistics	20

Section 1 – Exotic & Invasive Species Pest Management

Emerald Ash Borer

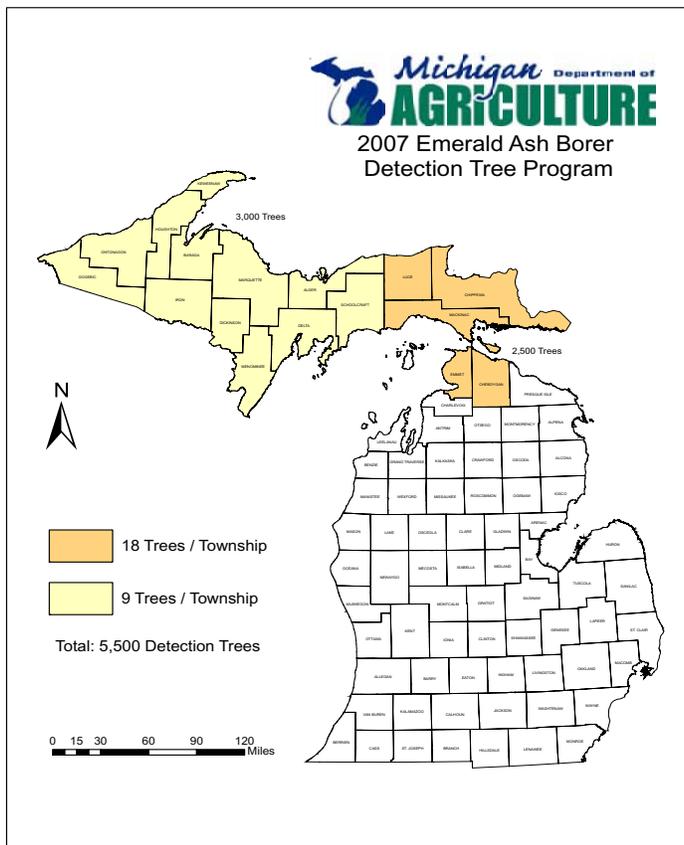
Emerald ash borer (EAB) was first identified in 2002 in six Michigan counties (Livingston, Macomb, Monroe, Oakland, Washtenaw, and Wayne). Since its discovery, this exotic pest has been quarantined in two levels in Michigan's Lower Peninsula; 21 counties of Southeast Michigan as Level I and the remaining 47 counties of the Lower Peninsula as Level II. In the Upper Peninsula, a 55-square mile area near the Village of Moran in Mackinac County is quarantined as Level II due to the discovery of an EAB infestation in 2007. A Level II quarantine area exists in Chippewa County due to a 2005 infestation discovered and eradicated at Brimley State Park. EAB was also discovered in St. Ignace at the Straits State Park. Approximately 20 million of Michigan's 700 million ash trees have been killed due to EAB. In addition, EAB infestations have been found in Illinois, Indiana, Maryland, Ohio, Pennsylvania, Virginia, and West Virginia. These infestations are attributed to artificial movement through nursery stock, firewood, and ash logs.

During the past five years, the Michigan Department of Agriculture (MDA), along with its partners, the Michigan Department of Natural Resources (MDNR), United States Department of Agriculture (USDA), and Michigan State University (MSU), have learned a great deal about this pest's lifecycle; its flight patterns; its reproductive habits; and how it spreads. This collaborative team has come to understand the many challenges of eradicating and controlling EAB. They have focused on utilizing new methods to identify the leading edge of infestations to further suppress the spread of EAB into new areas.

Detection/Survey Activities



Emerald ash borer firewood sign approaching the Mackinac Bridge.



In May 2006, the focus of MDA's EAB detection activities was a targeted detection tree program establishing trees in road rights-of-way in Michigan's Upper Peninsula and gateways leading into the Upper Peninsula. Conservation District staff conducted detection tree activities in the Upper Peninsula and Lower Peninsula counties with MDA staff support in the remainder of the state.

Removal and peeling of detection trees began statewide in September 2007. At the end of the year, all of the detection trees had been felled, peeled, and disposed of. With the exception of the Moran and St. Ignace finds in Mackinac County, all detection trees in the Upper Peninsula were negative for EAB.

Survey activities outside of the detection tree program were aimed at high-risk sites in the Upper Peninsula such as campgrounds, sawmills, and recreational lakes.

Pesticide & Plant Pest Management Division

Control Activities

Soon after EAB was discovered in Michigan, USDA scientists began searching for natural enemies of the pest for importation into the United States. After much searching, natural enemies were located in Asia, the origin of EAB. In laboratory studies, researchers determined three species of tiny parasitic wasps (*Oobius*, *Spathius*, and *Tetrastichus*) are highly host specific, meaning they only attack EAB. *Oobius* lays its eggs directly into the EAB eggs. *Spathius* and *Tetrastichus* target the EAB larvae. MDA approved the general release of these organisms on July 23, 2007 after a national review and comment period conducted by USDA, and finding no significant environmental impact. In July and August 2007, USDA scientists began releasing the three species of tiny parasitic wasps at locations in Michigan where it was determined sufficient numbers of EAB were present. The results of these releases will be studied to decide whether the wasps can become established in Michigan and provide effective control against EAB. At the same time, USDA researchers are continuing in their efforts to identify other possible biological control agents. In addition to biological control, USDA is exploring both the biology of EAB and its host material (ash) to develop a more effective and efficient lure and trap.



Tiny parasitic female moth ovipositing.

Outreach Activities



Emerald ash borer outreach materials displayed at trade show.

Timely and clear communications, outreach and education efforts are essential in every aspect of the EAB program. Increased public awareness and understanding enhances compliance with the quarantine and supports the state's overall efforts to prevent the artificial spread of EAB.

PPPM produced and distributed outreach and educational materials to stakeholders as well as the general public, and staff hosted numerous informational booths, educational seminars, workshops, and group discussions at both the state and national level.

Highway signs were placed at key locations as northbound travelers approached the Mackinac Bridge informing them to not bring firewood into the Upper Peninsula.

A major communications effort occurred when Governor Jennifer M. Granholm declared the week of May 20, 2007 as "Emerald Ash Borer Awareness Week." This effort was coordinated with several other states to enhance public awareness and understanding of EAB.

Cooperative Agricultural Pest Survey

Surveys for the detection of exotic terrestrial plants and plant pests are facilitated through the PPPM's participation in the Cooperative Agricultural Pest Survey (CAPS) program.



MDA staff setting exotic woodboring insect trap.

Administered by USDA-APHIS-PPQ, this program provides federal funding to conduct early detection activities for the most critical invasive pests impacting agriculture, horticulture, forestry, the environment, and human health. Early detection of foreign pests that have eluded first line inspections at ports-of-entry is crucial to the successful implementation of control measures. Target pests for 2007 CAPS surveys included exotic woodboring beetles, Sirex woodwasp, giant hogweed, Siberian silk moth, and many others.



Pink gypsy moth adult female.

Hemlock Woolly Adelgid

Aggressive measures have been taken to eradicate hemlock woolly adelgid from Harbor Springs since its discovery in August, 2006. This pest is among the most significant threats to the health of Michigan's northern forest ecosystems. Paperwork investigations, tree removals, pesticide treatments, and a massive survey effort have been the foundation of this successful program. No hemlock woolly adelgid was detected in 2007, but continued diligence will be necessary to ensure Michigan remains free of this destructive insect.



Hemlock woolly adelgid infested branch.

Plum Pox Virus



Plum pox virus damage.

Plum pox virus (PPV), an extremely serious disease affecting peaches, plums, apricots, and nectarines, was detected in a single tree in southwest Michigan in a 2006 CAPS survey. All potentially infested trees were removed and a quarantine placed around the impacted area. Surveys begun in 2006 were expanded in 2007 and will continue through 2009. The majority of the stone fruit orchards in the western Lower Peninsula have been sampled, and to date, no additional PPV infections have been discovered.

Section 2 – Plant Pest & Commodity Certification

PPPM's Plant Pest and Commodity Certification programs facilitate interstate, intrastate, and foreign trade through inspection and certification of nurseries and plant material and provide an unbiased, third-party inspection service for the produce industry through the fruit and vegetable inspection program. The goals of these programs are to:

- Prevent the spread of harmful pests and diseases which could lead to serious ecological and economic losses.
- Facilitate the export of plant-based commodities (dry beans, grain, hay, nursery stock, logs, and lumber) to markets in more than 55 countries.
- Ensure plants purchased by consumers meet requirements for viability, trueness to varietal name, and quality standards.
- Assure Michigan fruit and vegetable producers meet the requirements necessary to access local and international markets.



Staff inspecting plants.

Nursery Program



Staff completing inspection paperwork.

Nursery inspections facilitate the sale of plant materials, such as hardy perennials, trees, shrubs, herbaceous perennials, small fruit plants, and hardy bulbs. Nursery and perennial plant producers generate about \$291 million in annual sales. Sales of Christmas trees by Michigan producers generate another \$41.5 million, representing 2.87 million trees; while, sales of wreaths and boughs account for an additional \$1.3 million (source: 2004 rotational survey values). Michigan nursery growers produce stock for sale within the state and ship to 35 states and foreign markets. Through the inspection process, PPPM ensures plant materials entering market channels are free of pests and diseases. The primary reasons for inspection are twofold:

- Prevent the spread of harmful pests and diseases which could lead to serious ecological and economic losses.
- Assure plants purchased by consumers meet requirements for viability, trueness to varietal name, and quality standards, such as those prescribed by the American Nursery and Landscape Association.

Besides inspecting for pests and diseases, PPPM field staff also make sure that production areas are free from weeds. For those plants destined for out of state markets, the commodity must meet the phytosanitary requirements of the receiving state.

Inspectors visit nursery stock dealers who receive stock from high-risk states to review shipping documents and confirm the stock is free of pests and diseases. Over a dozen pests are the main focus of these inspections. Import inspections are also performed at both the grower and dealer level when nursery stock arrives from foreign sources. This past year PPPM staff detected and restricted a large amount of diseased plants and bulbs originating from the European Union, especially hosta infected with virus.



Gladiolus.

Export – Interstate Certification

PPPM certifies nursery stock, Christmas trees, logs, hay, and bedding plants for interstate shipment. PPPM field staff ensures plant materials meet the quarantine requirements of the receiving states. Of primary importance are five major quarantine-significant pests: gypsy moth, pine shoot beetle, emerald ash borer, Japanese beetle, *Phytophthora ramorum* blight, and black stem rust. Japanese beetle is the focus of several external state quarantines as well as the National Japanese Beetle Harmonization Plan. To certify plant materials for shipment outside gypsy moth regulated areas, PPPM inspectors assure freedom from this pest through an egg mass survey plus the required annual inspection. In areas of high gypsy moth populations, PPPM also conducts additional checks in the spring for the presence of larvae that may be blown in from surrounding areas. The black stem rust quarantine applies to barberry and related species and only approved resistant varieties may be sold.



Staff conducting Japanese beetle inspection.

Foreign Export

Under cooperative agreement with USDA, commissioned PPPM staff members receive training and authorization to issue federal phytosanitary certificates facilitating trade in foreign markets and the export of Michigan commodities shipped to nearly 60 countries worldwide. The vast majority of exports went to trading partners in Canada and

Mexico, as well as to Europe and South America. The largest export categories by volume are propagative items (nursery stock and agricultural seed), grain for consumption, straw, logs, and lumber.



Staff inspecting beetle in shoot.

PPPM also monitors compliance with special export programs to assure producers meet the requirements of these new initiatives. The “Apples to Mexico” program is the most recent initiative facilitated by a partnership between MDA-PPPM, USDA, Michigan Apple Committee, MSU, and Mexican officials. The US/Canada Greenhouse Certification Program is another successful export program facilitated in Michigan by PPPM staff.

Plant Pathology Laboratory Activities in Support of Export

PPPM's plant pathology laboratory, located within MDA's Geagley Laboratory, performs many activities in support of certification and export. Plant pathology is actively involved in improving the quality of pome and stone fruit trees in Michigan. This virus-free indexing program is established at a large commercial fruit tree nursery in southwest Michigan. PPPM-Plant Pathology also conducts virus-free certification of blueberry plants to help growers obtain disease-free vigorous plants for export and domestic markets. Other activities include dry bean testing, seed corn certification, potato PVYn testing, asparagus testing, and support of CAPS surveys such as soybean cyst nematode, PPV, sudden oak death, and imported hosta.

Biotechnology and Plant Post-Entry Quarantine (PPQ) Import Permits

To facilitate safe introduction of foreign genetic material to improve the quality of fruit trees and other crops in Michigan, PPPM reviews applications and issues import permits in cooperation with USDA-APHIS-PPQ. In 2007, PPPM, in agreement with USDA, approved a total of 32 permits for four companies and four research institutions in Michigan. Five permits were issued for field trial studies, six for interstate movement, and 21 for both field trials and interstate movement. Permits were for laboratory and greenhouse research, and herbicide resistance field studies.

Fruit and Vegetable Inspection Program

The Fruit and Vegetable (F&V) Inspection program offers an unbiased, third-party inspection service for the produce industry in Michigan and throughout the United States. Inspections are based on both USDA and Michigan standards, processor specifications, and/or industry requests. USDA standards are used nationwide as a basis for purchase and resolving disputes. With the exception of federal programs and exports, the program is voluntary. All F&V staff are required to be licensed by USDA on each commodity they inspect.



F&V staff conducting an apple inspection.

Shipping Point Inspections

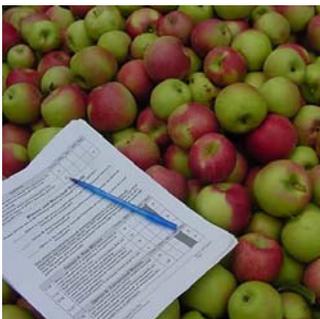
Shipping point inspections assure the quality and condition of Michigan produce prior to shipment. This type of inspection verifies the produce meets the grade marked on the containers and bags. Some shipping point inspections are mandatory such as exports, the school lunch program, and government purchases. USDA grades are recognized throughout the world and are used to market produce.

Process Inspections

Approximately 24 seasonal F&V inspectors perform inspections on raw produce received from farmers at process plants and receiving points. The inspections are based upon USDA standards and/or processor specification. Process inspections protect Michigan farmers by providing them with an unbiased, third-party inspection on their incoming produce. In addition, inspections protect processing plants from receiving poor quality produce from Michigan farmers. They also protect Michigan consumers from receiving poor quality produce in processed goods.

Market Inspections

F&V inspection staff are licensed by USDA to conduct market inspections on produce entering the channels of trade from anywhere in the world. Market inspections protect the buyer, broker, and consumer from receiving quality produce or produce which does not meet the promised grade or condition. Market inspections are used to resolve disputes which end up in court and are vital to the survival of the state's buyers/broker/receivers of Michigan produce worldwide. PPPM has five F&V inspectors and supervisors licensed to inspect incoming market loads of produce.



GAP/GHP farm audit paperwork.

Good Agricultural Practices, Good Handling Practices

Good Agricultural Practices, Good Handling Practices (GAP/GHP) were developed by USDA as a result of requests from states, shippers, and growers. This program provides uniformity of a national auditing program for the fresh produce industry verifying good agricultural and handling practices. This is an independent, third-party, audit-based service provided by trained and licensed fresh fruit and vegetable inspectors who have successfully completed the GAP/GHP training class and have participated in a minimum of five audits, including one as the lead auditor. There

are currently two federal/state F&V supervisors licensed to perform audits for GAP/GHP in Michigan. This program is currently being used by Michigan's apple, peach, carrot, and onion industries. The audit requires all applicants must receive 80 percent per element in order to pass and the results are valid for one year. This type of audit is required by some purchasers of produce and is mandatory to participate in the school lunch program.



F&V staff conducting GAP/GHP audit.

Controlled Atmosphere Storage Licensing Program

Enjoying crisp, juicy, flavorful Michigan apples year-round is possible due to controlled atmosphere storage or “CA”. Controlled atmosphere storage involves careful monitoring and control of temperature, oxygen, carbon dioxide, and humidity. All controlled atmosphere rooms are inspected and sealed by F&V inspection staff annually. Controlled atmosphere is required by some foreign countries as a condition of sale or phytosanitary requirements.



F&V staff conducting apple inspection.

Wholesale Potato Dealer Licensing Program

This program protects Michigan potato growers in case a licensed wholesale potato dealer fails to pay for potatoes purchased. The Wholesale Potato Dealers Act requires dealers to post a bond or letter of credit as a condition of licensing annually. During 2007, 18 licenses were issued to wholesale potato dealers and no complaints were received.

Seed Potato Inspection

Michigan certified seed potatoes require mandatory inspection prior to

shipment to various farms throughout the United States. Michigan is a leading national producer of potato seed, with the largest market for its production here in Michigan. In the fall, F&V inspection staff conducts quality control inspections during harvest of Michigan certified seed potatoes prior to placement in storage bins for shipment in the spring. The final certification inspection occurs while seed potatoes are being loaded into trucks. During 2007, F&V inspectors conducted 275 shipping point inspections on approximately 12,895,061 pounds of seed potatoes.



F&V staff conducting potato testing.

Dry Edible Bean Inspection

The dry bean inspection program is voluntary. The total number of inspections decreased in 2007, but the number of pounds inspected increased. There were approximately 37 million pounds of black

beans inspected, which is over three-fourths of the total inspections. The increase in the number of pounds was primarily due to black beans exported to Mexico. The F&V dry bean inspector issued 435 certificates on 46,064,429 pounds of dry edible beans in 2007.



Michigan Organic Registration Program

Public Act 316, Michigan Organic Products Act, requires registration of all organic certifying agents, handlers, and producers. During 2007, PPPM registered eight certifying agents and 124 handlers and producers. PPPM responded to 47 requests from new producers, handlers, and processors seeking information on transitioning into certified organic production with 42 percent interested in organic vegetable production.



Section 3 – Emerald Ash Borer, Plant Pest & Commodity Certification Statistics

Emerald Ash Borer Statistics

Detection/Survey

Statewide Detections Trees Established	5,500
Statewide Detections Trees Peeled	5,500
Counties with Detection Trees	17
New Infestations from Detection Program	2

Regulatory

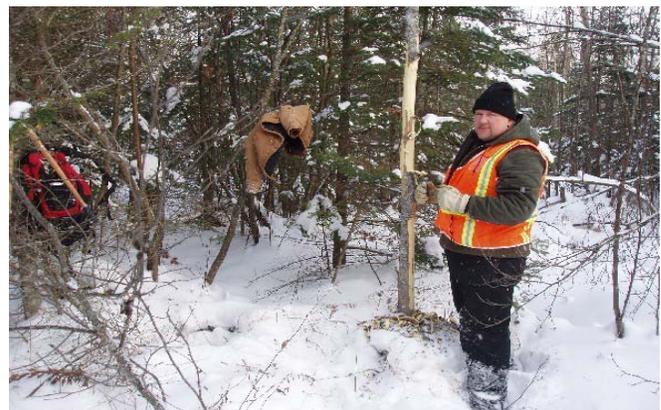
Quarantined Counties	70
Regulatory Inspections	989
Compliance Agreements Issued	90
Bridge Inspections	
Commercial Trucks	6,461
Cords of Pulpwood	47,670
Chips & Sawdust Tonnage	95,174
Sawn Lumber Board Feet	30,324,346
Firewood Inspected Cubic Yards	39
Reports of Violation	101

Biological Control

Counties Released	4
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Outreach

Distributed Outreach Materials	77,475
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Plant Pest & Commodity Certification

Statistics

Nursery Licensing

Total Licenses	6,808
Total Growers Licensed	1,823
General Nursery Licenses	1,311
Plant Grower Licenses	148
Small Scale Grower Licenses	364
Total Dealers Licensed	4,985
Dealer in Nursery Stock Licenses	4,335
Plant Dealer Licenses	512
Small Scale Dealer Market License	138

Nursery Inspections

Growers: Total Acres Inspected	13,506
Dealers: Dealers Inspected	318

Christmas Tree Inspection – Federal Gypsy Moth & Pine Shoot Beetle Quarantines

Fields Inspected	515
Percent of Fields in Compliance	99.9
Acres Inspected	10,868

Pine Shoot Beetle Compliance Management Program

Firms Enrolled	14
Fields Enrolled	36
Acres Enrolled	692

Export Certification

Federal Phytosanitary Certificates Issued

All Commodities – Phytosanitary Certificates Issued	2,601
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US/Canada Greenhouse Certification Program

Firms Enrolled	3
Shipments Certified	1,416

Nursery Firms Issued Compliance Agreements for Federal/State Quarantines

Black Stem Rust	15
Gypsy Moth	82
Japanese Beetle	77
Pine Shoot Beetle	30
Total Compliance Agreements Issued	204

FRUIT & VEGETABLE INSPECTION

Fruit & Vegetable Certificates Issued

Shipping Point Inspections	2,042
Process Inspections	14,582
Market Inspections	765
GHP/GAP Audit Inspections	11

Dry Bean Certificates Issued

Dry Bean Inspections	435
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Licenses Issued

Controlled Atmosphere Licenses	101
Wholesale Potato Dealer Licenses	18

Federal Phytosanitary Certificates Issued

Apple Shipments Inspected	49
Blueberry Shipments Inspected	29
Bean Shipments Inspected	301

State Phytosanitary Certificates Issued

Apple Shipments Inspected	6
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Organic Registration

Handlers/Producers Registered	124
Certifying Agents Registered	8



Pesticide & Plant Pest Management Division

Plant Pathology Laboratory Statistics

Virus-Free Indexing of Pome & Stone Fruit Trees

9,356 stone and pome fruit trees in four scionwood orchards were maintained for certification of budwood for virus-free status. 4,570 trees were tested for quarantine viruses.

Blueberry Certification

324 samples representing 94 cultivars from three commercial growers were tested for TRSV, ToRSV, and Blueberry Scorch and Shock viruses using ELISA. Samples tested negative for all viruses. 81 samples of seedlings imported from Canada tested negative for Blueberry Scorch and Shock viruses, but 33 were positive for ToRSV. Soil samples from the field were negative for virus vector nematodes. Blueberry Scorch and Shock viruses have not been reported in Michigan.

Dry Bean Testing

65 samples were tested for seed borne diseases.

Seed Corn Certification

615 seed corn samples representing 28,000 acres were tested for fungal, bacterial, and viral diseases.

Plum Pox Virus

89,541 samples collected. 54,541 samples tested by the MDA Plant Pathology Lab and 35,000 samples tested by Michigan State University. One suspect sample confirmed negative by the USDA-AHPIS Laboratory in Beltsville, Maryland. All samples tested negative for PPV.

Asparagus Testing

10 samples of asparagus crowns were tested for *Phytophthora* and *Fusarium*. All were negative for *Phytophthora* and one tested positive for *Fusarium*.

Cooperative Agricultural Pest Survey Statistics

Plum Pox Virus - 84,726 samples representing 160 growers in 10 counties were collected and analyzed. No new PPV infections were detected.

Sirex Woodwasp - 65 sites were trapped in St. Clair and Macomb counties in cooperation with USDA. One detection was made by USDA and none by PPPM. This is the first detection of Sirex Woodwasp in Michigan.

Viruses on Imported Perennials - 227 plants representing 15 genera and 39 species/varieties were collected from 12 firms and tested for 12 viruses. Six genera were positive for one or more of the viruses.

Karnal Bunt - 12 samples were collected from grain elevators in Michigan's leading wheat-producing counties to facilitate overseas export of U.S. wheat.

Exotic Forest Moths - 20 high-risk sites were trapped for Siberian silk moth, nun moth, and pink gypsy moth.

Exotic Apple Moths - 20 high-risk nurseries and orchards were trapped for light brown apple moth, summer fruit tortrix moth, apple ermine moth, and others.

Exotic Woodboring Insects - one high-risk industrial site was trapped for insects entering the U.S. from overseas in solid wood packing material.



Section 4 - Food Safety & Consumer Protection

PPPM's agricultural products program is responsible for regulating commercial animal feeds and remedies, grain elevator sanitation practices, seed, lime, and fertilizers. The goal of this program is to:

- Prevent adulterated grain, animal feeds, and fertilizers from entering commerce.
- Prevent livestock illness and death due to adulterated or misbranded feed or remedies.
- Prevent animal feed establishments and grain storage facilities from operating under insanitary conditions that could endanger human and animal health.
- Prevent deceptive labeling practices involving the sale of feeds, remedies, seeds, and fertilizers.
- Investigate reports of animal deaths or illnesses where feed has been implicated or may be involved.
- Assure that feeds, remedies, seeds, and fertilizers are properly labeled.
- Guide industry concerning practices that assure food safety and protect consumers.



Through its inspections of feed, seed, fertilizer, liming materials, and animal remedy products, PPPM ensures agricultural products and commodities are marketed fairly and are safe for the intended uses. Michigan producers and industry rely on the fertilizer and seed quality assurance and consumer protection programs to produce high yields of crops valued at more than \$2.4 billion. Inspections of feed manufacturing practices, products, and labels also help assure the \$1.7 billion worth of meat, eggs, and dairy products obtained from production livestock are safe and wholesome.

Nationwide Pet Food Recall

In March 2007, several brands of pet food were found to be contaminated with melamine causing illness and death of hundreds of cats and dogs nationwide. This discovery prompted the largest pet food recall in U.S. history. In response to the nationwide pet food recall, PPPM conducted recall effectiveness inspections at pet food retailers and distributors throughout the state. These effectiveness inspections ensured all recalled products were removed from store shelves and properly disposed. PPPM also collected 43 samples of the recalled products. As expected, seven of these samples tested positive for melamine.

Bovine Spongiform Encephalopathy (BSE or “Mad Cow Disease”)



PPPM is an active participant in a national effort led by the U.S. Food and Drug Administration (FDA) to prevent the establishment and amplification of BSE in the United States by controlling the use of certain animal-derived proteins in animal feed minimizing any potential risk to animals and humans. Under this program, PPPM inspectors have been inspecting feed manufacturing facilities throughout the state since 1998. All firms handling restricted protein materials are inspected at least yearly to assure continued compliance. In 2007, 85 routine inspections helped to assure that Michigan livestock and consumers were protected from BSE.

In addition to routine inspections, PPPM was one of eight states that competed for, and received, BSE Cooperative Agreement funds from FDA. PPPM has utilized these funds to enhance the scope and effectiveness of the BSE surveillance program. PPPM staff expanded the BSE inspections to include livestock producers (farms) and firms that transport and haul animal feed. In 2007, PPPM staff conducted 62 on-farm inspections and four transporter/hauler inspections. Staff also collected 229 BSE feed samples that were analyzed by the MDA Geagley Laboratory for restricted proteins prohibited under the federal BSE regulation.

Medicated Feed

Therapeutic and production drugs are commonly administered to livestock through their feeds. For this reason, PPPM closely monitors the manufacturers of these feeds for compliance with federal regulations covering manufacturing practices designed to prevent unsafe drug residues in human food.

Pesticide & Plant Pest Management Division

Annual Feed Contaminant Survey

Working in partnership with FDA, PPPM collected 15 livestock feed samples as part of an annual animal feed survey testing for pesticide residues and mycotoxins. The results are used to determine if additional measures are needed to prevent harmful residues in human food. As in the past, results indicated there were no actionable levels in any of these feeds.



Animal Remedies Program

Modern animal husbandry practices often demand the use of drugs and vaccines to prevent or treat diseases which can harm herd health and cause decreases in production. Many drugs and vaccines are also used extensively by homeowners in the care of their pets. The PPPM Animal Remedy Program helps assure these drugs and vaccines are safe, properly labeled, and effective for their intended uses.



Elevator and Feed Mill Sanitation Program

Through this program, PPPM inspectors assure insanitary grain storage conditions which can negatively impact the safety of Michigan's food supply are eliminated. This also helps prevent costly economic losses due to pests and other forms of environmental or chemical contamination. Through these inspections, PPPM helped protect the wholesomeness of nearly 148 million bushels of grain and 391 million pounds of dry edible beans valued at nearly \$1.7 billion.

Seed Program

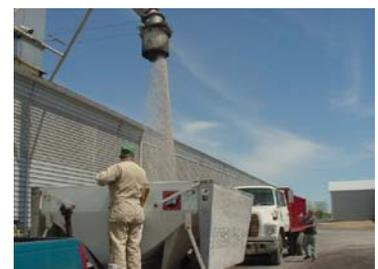
There are approximately 450 seed labelers and 140 dealers who process and distribute agricultural and non-agricultural seed in Michigan. Michigan farmers spend more than \$315 million annually on agricultural seed. The objective of the seed program is to ensure the seed purchased by Michigan growers and homeowners for planting purposes is of good quality and meets standards for germination, purity, and freedom from noxious weeds established in the Michigan Seed Law. Through the seed program, PPPM also provides oversight of seed certification activities ensuring the genetic purity of plant varieties and other quality standards.

PPPM assists USDA in assuring seed companies comply with various federal seed requirements and plays a role in the enforcement of the Federal Seed Act by providing samples and documentation for seed shipped in interstate commerce. Additionally, PPPM provides samples of selected seed kinds to USDA, which verifies varietal claims.

Fertilizer and Liming Program

The fertilizer and liming program regulates approximately 600 manufacturers and distributors of more than 1.49 million tons of fertilizers, soil conditioners, and liming materials for both farm and non-farm use. Fertilizer is the most widely used agrichemical and is agronomically applied on about 5.5 million acres of Michigan farmland. Michigan producers and industry rely on this program to maximize yields and maintain a profitable agricultural operation. In addition, millions of state residents depend on this program to protect them from fraud when purchasing fertilizer for home and garden use.

PPPM collected 489 agricultural and specialty use fertilizer samples in 2007. Analysis results are compared to the plant nutrient claims on the product label to verify label guarantees. As part of activities to improve compliance, PPPM sent stop-sale notices and warning letters to firms with violative sample results and worked with these firms to review their blending and manufacturing procedures.



Fertilizer stream cup sampling.

Amendments to the Michigan Fertilizer Law (Act 451, Part 85, Fertilizers) became effective on March 30, 2007. The amendments update various definitions, labeling requirements, tonnage reporting, and analytical methods to bring it more in line with the national model fertilizer law. Administrative penalties were also included to strengthen MDA's enforcement response.

Section 5 – Pesticides & Agrichemicals

Inspections/Investigations

PPPM conducts a variety of inspections and investigations assuring pesticides are used in compliance with state laws and regulations and in a manner that minimizes adverse effects on human health or the environment. Pesticide inspections monitor the compliance of an individual or firm through routine contacts either in the field or at business locations. These inspections are briefly described in environmental protection statistics. Pesticide investigations are based on an alleged violation and are conducted to determine if the allegation is true as well as monitor compliance with all pesticide regulatory requirements. In either case, detection of violations will result in appropriate enforcement action and compliance assurance.

Common pesticide inspection activities include a variety of compliance monitoring inspections such as federal and state marketplace inspections at locations where pesticides are sold, federal inspections at pesticide manufacturing facilities, and bulk storage inspections. Planned use inspections are a comprehensive inspection which may occur at a variety of operations, such as commercial businesses, schools, private farm operations, and other locations where pesticides are used and pesticide regulatory requirements apply.



Staff conducting an inspection.

Pesticide investigations usually start with the receipt of a complaint alleging one or more potential violations of Michigan pesticide laws or regulations. Within 24 hours, PPPM field staff first contact the complainant and the applicator, investigate allegations, and determine compliance with all regulatory requirements. Inspectors also collect physical, photographic, and documentary evidence to determine if violations occurred. Like an inspection, investigations also use an objective approach to determine compliance with all applicable regulatory requirements. PPPM conducted 178 investigations in 2007.



Mothballs were found displayed with candy during a federal Marketplace inspection.

Certification

In Michigan, applicators who apply restricted use pesticides (RUPs) must become certified to use or supervise the use of RUPs. This requirement applies to private applicators producing agricultural commodities or commercial applicators (applicators that are not private). In addition, any person applying a pesticide, other than a general use, ready-to-use pesticide (as defined), as part of their job duties must be a certified or registered applicator. Registration and certification of applicators ensures that persons applying pesticides achieve a regulatory level of comprehension appropriate to apply pesticides. There are 22,245 applicators certified to apply pesticides in Michigan and 876 applicators registered to apply pesticides in Michigan.

Registration

Pesticides sold, offered for sale, or used in Michigan must be registered with PPPM. This program gives PPPM the ability to regulate which products are allowed for use in Michigan and allows the division to place additional use restrictions on pesticides - when warranted - to protect human health or the environment. Generally speaking, pesticides registered in Michigan are first registered by the Environmental Protection Agency (EPA) where they undergo a number of environmental and toxicological assessments. Pesticides are registered for sale annually. In addition to registration fees, registrants also pay an annual groundwater fee in support of environmental

Pesticide & Plant Pest Management Division

stewardship projects. PPPM registered 15,501 pesticide products in 2007. PPPM is assisting with the development of legislation (Senate Bill 682) designed to increase regulatory controls on agricultural pesticides sold in Michigan and require out of state distributors and RUP dealers to maintain an in state resident agent as a point of contact for regulatory inspections/investigations.

In 2007, PPPM received funding from EPA to conduct Internet marketplace inspections. These inspections focus on four factors associated with both federal and state priorities, including detection of unregistered/cancelled pesticide products, illegal restricted use pesticide sales, improper health and safety claims, and detecting pesticides not registered by PPPM.

PPPM conducted 21 Internet inspections, looking at over 160 pesticide products. Of the 21 inspections conducted, 19 referral letters were sent to EPA for the following violations: 37 products were 25B misbranded, four products appeared to be unregistered, and seven products made health or safety claims. Additionally, PPPM sent 33 notices to registrants for violations of Michigan laws and regulations and 14 products were issued Michigan stop sale notices.



Worker Protection Standards

PPPM cooperates with EPA in the implementation of the Federal Worker Protection Standards (WPS). The WPS were designed with the intent to reduce, prevent, and/or minimize agricultural worker's exposure to pesticide residues. The WPS requires agricultural employers to provide basic pesticide safety training to their employees. In addition, the WPS establishes restrictions on worker entry into treated areas, provides a communication system so workers know when and where pesticides

have been applied, and requires employers to provide decontamination facilities (water, soap, and towels). PPPM conducts inspections at agricultural facilities employing workers to ensure compliance with WPS.

Pesticide Enforcement Activities

When violations of Public Act 451, Part 83, Pesticide Control, or regulations thereunder are detected, PPPM has a variety of enforcement activities that can be used to gain compliance and issue penalties. Options include warning letters requiring a written response as to how an individual or firm will comply with requirements, or hearings where PPPM and the defendant review findings and develop a compliance agreement. PPPM can issue administrative penalties (fines) or work within the judicial system to seek warrants and prosecute violators. PPPM may also conduct formal hearings to revoke business licenses or certification/registration credentials. Enforcement activities are itemized in detail in Environmental Protection Statistics.



Staff conducting a bulk storage inspection.

Agrichemical Safety and Security

In response to recent world events, PPPM strives to ensure fertilizers and pesticides are stored properly and securely to prevent bioterrorism and other misuse. PPPM continued its outreach efforts to advise agricultural dealers and farmers on how they can help deter illicit use of agrichemicals while protecting their safe, intended use.





Anhydrous ammonia tank and lock.

This year, PPPM staff inspected more than 1,900 agrichemical containers to ensure they were properly identified, locked, and secure. Efforts to improve product safety and storage by PPPM staff did not go unnoticed; during the past four years, violations in this area were reduced by 58 percent.

In 2007, the Michigan Agriculture Commission developed and issued anhydrous ammonia safety and security practices. Agricultural businesses and producers following this set of safety and security practices will be granted immunity from personal injury and property damage claims caused by anhydrous ammonia theft or unlawful use.

Bulk Storage Program

More than 57 million gallons of Michigan agrichemicals are safeguarded through the bulk storage program. During 2007, PPPM staff registered

223 fertilizer and pesticide bulk storage facilities, conducted routine inspections, and provided assistance with containment construction, site plans, emergency response plans, and recordkeeping. The bulk storage program ensures commercial bulk storage facilities are constructed, installed, and maintained in a safe manner with the least possible impact on people, property, and the environment.



Bulk storage containment.

Pesticide & Plant Pest Management Division
Section 6 – Food Safety, Consumer Protection & Environmental Protection Statistics

FOOD SAFETY & CONSUMER PROTECTION

Inspections

Total No. of Inspections	2,146
Agricultural Products	1,321
BSE Rule Compliance	151
Bulk Storage	268
Grain Elevator Sanitation	297
Federal Contract Medicated Feed	5
State Medicated Feed	104
Complaint Investigations	9
Products Sampled	2,101
Feed	988
BSE	229
Pesticide Residue	6
Mycotoxins	9
Fertilizers	489
Seed	380

Licenses/Registrations

Animal Remedies	
Product Registrations	1,454
No. of Registrants	102
Commercial Feed Manufacturer/Distributor	1,212
Michigan Firms	338
Out-of-State Firms	874
Fertilizer Manufacturer/Distributor	527
Michigan Firms	217
Out-of-State Firms	310
Specialty Fertilizer & Soil Conditioner	
Products Registrations	3,820
Liming Materials	
Product Registrations	74
Agrichemical Bulk Storage Facilities	223
Fertilizer Product Distribution	1.49
(July 06-June 07) Tonnage	million tons
Commercial Feed Product Distribution	2.33
(Oct 06-Sept 07) Tonnage	million tons

**Agricultural Products Enforcement
 (Feed, Seed, Fertilizer, Remedies, Lime,
 Bulk Storage, Elevator Sanitation)**

Violation Notices	467
Failure to License/Register	108
Stop Sale	359
Value of Violative Products Seized	\$535,455
Warning Letters	50





ENVIRONMENTAL PROTECTION STATISTICS

No. of Licenses/Certifications/Registrations	
Commercial Pesticide Applicator	
Business Licenses	1,923
Restricted Use Pesticide Dealer Licenses	261
Total Certified/Registered Applicators	23,121
Commercial Pesticide Applicator	
Certifications	14,123
Private Pesticide Applicator Certifications	8,122
Commercial Registered Applicators	876
Total Certification/Registration Exams Administered	13,956
Pesticides Registered in Michigan	15,501
Pesticide Inspections/Investigations	
Pesticide Misuse Investigations (agriculture)	40
Pesticide Misuse Investigations (non-agriculture)	138
Planned Use Investigations (agriculture)	13
Planned Use Investigations (non-agriculture)	35
Other Inspections	655
Restricted Use Pesticide Sales Audits	28
Restricted Use Pesticide Unauthorized Sales Inspections	42
Federal Marketplace Inspections	12
Federal Pesticide Producer Inspections	26
Pesticide Enforcement	
Advisory Letters	3
Warning Letters	20
Stop Prohibited Conduct Orders	208
Hearings	5
Administrative Penalties	45
Freedom of Information Act (FOIA) Requests	
Pesticide Program Requests	88
Plant Industry Program Requests	7
Emerald Ash Borer Program Requests	7
Administrative	1

