



Michigan Department of Agriculture

Pesticide & Plant Pest Management Division Annual Report 2008

Kenneth Rauscher, Director
Pesticide & Plant Pest Management Division
P.O. Box 30017
Lansing, MI 48909
Phone: (517) 373-1087
www.michigan.gov/mda

***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 2008 the Pesticide and Plant Pest Management Division (PPPM) continued to focus on food safety and environmental protection by ensuring the integrity of the feed supply and that pesticides are properly utilized by trained and certified applicators. Through a proactive pesticide registration program, we assure that effective and safe pest management products are available to agricultural producers and the general public.

PPPM also continued its emphasis on preventing the introduction of exotic invasive species which threaten our forests and food supplies. In collaboration with the United States Department of Agriculture (USDA), we have increased our pest survey efforts to facilitate a rapid response to introduced invasives and, when necessary, implemented management and control measures to minimize the impact of pests like emerald ash borer, plum pox virus, and Sirex woodwasp.

PPPM Fruit and Vegetable (F&V) inspection personnel insure Michigan produce meets federal grading standards, is accessible to interstate markets, and that Michigan farmers are accurately paid when delivering commodities for processing. Our agricultural products inspection programs prevent adulteration and contamination of the food supply, assure feed, animal remedies, seed, and fertilizer are efficacious and safe, and provide a level playing field for manufacturers and dealers. Additionally, PPPM continues to emphasize its critical role in promoting and facilitating foreign and domestic trade by making sure agricultural commodities such as grain, beans, lumber, and nursery stock meet the rigorous phytosanitary standards set by USDA and foreign importing countries.

During 2008, PPPM conducted a business process review to gain better insight into customer needs, and current services, and to identify potential areas for change. We solicited input from all of our constituent sectors (F&V, nursery, agricultural products, and pesticides) as well as our staff. Comments unanimously reflected appreciation of great customer service and staff expertise. The following are just a few recommendations suggested to improve our effectiveness and consumer protection impacts:

- ❖ Conduct a division-wide assessment of our regulatory programs to ensure enforcement equity.
- ❖ Review all division legislation to identify needed updates and changes.
- ❖ Continue to utilize risk-based models for applicable inspection activities.
- ❖ Perform a statewide analysis of our field and regional staff locations.

We have already begun the process of implementing these and many other suggestions received as a part of this review process.

PPPM staff are proud of the accomplishments summarized in this report and of our responsibilities to serve the citizens of Michigan in these diverse regulatory and management activities. We appreciate and recognize the support and collaboration of our federal partners at USDA, including the Animal and Plant Health Inspection Service (USDA-APHIS), Agricultural Marketing Service (USDA-AMS), and Forest Service (USFS); Environmental Protection Agency (EPA); and the Food and Drug Administration (FDA). We welcome your continuing comments and suggestions as we strive to improve our services and efficiencies.

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
Sirex Wood Wasp	7
Potato Cyst Nematode	7
Section 2 – Plant Pest & Commodity Certification	8
Nursery Program	8
Export – Interstate Certification	8
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
Seed Potato Inspection	11
Michigan Organic Registration Program	11
Plant Pest & Commodity Certification Statistics	12
Section 3 - Food Safety & Consumer Protection	13
Commercial Feed Program	13
Medicated Feed	13
Bovine Spongiform Encephalopathy (BSE or “Mad Cow Disease”)	13
BSE Sampling Emergency Response Exercise	13
Annual Feed Contaminant Survey	14
Animal Remedies Program	14
Elevator and Feed Mill Sanitation Program	14
Seed Program	14
Fertilizer and Liming Program	14
Section 4 – Pesticides & Agrichemicals	15
Inspections/Investigations	15
Certification	15
Agricultural Pesticide Dealer Licensing	16
Registration	16
Pesticide Enforcement Activities	16
Agrichemical Safety and Security	16
Bulk Storage Program	16
Section 5 – Food Safety, Consumer Protection & Environmental Protection Statistics	18

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 had been quarantined in two levels in Michigan’s Lower Peninsula; 21 counties of Southeast Michigan were designated as Level I and the remaining 47 counties of the Lower Peninsula were Level II. On November 10, 2008, the Michigan Department of Agriculture (MDA) revised its EAB quarantine to consolidate all 68 contiguous counties of the Lower Peninsula into one quarantine level. This revision effectively merges the two quarantine areas of the Lower Peninsula into Quarantine Level I.

In the Upper Peninsula, all of Delta, Houghton, Keweenaw, Mackinac, and Schoolcraft counties are quarantined. In addition, an area near Brimley State Park in Chippewa County is quarantined. The quarantine revision continues to prohibit the movement of ash material or hardwood firewood from the Lower Peninsula.

Approximately 35 million of Michigan’s 700 million ash trees have been killed due to EAB. In addition, EAB infestations have been found in Canada, Illinois, Indiana, Maryland, Missouri, Ohio, Pennsylvania, Virginia, West Virginia, and Wisconsin. These infestations are attributed to artificial movement through nursery stock, firewood, and other ash material including logs.

During the past six years, MDA, along with its partners, the Michigan Department of Natural Resources (MDNR), USDA-APHIS, Forest Service (USFS), Michigan State University (MSU), and Michigan Technological University (MTU) 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 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.

National Emerald Ash Borer Detection Activities

The focus of MDA’s portion of the national EAB program utilized a combination of girdled detection trees and artificial traps. Detection trees for 2008 were established in late 2007 in road rights-of-way in every county of Michigan’s Upper Peninsula and in the northern portions of Emmet and Cheboygan counties in the Lower Peninsula. Michigan also used artificially baited purple sticky traps designed to detect EAB and provide a national footprint of where the beetle is located. Artificial purple panel traps were primarily hung in ash trees in the six most eastern counties of the Upper Peninsula; however, purple traps were also hung at high risk sites, such as campgrounds, lumber yards, sawmills, and recreational lakes in the central and western counties of the Upper Peninsula. As a result, all 15 Upper Peninsula counties had artificial traps placed in them. Inspections of the panel traps were conducted in late August and early September 2008 and detection tree inspections were conducted in late September and October. Conservation district staff conducted these detection activities with MDA oversight and technical support.

Statewide Detection Trees Established	433
State Detection Trees Peeled	3,931
Statewide Panel Traps Established	1,647
Statewide Panel Traps Inspected	1,647
Counties with Detection Trees	17
Counties with Panel Traps	15

Staff peeling, posting “Do Not Disturb” sign, and marking ash trap tree with flagging ribbon. Staff assembling purple panel trap and installing in ash trap tree in the Upper Peninsula.



SLow Ash Mortality (SLAM)

The EAB infestation sites in Mackinac County are currently being used for a pilot mitigation project as part of the an integrated multi-year, multi-agency strategy entitled SLOW Ash Mortality (SLAM) which is being worked on cooperatively by MDA, USDA-APHIS, USFS, MTU, MSU, and MDNR to determine the best response to an EAB infestation. The SLAM effort is designed to suppress EAB population growth and delay the onset and progression of widespread ash mortality. The project is meant to employ and measure the impact of multiple strategies initiated in an area to slow the rate at which EAB disperses and impacts ash trees. The primary facets of the project include: EAB density and distribution survey, communication and outreach, regulatory compliance, biological control, phloem reduction, insecticide treated trees, 'sinks', ash abundance and distribution survey, data collection and management, evaluation of overall project success, and an economic evaluation. This pilot program is meant to provide efficacy data for use at future outlier sites in Michigan and around the United States.



Purple panel trap.

In an effort to determine the density and distribution of EAB in the SLAM project area, girdled detection trees and purple panel traps were used. Data collected during the inspection phase of the detection trees and purple traps will be used to locate suppression area efforts on the site in 2009 and eventually to evaluate the impact of suppression activities employed in the project area.

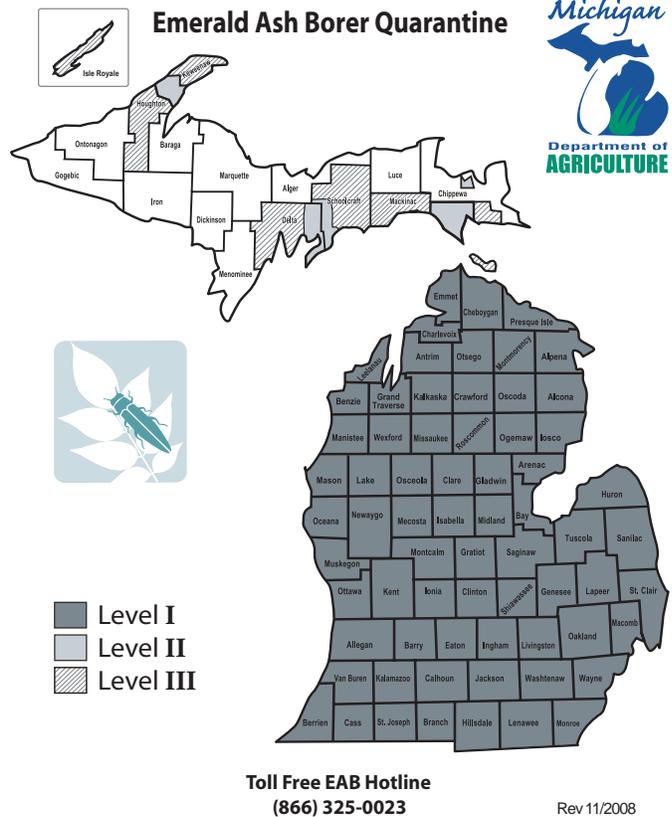
Regulatory Activities

Preventing the artificial spread of EAB continues to be a priority for the state. In 2008, MDA focused on enforcing the EAB quarantine and increasing compliance. Regulatory activities included monitoring the movement of ash products, conducting regular inspections, investigating quarantine violations for prosecutions and fines, and issuing compliance agreements to firms that process, or have the potential to process, ash wood products.

EAB program staff, in conjunction with MDA's Animal Industry Division, continued to maintain the MDA Inspection Station at the St. Ignace Welcome Center at the Mackinac Bridge regulating the movement of ash wood products leaving Michigan's Lower Peninsula. Staff inspected private and commercial vehicles entering the Upper Peninsula, and either seized all wood in violation or ordered the load in violation to return to its place of origin. Travelers and commercial firms found to be moving regulated ash were issued a "Report of Violation" on site, after which the facts of the case were reviewed for prosecution, civil penalties, or warning letters.

PPPM staff also identified firms and persons that may artificially spread EAB such as nurseries, landscapers, firewood dealers, logging and milling companies, utility companies, tree removal and trimming firms, excavation and land clearing firms, municipalities and/or other government agencies, composting yards, and any ash disposal facilities.

MDA and USDA-APHIS continued to issue compliance agreements to firms allowing the movement of regulated products from quarantined areas. On a regular basis, MDA staff inspects firms or persons with compliance agreements to verify appropriate treatment and disposal methods are met, shipments have the appropriate certification, and records are accurate. Should any portion of the compliance agreement not be met, the compliance agreement may be revoked, and firms and/or persons are subject to regulatory action, including prosecution.



Pesticide & Plant Pest Management Division

Quarantined Counties	73
Regulatory Inspections	117
Compliance Agreements	75
Bridge Inspections	
Commercial Trucks	7,407
Cords of Pulp	67,876
Chips & Sawdust Tonnage	30,395
Sawn Lumber Board Feet	29,120,930
Firewood Inspected Cubic Yards	7,815
Reports of Violation	121

Biological Control

In 2008, USDA scientists once again released three species of tiny parasitic wasps (*Oobius*, *Spathius*, and *Tetrastichus*) in six Michigan counties as biological control agents against EAB. *Oobius* lays its eggs directly into the EAB eggs while *Spathius* and *Tetrastichus* target EAB larvae. MDA approved the general release of these organisms in 2007 after a national review and comment period conducted by USDA-APHIS and finding no significant environmental impact. The results of these releases will be studied to decide whether the wasps can become established in Michigan and provide effective control against EAB. A rearing facility has been established in Brighton by USDA-APHIS to raise colonies of wasps for continued release. 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.

Parasitic Wasps



Oobius



Spathius



Tetrastichus

Pesticide Treatment

MDA issued a special use permit on March 27, 2008, for an emamectin benzoate-based pesticide called Tree-age. The special use permit is specific for treatment of ash trees against EAB.

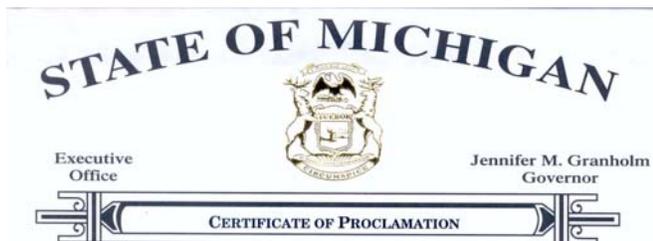
Outreach Activities

Timely and clear communications, outreach and education efforts are essential in every aspect of the EAB program. 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 48,830 pieces of educational materials to stakeholders as well as the general public. Additionally, staff hosted public meetings and 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 18, 2008 as "Emerald Ash Borer Awareness Week." This effort was coordinated with several other states to enhance public awareness and understanding of EAB.



On behalf of the citizens of Michigan, I, Governor Jennifer M. Granholm, do hereby proclaim the week of May 18, 2008, as

Emerald Ash Borer Awareness Week

Whereas, More than 700 million ash trees blanket the great state of Michigan, contributing to air quality, natural landscapes, recreational destinations, wildlife habitats, tourism, manufacturing, commerce and property values; and,

Whereas, Enhancing public awareness and understanding of the emerald ash borer (EAB), a destructive exotic beetle, benefits the State of Michigan by curtailing the spread of the beetle through the movement of firewood; and,

Whereas, Through joint efforts, the states of Michigan, Indiana, Illinois, Maryland, Nebraska, Ohio, and Wisconsin as well as private, local and federal partnerships, are striving to protect the 8 billion ash trees in the United States; and,

Whereas, Emerald Ash Borer Awareness Week is an opportunity for the government to join forces with business, industry, environmental groups, community organizations, tourists, and citizens to take action against the spread and introduction of EAB; and now therefore be it,

Resolved, That I, Jennifer M. Granholm, Governor of the State of Michigan, do hereby proclaim the week of May 18, 2008, as Emerald Ash Borer Awareness Week in Michigan and encourage all citizens and visitors to increase their understanding and awareness of EAB and its environmental and economic impact on Michigan.




Jennifer M. Granholm
Governor

Cooperative Agricultural Pest Survey

Surveys for the detection of exotic insect pests, plant pathogens, and noxious weeds are facilitated through PPPM's participation in the national Cooperative Agricultural Pest Survey (CAPS) program. Administered by USDA-APHIS-Plant Protection and Quarantine (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 2008 CAPS surveys included 46 high risk industrial sites trapped for woodboring and bark beetles; giant hogweed; 69 high risk sites were trapped for forest defoliators silk moth and nun moth; 12 samples for Karnal bunt of wheat were negative; and 23 high-risk nurseries and orchards were trapped for light brown apple moth, summer fruit tortrix moth, and apple ermine moth with negative results.

Hemlock Woolly Adelgid

Aggressive measures have been taken to eradicate hemlock woolly adelgid from Harbor Springs, Michigan 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. In 2008, approximately 20,000 hemlock trees (4,400 acres) were surveyed for hemlock woolly adelgid with none detected, but continued diligence will be necessary to ensure Michigan remains free of this destructive insect.

Plum Pox Virus

Plum pox virus (PPV), an extremely serious disease affecting peaches, plums, apricots, and nectarines, was detected in a single tree in southwest Michigan during a 2006 CAPS survey. All potentially infested trees were removed and a quarantine placed around the impacted area. In 2008, 34,437 samples were tested for 124 growers in six counties and all were negative. Surveys begun in 2006 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.

Sirex Wood Wasp

In response to the discovery of Sirex woodwasp in southwestern Ontario in 2006, PPPM has conducted a survey effort for this pest in southeast Michigan in cooperation with USDA. Native to Europe, this insect is the world's most significant pest of commercially produced pines. In 2008, 120 sites were trapped in southeast and eastern Michigan and Sirex woodwasp was found to be established from Huron to Macomb counties. Surveys to monitor the spread of Sirex woodwasp in Michigan will continue in 2009 and beyond.

Potato Cyst Nematode

Two exotic species of potato cyst nematodes – pale cyst and golden – are known to occur in the United States. In an effort to keep foreign markets open, PPPM initiated participation in a national program designed to detect populations of the nematodes or, demonstrate their absence in commercial and seed potato production areas statewide in 2008. One thousand soil samples were tested from seed potato fields. Final laboratory results are pending, but no potato cyst nematodes have been found to date.



European spruce bark beetle adult.



Hemlock Woolly Adelgid infested branch.



Plum pox virus symptoms.



Sirex woodwasp adult female.



Potato cyst nematode on roots.

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 greenhouse container stock.



Staff completing inspection paperwork.

Nursery Program

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 makes sure 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.

Export – Interstate Certification

PPPM certifies nursery stock, Christmas trees, logs, hay, and bedding plants for interstate shipment and field staff ensures plant materials meet the quarantine requirements of the receiving states. Of primary importance are six 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



Staff inspecting lilies.

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 and soil sampling.

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.

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.



Staff conduct export inspections on commodities bound for other countries.

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 produce 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 for CAPS surveys such as soybean cyst nematode, plum pox virus, sudden oak death, and imported plants.

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 2008, PPPM, in agreement with USDA, approved a total of 78 permits for commercial companies and research institutions in Michigan. Thirty-nine permits were issued for field trial studies, 11 for the importation of fungal organisms, eight for the release of crops with improved agronomic traits, seven for importation of plant material, six for the importation of bacterial cultures, five for seed material, and one each for soil and virus samples. Most of the permits were for laboratory and greenhouse research, and herbicide resistance field studies.



Student assistant processing plum pox virus lab samples.

Pesticide & Plant Pest Management Division

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 USDA and Michigan standards, processor specifications, and/or industry requests. USDA standards are used nationwide as a basis for purchase and to resolve disputes. All F&V staff must be licensed by USDA on each commodity they inspect.

Shipping Point Inspections

Shipping point inspections are used to assure the quality and condition of Michigan produce prior to shipment. This type of inspection verifies the Michigan 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 as a basis to market produce.



F&V staff inspecting lettuce.



F&V staff inspecting peppers.

Process Inspections

Approximately 25 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 upon which they are paid for their 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 poor 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. PPM has five F&V inspectors and supervisors licensed to inspect incoming market loads of produce.



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 using set guidelines 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. This type of audit is required by some purchasers of produce and is mandatory to participate in the school lunch program.



Controlled Atmosphere Storage Licensing Program

Enjoying crisp, juicy, flavorful Michigan apples year-round is possible due to controlled atmosphere (CA) storage. CA involves careful monitoring and control of temperature, oxygen, carbon dioxide, and humidity. All CA 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.

Seed Potato Inspection

F&V inspectors conduct mandatory inspections on all Michigan certified seed potatoes prior to shipment to various farms throughout the United States. Michigan continues to be a leading national producer of potato seed, with the largest market for its production here in the state. 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 2008, F&V inspectors conducted 197 shipping point inspections on approximately 9,858,400 pounds of seed potatoes.

Michigan Organic Registration Program

The Michigan Organic Products Act, Public Act 316 of 2000, requires registration of all organic certifying agents, handlers, and producers. During 2008, PPPM registered 11 certifying agents and 122 handlers and producers. PPPM responded to 54 requests from new producers, handlers, and processors seeking information on transitioning into certified organic production.



F&V staff conducting an apple inspection.

Organic Products



Fruit & Vegetable Certificates Issued

Shipping Point Inspections	2,168
Process Inspections	11,870
Market Inspections	977
GHP/GAP Audit Inspections	11

Dry Bean Certificates Issued

Dry Bean Inspections	303
----------------------	-----

Licenses Issued

Controlled Atmosphere Licenses	101
Wholesale Potato Dealer Licenses	18

Federal Phytosanitary Certificates Issued

Apple/Blueberry Shipments Inspected	42
Bean Shipments Inspected	259

Organic Registration

Handlers/Producers Registered	122
Certifying Agents Registered	11

Plant Pest & Commodity Certification Statistics



Nursery Licensing

Total Licenses	6,813
Total Growers Licensed	1,592
General Nursery Licenses	1,148
Plant Grower Licenses	120
Small Scale Grower Licenses	324
Total Dealers Licensed	5,221
Dealer in Nursery Stock Licenses	4,539
Plant Dealer Licenses	528
Small Scale Dealer Market License	154

Nursery Inspections

Growers: Total Acres Inspected	10,207
Dealers: Dealers Inspected	273



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

Fields Inspected	476
Percent of Fields in Compliance	98.5
Acres Inspected	7,497

Pine Shoot Beetle Compliance Management Program

Firms Enrolled	13
Fields Enrolled	39
Acres Enrolled	624



Export Certification

Federal Phytosanitary Certificates Issued

All Commodities – Phytosanitary Certificates Issued	2,444
---	-------

US/Canada Greenhouse Certification Program

Firms Enrolled	3
Shipments Certified	1,091

Nursery Firms Issued Compliance Agreements for Federal/State Quarantines

Total Compliance Agreements Issued	249
------------------------------------	-----



Plant Pathology Laboratory

Virus-Free Indexing of Pome & Stone Fruit Trees

9,989 stone and pome fruit trees in four scionwood orchards were maintained for certification of budwood for virus-free status.

Blueberry Virus-Free Certification

321 samples representing 69 cultivars from three commercial growers were tested.

Dry Bean Seed Testing

103 samples were tested for seed borne diseases.

Seed Corn Certification

690 seed corn samples representing 44,993 acres were tested.

Plum Pox Virus

39,674 samples collected. All negative.

Section 3 - Food Safety & Consumer Protection

Commercial Feed Program

The commercial feed program helps to assure the safety and wholesomeness of feed, food, and food products in Michigan through its inspection and sampling program. Approximately 1,384 feed manufacturers and distributors of more than 844,000 tons of commercial feed and feed ingredients are regulated under the program. Safe and nutritious feed, free of contaminants and harmful residues, is the overarching goal of the program.



PPPM regularly inspects, samples, and analyzes commercial feed to ensure that feeds are in compliance with the Michigan Commercial Feed Law and the rules promulgated under the act. Inspections and sampling help to assure that feed products offered for sale are safe and that they provide the promised nutrition. Inspections involve not only feed products, but also make sure the processes used to create them are in compliance with current good manufacturing practices.

To ensure that companies comply with Michigan's licensing and labeling requirements, PPPM inspectors inspect any facility in which feeds are manufactured or distributed including feed mills, farm suppliers, grocery stores, pharmacies, gas stations, and wholesale distributors, to name a few. In addition, PPPM staff review feed labels to prevent deceptive labeling and investigate reports of animal deaths or illnesses where feed may be implicated.

Medicated Feed

Therapeutic and production drugs are commonly administered to livestock and poultry through their feeds. PPPM closely monitors the manufacturers and samples these feeds to ensure compliance with federal regulations. These regulations cover good manufacturing practices designed to prevent unsafe drug residues in meat, milk, and eggs.



Bovine Spongiform Encephalopathy (BSE or "Mad Cow Disease")

PPPM is an active participant in a national effort led by the US Food and Drug Administration (FDA) to prevent the introduction and establishment of BSE in the United States. This is done by closely monitoring the use of certain animal-derived proteins in animal feed. PPPM inspectors have been inspecting feed manufacturing facilities throughout the state under this program since 1998. All firms handling restricted protein materials are inspected at least yearly to assure continued compliance. In 2008, 85 inspections helped to assure that Michigan livestock and consumers were protected from BSE.

In addition, PPPM was one of eight states that were awarded BSE Cooperative Agreement funds from FDA. PPPM has utilized the funds to enhance the scope of the BSE surveillance program. BSE inspections have been expanded beyond feed mills to include livestock producers (farms) and firms that transport and haul animal feed. In 2008, PPPM staff conducted 52 on-farm inspections and six transporter/hauler inspections. Staff also collected 344 BSE feed samples that were analyzed and found to be negative for restricted protein prohibited under the federal BSE rule.

BSE Sampling Emergency Response Exercise

On February 26-28, 2008, the MDA Sampling Team put their emergency response skills to work in a mock feed contamination incident spanning three areas of the state. MDA staff collected 206 livestock feed samples from feed mills and dairy farms during the exercise for analysis by the MDA laboratory. All samples tested negative for restricted protein.



Staff taking feed samples for BSE testing.

Pesticide & Plant Pest Management Division

The 2008 MDA Sampling Team exercise was specifically designed to help build capacity across MDA to collect and handle samples, cross-train its work force in sampling techniques, work together among divisions, and improve its ability to use the Incident Command System (ICS). This exercise provided a training opportunity while at the same time accomplished collection of feed samples to meet federal grant commitments.

Annual Feed Contaminant Survey

Working in partnership with FDA, PPPM collected 19 livestock feed samples as part of an annual animal feed contaminant survey which monitors feed for pesticide residue and mycotoxin. The results are used to determine if additional measures are needed to prevent harmful residues in human food. Results of the 2008 survey indicated there were no actionable levels in any of the 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 drugs and vaccines are registered, safe, properly labeled, and effective for their intended uses.



Elevator and Feed Mill Sanitation Program

Through this program, PPPM inspectors work to address and prevent insanitary grain storage conditions which could negatively impact the safety of Michigan's feed and food supply. The inspection program also helps prevent costly economic losses due to pests and other forms of environmental or chemical contamination. Through these inspections, PPPM helped to safeguard nearly 424 million bushels of grain and 400 million pounds of dry edible beans, processed and stored in Michigan's grain elevator system valued at nearly \$1.6 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 goal 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 its seed program, PPPM also provides oversight of seed certification activities ensuring the genetic purity of plant varieties and potato seed and other quality standards for crops.

Additionally, PPPM assists USDA in making sure seed companies comply with federal seed requirements and assist in the enforcement of the Federal Seed Act by providing samples and documentation for seed shipped in interstate commerce.

Fertilizer and Liming Program

The fertilizer and liming program regulates approximately 600 manufacturers and distributors of more than 1.45 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 507 agricultural and specialty use fertilizer samples in 2008. 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 issued warning letters or administrative fines to firms with violative sample results. PPPM also worked with these firms to review their blending and manufacturing procedures.



Staff collecting fertilizer samples.



Section 4 – Pesticides & Agrichemicals

Inspections/Investigations

PPPM conducts a variety of inspections and investigations to assure pesticides are used in compliance with state laws and regulations and in a manner minimizing 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. 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.



Staff conducting an inspection.

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.



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 180 investigations in 2008.



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 21,996 applicators "certified" and 707 applicators "registered" to apply pesticides in Michigan.

Pesticide & Plant Pest Management Division

Agricultural Pesticide Dealer Licensing

In February 2008, legislation was passed creating a new agricultural pesticide dealer (APD) license program. The new license program regulates the sale of agricultural pesticides regardless of the point of origin. Any APD that is not licensed as a RUP dealer must obtain the new APD license. If the APD business is located outside Michigan, they must also retain a resident agent in the state. Out-of-state RUP or APD locations must now report the sale of all agricultural pesticides to the registrant/producer so that all applicable groundwater sales-based fees are paid.

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 that supports environmental stewardship projects. PPPM registered 14,822 pesticide products in 2008.

In 2008, PPPM again 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 27 Internet inspections, looking at 540 pesticide products. Of the 27 inspections conducted, 37 referral letters were sent to EPA for violation of federal statutes. The Internet inspections also identified 155 pesticides that were not registered for sale in Michigan.



Mothballs found displayed with candy during a federal inspection.

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.

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. This year, PPPM staff inspected 1,050 agrichemical containers ensuring they were properly identified, locked, and secure. 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.

Bulk Storage Program

More than 57 million gallons of Michigan agrichemicals are safeguarded through the bulk storage program. During 2008, PPPM staff registered 218 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 facility.

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.

In August 2008, the five-year phase in period ended for Regulation 642, On Farm Fertilizer Bulk Storage. All Michigan farms with bulk liquid fertilizer storage must now have secondary containment, a mixing/loading pad, and an emergency response plan in place. PPPM continues to conduct consultations and outreach activities to inform staff, industry, and producers about Regulation 642.

PPPM hosted the Pesticide Container/Containment Implementation Pesticide Regulatory Education Program (PREP) course in Grand Rapids from July 14-18, 2008. Participants from 24 states, three tribes, and five regions attended. The course helped attendees have a better overall understanding of the EPA container/containment regulations and the technical and structural issues related to containment to better implement rules in their states. PPPM staff also arranged two field trips giving attendees hands-on exposure to a wide variety of containers, containment facilities, and equipment.



Michigan State University, Environmental Protection Agency, commodity groups, and MDA participated in the annual integrated pest management (IPM) cooperators tour in southwest Michigan.



Pesticide Regulatory Education Program (PREP) course attendees participated in two field trips sponsored by PPPM.

Pesticide & Plant Pest Management Division

Section 5 – Food Safety, Consumer Protection & Environmental Protection Statistics

FOOD SAFETY & CONSUMER PROTECTION

Inspections

Total No. of Inspections	1,839
Agricultural Products	1,292
BSE Rule Compliance	85
Bulk Storage	112
Grain Elevator Sanitation	282
Federal Contract Medicated Feed	5
State Medicated Feed	63
Complaint Investigations	6
Products Sampled	2,116
Feed	988
BSE	344
Pesticide Residue	9
Mycotoxins	10
Fertilizers	520
Seed	245

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	533
Michigan Firms	202
Out-of-State Firms	331
Specialty Fertilizer & Soil Conditioner	
Products Registrations	4,091
Liming Materials	74
Agrichemical Bulk Storage Facilities	218
Fertilizer Product Distribution	1.44
	million tons
Commercial Feed Product Distribution	2.68
	million tons

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

Violation Notices	407
Failure to License/Register	148
Stop Sale	259
Value of Violative Products Seized	\$928,470
Warning Letters	43
Administrative Penalties	13





ENVIRONMENTAL PROTECTION STATISTICS

Licenses/Certifications/Registrations

Commercial Pesticide Applicator Business Licenses	1,924
Restricted Use Pesticide Dealer Licenses	258
Total Certified/Registered Applicators	22,673
Commercial Pesticide Applicator Certifications	14,118
Private Pesticide Applicator Certifications	7,848
Commercial Registered Applicators	707
Total Certification/Registration Exams Administered	13,686
Pesticides Registered in Michigan	14,822

Pesticide Inspections/Investigations

Pesticide Misuse Investigations (agriculture)	40
Pesticide Misuse Investigations (non-agriculture)	140
Planned Use Investigations (agriculture)	13
Planned Use Investigations (non-agriculture)	45
Other Inspections	1,160
Restricted Use Pesticide Sales Audits	38
Federal Marketplace Inspections	14
Federal Pesticide Producer Inspections	27

Pesticide Enforcement

Advisory Letters	7
Warning Letters	73
Hearings	5
Administrative Penalties	203
Prosecutions	1

Freedom of Information Act (FOIA) Requests

Pesticide Program Requests	77
Plant Industry Program Requests	4
Emerald Ash Borer Program Requests	2

