



Michigan Department of Agriculture

Pesticide & Plant Pest Management Division Annual Report 2009

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Introduction

In 2009, 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 were properly utilized by trained, certified applicators. Through active participation on the department's food safety rapid response team and emergency food safety exercises, this division has better positioned itself to deal with feed/food safety episodes and environmental threats.

With a proactive pesticide registration program, we assure effective and safe pest management products are available to agricultural producers and the general public. The division has been involved in a number of large pesticide misuse and disposal investigations that will lead to greater environmental awareness, food safety, and stewardship on the part of producers, handlers, and applicators. In 2009, PPPM placed an even greater emphasis on timely licensure of applicators and expeditious processing of enforcement actions.



Kenneth Rauscher
Director

PPPM continued its emphasis on preventing the introduction of exotic invasive species, which continually threaten our forests and food resources. 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 have participated in multi-state incident command exercises to achieve a highly organized response. As a result of an intensive three-year survey, with negative results, PPPM was able to rescind the plum pox virus quarantine to again allow the movement of Michigan stone fruit breeding material to supply orchards in the Eastern U.S. and Canada. In addition, PPPM successfully eradicated two exotic blueberry virus disease incursions and continues to manage exotic pests such as emerald ash borer and sirex woodwasp threatening our forest resources. In 2009, PPPM began accessing federal Farm Bill resources to expand exotic pest survey efforts increasing our ability to monitor and safeguard critical Michigan food and fiber production systems. 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.

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. In 2009, our F&V program refocused its attention and resources on food safety by providing third party Good Agricultural Practices/Good Handling Practices (GAP/GHP) audits allowing producers and processors an opportunity to access markets which increasingly demand this type of certification.

Our agricultural products programs focus available resources on preventing contamination and adulteration of the feed supply for food producing animals. In addition, these programs assure grain is stored in a clean wholesome environment; that feed, animal remedies, and fertilizer are efficacious and safe; and provide a "level playing field" for Michigan manufacturers and dealers.

During 2009, as a result of regional office closures, dwindling general fund support, and shifting program priorities, PPPM began a process improvement exercise looking at all aspects of its inspection and enforcement activities. Eleven action teams comprised of MDA employees from across the department are working on a new uniform business model for all of our enforcement work, whether pesticide, plant pest, agricultural products, or fruit and vegetable inspection. The goal is to streamline our systems, make better use of technology, improve linkages with partners, and insure consistency of policy and application across the division. For a division with numerous programs, partners, and clients, the completion of this process and model will be critical for program delivery and customer and staff satisfaction.

Our 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); the 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.

***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.***

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Section 1 – Exotic & Invasive Species Pest Management

Emerald Ash Borer

Emerald ash borer (EAB) was first identified in 2002 in six Michigan counties and has since spread to 76 counties, including eight in the Upper Peninsula (U.P.).



Approximately 40 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, Kentucky, Maryland, Minnesota, Missouri, New York, 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 seven 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. 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 USDA-APHIS National EAB Survey was to utilize artificially baited purple sticky traps designed to detect EAB. The information MDA collected was combined with information from other participating states to map the location of the beetle. The traps were hung in ash trees in the 10 counties in the U.P. that were not quarantined prior to the November 30, 2009 quarantine revision with the highest density trapping conducted along the Wisconsin border. Whenever possible, traps were hung at high risk sites such as campgrounds, firewood dealers, sawmills, recreational lakes, etc. Inspections of the panel traps were conducted in late August and early September 2009. A contractor, White Water Associates, Inc., conducted the trapping activities in the four border counties with county Conservation District staff conducting the activities in the other six counties. All trapping activities were conducted with MDA oversight and technical support.

USDA-APHIS National EAB Survey:

Panel Traps Established and Inspected . . . 2,380

Counties with Panel Traps 10

SLoW Ash Mortality (SLAM)

The EAB infestation sites in Mackinac County are currently being used for a pilot mitigation project as part of an integrated multi-year, multi-agency strategy entitled SLoW Ash Mortality (SLAM) cooperatively conducted 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 employs and measures the impact of multiple strategies 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; host 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 project will provide a model for future infestations in Michigan and around the United States.



Pesticide & Plant Pest Management Division

In early December 2009, approximately \$2.2 million of American Recovery and Reinvestment Act funds were made available through the USFS for EAB work in the U.P. over the next two years. MDA, MDNR, MSU, and MTU were the primary recipients with MDA receiving \$1,149,695. The funds will be used to continue and expand the SLAM Pilot Project in Mackinac County and begin pilots in the Calumet/Laurium area in Houghton and Keweenaw counties, and the Garden Corners area of Delta and Schoolcraft counties.



Regulatory Activities

Preventing the artificial spread of EAB continues to be a priority for the state.

In 2009, 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, 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 MDOT St. Ignace Welcome Center just north of the Mackinac Bridge. Staff help regulate the movement of ash wood products leaving Michigan's Lower Peninsula. Staff inspected private and commercial vehicles entering the U.P. 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.

Bridge Inspections:

| | |
|--|------------|
| Commercial Trucks | 6,908 |
| Cords of Pulpwood | 61,141 |
| Chips & Sawdust Tonnage | 53,860 |
| Sawn Lumber Board Feet | 32,441,508 |
| Firewood Inspected Cubic Yards | 148 |
| Firewood Contacts | 3,554 |
| Reports of Violation | 109 |

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 may be subject to regulatory action, including prosecution.

Compliance Agreements: 175

Biological Control

In 2009, USDA scientists continued to evaluate parasitic wasps as biological control agents against EAB. 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 will be studied to determine whether the wasps can become established in Michigan and provide effective control against EAB. The rearing facility established in Brighton, Michigan by USDA-APHIS to raise colonies of the Asian wasps for continued release is making expected progress. A parasitic wasp native to Michigan in the genus *Atanycolus* is also being evaluated as a possible biological control against EAB. USDA researchers are continuing their efforts to identify other possible biological control agents. In addition, USDA continues to explore both the biology of EAB and its host material (ash) to develop a more effective and efficient lure and trap.

Outreach Activities

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 numerous pieces of educational materials to stakeholders as well as the general public. Additionally, staff hosted public meetings and several 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 not to bring firewood into the U.P.

Governor Jennifer M. Granholm declared the week of May 17, 2009 "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 exotic insects, plant pathogens, and noxious weeds are facilitated through PPPM's participation in the Cooperative Agricultural Pest Survey (CAPS) program. Administered by USDA-APHIS-PPQ, this program provides federal funding to conduct surveys for early detection of exotic plant pests, to facilitate export of U.S. grown commodities, and to support regulatory and management initiatives. Eleven CAPS surveys were conducted in 2009.

Karnal Bunt

Karnal bunt is a serious disease of wheat and rye that was detected in the southwestern United States in 1996. To ensure foreign markets remain open to U.S. and Michigan grown wheat and rye, MDA participates in an annual national survey to demonstrate the vast majority of the country is free of this disease. Each year, composite grain samples are collected at grain elevators in Michigan's major wheat growing counties and tested at a USDA laboratory in Texas. In 2009, 12 samples were collected from grain elevators in Michigan's leading wheat-producing counties to facilitate overseas export of U.S. wheat. Karnal bunt has never been found in the state.

Forest Moths

Several serious exotic defoliating moths – each potentially more destructive than the European gypsy moth – threaten the health of Michigan's forests. MDA routinely conducts risk-based trapping for Siberian moth, nun moth, and pink gypsy moth throughout the state. In 2009, 57 high-risk sites were trapped for Siberian silk moth and nun moth. To date, none of these species has been detected in Michigan or anywhere else in the United States.

Parasitic Wasps



Oobius



Spathius



Tetrastichus



Karnal Bunt -Bunted Kernels

Apple Moths

Michigan is the nation's third largest apple producer with an annual crop value approaching \$150 million. A series of exotic moths that feed on apple have recently become established in New England and the Pacific Northwest. MDA conducts trapping surveys targeting these pests at high-risk nurseries and apple orchards throughout the state. In 2009, 27 high-risk nurseries and orchards were trapped for light brown apple moth, summer fruit tortrix moth, apple ermine moth, and others. To date, none of these potentially harmful species has been found in Michigan, but full results are pending.



Light Brown Apple Moth, adult

Woodboring Beetles

Exotic woodboring beetles represent one of the largest threats to Michigan's and the nation's forests. This threat is highlighted by recent introductions of emerald ash borer and Asian longhorned beetle and their subsequent damage. MDA conducts an annual risk-based trapping program for the detection of these insects. In 2009, 54 high-risk industrial sites were trapped for insects entering the U.S. from overseas in solid wood packing material. Several new state and county records for exotic bark beetles were collected, however, the full results are pending. No serious new pests have been detected, but numerous new state and county records for minor exotic pest species have been found.

Hemlock Woolly Adelgid

Aggressive measures have been taken to eradicate hemlock woolly adelgid (HWA) 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. A third large-scale survey was conducted again in 2009 in the Harbor Springs area with over 20,000 hemlock trees covering 4,400 acres surveyed and with no HWA detected. Hemlock trees growing in areas exposed to HWA were treated with insecticides for the fourth time in 2009. Continued diligence will be necessary to ensure Michigan remains free of this destructive insect.



HWA injection

Plum Pox Virus

Plum pox virus (PPV), an extremely serious exotic disease affecting peaches, plums, apricots, and nectarines, was detected in a single tree in the southwestern Lower Peninsula during a 2006 CAPS survey. All potentially infected trees were removed and a quarantine placed around the impacted area. A three-year survey to sample the majority of stone fruit orchards in the largest producing regions of the state began in 2007 and concluded in 2009. In 2009, a total of 42,862 samples representing 154,977 trees were collected and processed. For the third year in a row, no new infections were detected. MDA cancelled its PPV quarantine in 2009 and will continue to monitor the state for additional PPV infections in 2010 and beyond.

Sirex Woodwasp

Since its discovery in New York in 2004, MDA, in cooperation with USDA-APHIS-PPQ, the U.S. Forest Service, MDNR, and MTU, has conducted an annual trapping survey for sirex woodwasp statewide. Native to Europe, western Asia, and northern Africa, this insect has spread to all inhabited continents, and is now the world's most significant pest of commercially produced pines. To date, sirex woodwasp has been found at six sites in Huron, Macomb, Sanilac, St. Clair, counties in the southeastern Lower Peninsula. In 2009, 80 sites were trapped in the southeastern Lower Peninsula and eastern Upper Peninsula and no new infestations were detected. Surveys to identify additional populations of sirex woodwasp and track its spread across the state will continue in 2010 and beyond to support biological control and regulatory efforts.

Potato Cyst Nematodes

Two exotic species of potato cyst nematodes – pale cyst nematode and golden nematode – are known to occur in the United States and Canada. To ensure foreign markets remain open to Michigan-grown potatoes, MDA participates in a national program designed to detect populations of the nematodes, or conversely demonstrate their absence, in seed potato fields statewide. MDA has completed the second of nine projected years of sampling. In 2009, 1,100 soil samples were collected from seed potato fields in the Upper Peninsula and northern Lower Peninsula. To date, no potato cyst nematodes have been detected, but full results are pending.

Warehouse Survey

Solid-wood packing materials like crates and pallets are the most significant means by which exotic woodboring insects gain entry into the U.S. To get to the root of the problem, MDA conducted a trapping, inspection, and outreach program at high-risk warehouses and commercial and industrial firms. In 2009, 50 warehouses and other commercial and industrial facilities were trapped and inspected for exotic woodboring insects. Results are pending.

Winter Moth Survey

Winter moth is an exotic pest of blueberries and cherries that is established in New England and the Pacific Northwest. MDA conducted a trapping survey for this pest to provide growers and the public early warning of its introduction into the state. In 2009, 66 nurseries, blueberry fields, and cherry orchards were trapped throughout the state. Results are pending.



Winter Moth

Giant Hogweed

Giant hogweed is an invasive and potentially dangerous exotic weed that crowds out native vegetation and produces severe blistering when its sap contacts human skin. MDA continues to respond to public reports of new infestations of this plant and provides property owners options for control. Additionally, MDA also conducts treatments of infestations that would otherwise go uncontrolled.



Giant Hogweed

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 as well as provide an unbiased, third-party inspection service for the produce industry through the fruit and vegetable inspection program.

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. The 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.



Staff completing inspection paperwork.

Besides inspecting for pests and diseases, PPPM field staff also make 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. PPPM field staff ensure 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.



Staff inspecting lilies.

Pesticide & Plant Pest Management Division

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 inspecting greenhouse container stock.

Foreign Export

Under a 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 U.S./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, and support of CAPS surveys such as soybean cyst nematode, PPV, and imported hosta.



Student assistant processing plum pox virus lab samples.

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 2009, PPPM, in agreement with USDA, approved a total of 69 permits for commercial companies and research and teaching institutions in Michigan. Forty-five permits were issued for interstate movement and field trials of genetically modified organisms (GMO) materials, 13 for the importation of plant pathogenic organisms, and five for the importation of soil samples for laboratory research.

Fruit and Vegetable Inspection Program

The 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 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 watermelon.

Process Inspections

Approximately 16 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.

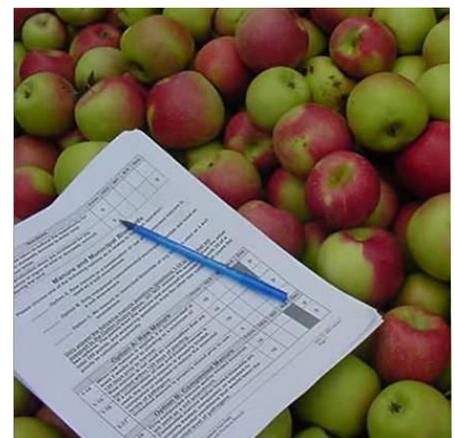
Market Inspections

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 three 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 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 inspectors. Funds made available through a federal Specialty Crop Block Grant allowed PPM to train an additional 18 staff to conduct GAP/GHP audits. Currently, there are 11 MDA staff members fully trained and licensed to perform audits for USDA GAP/GHP in Michigan. This program is currently being used by Michigan's apple, potato, peach, carrot, cherry, onion, blueberry, radish, green onion, beet, raspberry, apricot, pear, strawberry, watermelon, winter squash, summer squash, and cantaloupe industries. This type of audit is required by some purchasers of produce and is mandatory to participate in all federal purchase programs.



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 U.S. Michigan continues to be a national leading producer of potato seed, with the largest market for its production here in the state. In the fall, F&V inspection staff conduct 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 2009, F&V inspectors conducted 224 shipping point inspections on approximately 9.9 million 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 2009, PPPM registered 12 certifying agents and 141 handlers and producers. PPPM received \$120,455 from USDA for federal organic cost-share reimbursement during 2009. The funds were distributed to 202 Michigan organic producers/handlers during the last fiscal year reimbursing organic handlers/producers for up to 75 percent of the cost of certification, not to exceed \$750. Organic handlers/producers were required to submit an application along with the required support documentation to receive reimbursement. PPPM responded to numerous requests from new producers, handlers, and processors seeking information on transitioning into certified organic production.

Fruit & Vegetable Certificates Issued

| | |
|----------------------------|-------|
| Shipping Point Inspections | 6,916 |
| Process Inspections | 6,127 |
| Market Inspections | 778 |
| GHP/GAP Audit Inspections | 233 |

Dry Bean Certificates Issued

| | |
|----------------------|-----|
| Dry Bean Inspections | 488 |
|----------------------|-----|

Licenses Issued

| | |
|----------------------------------|----|
| Controlled Atmosphere Licenses | 66 |
| Wholesale Potato Dealer Licenses | 16 |

Organic Registration

| | |
|-------------------------------|-----|
| Handlers/Producers Registered | 141 |
| Certifying Agents Registered | 12 |





Plant Pest & Commodity Certification Statistics

Nursery Licensing

| | |
|---|-------|
| Total Licenses | 6,172 |
| Total Growers Licensed | 1,487 |
| General Nursery Licenses | 1,044 |
| Plant Grower Licenses | 113 |
| Small Scale Grower Licenses | 330 |
| Total Dealers Licensed | 4,685 |
| Dealer in Nursery Stock Licenses | 3,752 |
| Plant Dealer Licenses | 784 |
| Small Scale Dealer Market License | 149 |

Nursery Inspections

| | |
|--|--------|
| Growers: Total Acres Inspected | 10,207 |
| Dealers: Dealers Inspected | 307 |

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

| | |
|---|-------|
| Fields Inspected | 463 |
| Percent of Fields in Compliance | 96.1 |
| Acres Inspected | 9,595 |

Pine Shoot Beetle Compliance Management Program

| | |
|---------------------------|-----|
| Firms Enrolled | 12 |
| Fields Enrolled | 32 |
| Acres Enrolled | 602 |

Export Certification

Federal Phytosanitary Certificates Issued

| | |
|---------------------------------|-------|
| All Commodities – Phytosanitary | |
| Certificates Issued | 3,417 |

US/Canada Greenhouse Certification Program

| | |
|-------------------------------|-----|
| Firms Enrolled | 3 |
| Shipments Certified | 728 |

Nursery Firms Issued Compliance Agreements for Federal/State Quarantines

| | |
|--|-----|
| Black Stem Rust | 23 |
| Gypsy Moth | 108 |
| Japanese Beetle | 82 |
| Pine Shoot Beetle | 49 |
| Total Compliance Agreements Issued | 262 |

Plant Pathology Laboratory

Virus-Free Indexing of Pome & Stone Fruit Trees

2,135 stone and pome fruit trees were maintained for certification of budwood for virus-free status.

Blueberry Virus-Free Certification

379 samples representing 141 cultivars from five Commercial growers were tested

Dry Bean Seed Testing

102 samples were tested for seed borne diseases.

Seed Corn Certification

387 seed corn samples were tested.

Plum Pox Virus

43,456 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 and food products in Michigan through its inspection and sampling program. Approximately 1,300 feed manufacturers and distributors of more than 2.5 million tons of commercial feed and feed ingredients are regulated under the program. Safe and nutritious feed, free of contaminants and harmful residues, is the over-arching goal of the program.



PPPM regularly inspects, samples, and analyzes commercial feed ensuring feeds are in compliance with the Michigan Commercial Feed Law and the rules promulgated under the act. PPPM staff took 826 feed samples in FY2009. The samples were analyzed for mycotoxins, medicants and a variety of guarantees such as protein, fat, fiber, moisture, calcium, copper, magnesium, phosphorus, potassium and zinc. Inspections and sampling assure feed products offered for sale are safe and 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 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. 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. For this reason, PPPM monitors the manufacturers of medicated feeds and takes samples to ensure compliance with federal regulations. These regulations cover good manufacturing practices designed to prevent unsafe drug residues in human food.



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

PPPM is an active participant in a national effort led by 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 2009, 85 inspections helped to assure Michigan livestock and consumers were protected from BSE.

In addition, PPPM was one of eight states awarded competitive 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 transporting and hauling animal feed. In 2009, PPPM staff conducted 51 on-farm transporter/hauler inspections. Staff also collected 300 BSE feed samples that were analyzed and found to be negative for restricted protein prohibited under the federal BSE rule.

Annual Feed Contaminant Survey

Working in partnership with FDA, PPPM collected 21 livestock feed samples as part of an annual animal feed contaminant survey monitoring feed for pesticide residues and mycotoxins. The results are used to determine if additional measures are needed to prevent harmful residues in human food. Results of the 2009 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. PPPM's 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 165 million bushels of grain and 361 million pounds of dry edible beans, processed and stored in Michigan's grain elevator system valued at nearly \$2.8 billion.

Fertilizer and Liming Program

The fertilizer and liming program regulates approximately 600 manufacturers and distributors of more than 1.4 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 659 agricultural and specialty use fertilizer samples in 2009 for testing. 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.



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 and 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 violations 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 result in appropriate enforcement action and compliance assurance.

Common pesticide inspection activities include a variety of compliance monitoring 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 108 investigations in 2009.

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 22,164 applicators “certified” and 509 applicators “registered” to apply pesticides in Michigan.



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. In 2009, the first year of licensing, PPPM issued 168 APD licenses.



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 permitted 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 supporting environmental stewardship projects. PPPM registered 14,764 pesticide products in 2009.



In 2009, 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 34 Internet inspections looking at 860 pesticide products. Of the 34 inspections conducted, 15 referral letters were sent to EPA for violation of federal statutes. The Internet inspections also identified 145 pesticides not registered for sale in Michigan.



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 as well as conduct formal hearings to revoke business licenses or certification/registration credentials.



Food Safety

In 2009, several PPPM regions investigated complaints of pesticide misuse or unusual circumstances that placed food commodities or the environment at risk. The following commodities were involved:

Pears

A barn fire near a pear orchard was suspected of transferring paraquat residue to the adjacent pear orchard. PPPM sampled the commodity and through MDA laboratory analysis determined the pears showed no detectable residues.

Celery

In 2009, drift from a turf sod farm affected a field of celery adjacent to the sod farm. MDA detected 2,4-D residue on vegetation growing near the affected celery, but samples from the celery field were non-detect for the herbicide. A second sample was taken to delimit the affected area, which was not to be harvested, from the area to be harvested and again no residues were detected on the celery that was to be harvested. MDA findings did determine that drift had occurred, but the area of celery affected could only be determined through visual symptoms (stunted growth and poor color). The suspect affected celery was destroyed.

Hay, Grapes and Apples

A misapplication of paraquat to a vineyard drifted in multiple directions due to the application method through an air blast sprayer. PPPM collected samples of hay for analysis as the commodity was to be fed to horses as animal feed. Residue levels were below tolerance so the commodity was not seized, but the residue did reflect evidence of drift. An adjacent apple orchard displayed visual symptoms on the trees, but a sample of the apples collected just prior to harvest were non-detect. Similarly, a vineyard of concord grapes grown adjacent to the treated parcel was sampled at the request of the grower to address concerns by the commodity processor. Grape samples were also non-detect for residue and accepted by the processor based on MDA laboratory results. Other complaints were received related to this incident but did not involve food safety samples.

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 1,500 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; as over the past six years, violations in this area were reduced by 66 percent. PPPM also 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 45 million gallons of Michigan agrichemicals are safeguarded through the bulk storage program. During 2009, 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 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.

Federal pesticide containment regulations were published in August 2006 with a provision allowing state equivalency if the state can verify its bulk storage regulations provide protection equivalent to and in some areas, even more protective, than the federal containment regulations. In July 2009, EPA approved MDA's request to continue implementing Michigan's regulations in lieu of the federal containment regulations. EPA found Michigan's pesticide bulk storage regulations to be equal and even more protective than the federal regulations.

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.



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

Food Safety & Consumer Protection

Inspections

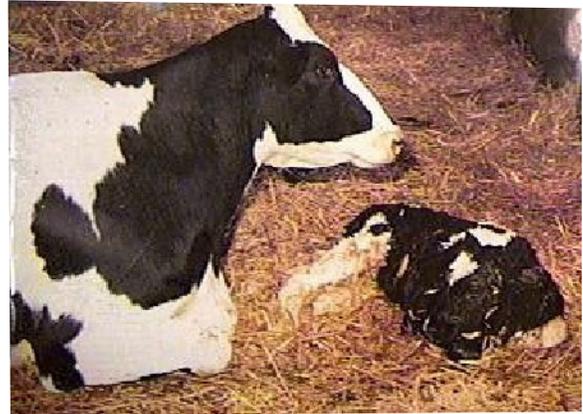
| | |
|---------------------------------|-------|
| Total No. of Inspections | 2,129 |
| Agricultural Products | 1,427 |
| BSE Rule Compliance | 135 |
| Bulk Storage | 126 |
| Grain Elevator Sanitation | 363 |
| Federal Contract Medicated Feed | 5 |
| State Medicated Feed | 73 |
| Complaint Investigations | 8 |
| Products Sampled | 2,089 |
| Feed | 826 |
| BSE | 300 |
| FDA Partnership Agreement | |
| Pesticide Residue | 11 |
| Mycotoxins | 10 |
| Fertilizers | 659 |
| Seed | 283 |

Licenses/Registrations

| | |
|--|--------------|
| Animal Remedies | |
| Product Registrations | 1,704 |
| No. of Registrants | 130 |
| Commercial Feed Manufacturer/Distributor | |
| Michigan Firms | 428 |
| Out-of-State Firms | 759 |
| Fertilizer Manufacturer/Distributor | |
| Michigan Firms | 208 |
| Out-of-State Firms | 350 |
| Specialty Fertilizer & Soil Conditioner | |
| Products Registrations | 4,353 |
| Liming Materials | |
| Product Registrations | 81 |
| Agrichemical Bulk Storage Facilities | 218 |
| Fertilizer Product Distribution | 1.4 |
| (July 08-June 09) Tonnage | million tons |
| Commercial Feed Product Distribution | 2.49 |
| (July 08-June 09) Tonnage | million tons |

Agricultural Products Enforcement

| | |
|---|-----------|
| (Feed, Seed, Fertilizer, Remedies, Lime, Bulk Storage, Elevator Sanitation) | |
| Violation Notices | 508 |
| Failure to License/Register | 186 |
| Stop Sale | 322 |
| Value of Violative Products Seized | \$820,960 |
| Warning Letters | 27 |
| Administrative Penalties | 3 |





Environmental Protection Statistics

Licenses/Certifications/Registrations

| | |
|--|--------|
| Commercial Pesticide Applicator | |
| Business Licenses | 2,147 |
| Restricted Use Pesticide Dealer Licenses | 264 |
| Total Certified/Registered Applicators | 22,673 |
| Commercial Pesticide Applicator | |
| Certifications | 14,210 |
| Private Pesticide Applicator | |
| Certifications | 7,722 |
| Commercial Registered Applicators | 509 |
| Total Certification/Registration Exams | |
| Administered | 13,928 |
| Pesticides Registered in Michigan | 14,764 |

Pesticide Inspections/Investigations

| | |
|--|-------|
| Pesticide Misuse Investigations | |
| (agriculture) | 29 |
| Pesticide Misuse Investigations | |
| (non-agriculture) | 79 |
| Planned Use Investigations | |
| (agriculture) | 18 |
| Planned Use Investigations | |
| (non-agriculture) | 32 |
| Other Inspections | 1,160 |
| Restricted Use Pesticide Sales Audits | 31 |
| Federal Marketplace Inspections | 15 |
| Federal Pesticide Producer Inspections | 26 |

Pesticide Enforcement

| | |
|------------------------------------|----|
| Advisory Letters | 9 |
| Warning Letters | 56 |
| Hearings | 0 |
| Administrative Penalties | 64 |
| Prosecutions | 1 |

Freedom of Information Act (FOIA) Requests

| | |
|--|----|
| Pesticide Program Requests | 69 |
| Plant Industry Program Requests | 7 |
| Emerald Ash Borer Program Requests | 3 |

