

Maryland Agriculture
GROWING STRONG





Mission Statement

To provide leadership and support to agriculture and the citizens of Maryland by conducting regulatory, service and educational activities that assure consumer confidence, protect the environment, and promote agriculture.

Vision Statement

To achieve excellence in programs and in services that preserve and protect agricultural resources and the environment, promote profitable agriculture and consumer confidence, and enhance the quality of life for all Marylanders.



Governor Martin O'Malley



Lt. Governor Anthony G. Brown



Secretary Earl F. Hance



Deputy Secretary Mary Ellen Setting



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MDA Budget Allocation Fiscal Year 2012

Long Service Awards

Shown on front cover: Robert Black and grandson Nathan Black, Catoctin Mountain Orchard. Back cover (top): Chuck Fry, Rocky Point Creamery. Back cover (bottom): Steve Ernst, Ernst Grain and Livestock and Belinda Burrier, Burrier Farm. Cover photos by Edwin Remsberg.



Photo credit: Conni Leigh James



Dear Friends,

I'm pleased to present the FY 2012 Maryland Department of Agriculture Annual Report – a report that highlights the many activities our agricultural leaders in the State are doing to make Maryland healthier and greener for generations to come.

From the mountains of Western Maryland to the Coastal Bays of the lower Eastern Shore, Maryland is a small but diverse state that provides our citizens with productive working lands and spectacular views. We remain committed to protecting our family farms and businesses, retaining agricultural and resource-based jobs, and preserving the open spaces that our agricultural industry provides us all.

Maryland farmers continue to provide us with a safe and nutritious food supply while continuing to carry out the best management practices we need to ensure a cleaner Chesapeake Bay. I congratulate all of our farmers for their efforts and for the leadership they provide in our collective efforts to restore our great estuary. Together, we will meet our goals for a profitable and sustainable Maryland.

Sincerely,

Governor



Dear Friends,

I am pleased to present this overview of the many programs and services that the Maryland Department of Agriculture provides the agricultural community and the public throughout the last fiscal year.

During FY 2012, I was pleased to see farmers continue their leadership role in conservation stewardship, implementing best management practices on their farms that are making measurable and impressive progress toward our goal of restoring the Chesapeake Bay. In the years ahead, we will continue to work with farmers, and all of our stakeholders, to develop strategies and regulations that will help all sectors, not just agriculture, meet the goals of the U.S. Environmental Protection Agency's Watershed Implementation Plan. As we move forward with new nutrient management regulations, I urge farmers to remember that the O'Malley Administration is committed to providing farmers with the critical financial resources necessary to meet these environmental goals. I commend our farmers for diversifying their farming operations and using innovative practices to protect the Bay – practices that don't always increase their revenue stream or make their operations more efficient.

In addition to working with farmers, MDA promotes farm animal health, detects and mitigates the effects of invasive plants and pests, administers the food quality assurance and turf and seed programs, trains and regulates the pesticide industry, supports the analytical work of the State Chemist, operates the state's weights and measures program, preserves critical farm lands, and much more. In the pages of this report, you will see the depth and breadth of the many services this agency provides the citizens of Maryland every day.

I thank all MDA staff members for their continued commitment to this agency. My thanks also to Governor Martin O'Malley and Lt. Governor Anthony Brown for their continued support of farm families and Maryland agriculture. Together we can chart a strong and profitable future for agriculture, the Bay and for generations to come.

Sincerely,

Secretary



Maryland Agricultural Commission

The Maryland Agricultural Commission is an advisory group to the Secretary of Agriculture. Its 30 members represent the state's major commodity groups as well as the University of Maryland, consumer interests, food processing and various other agricultural business segments.

The commission meets monthly and discusses issues of agricultural consequence. This year the commission had notable speakers and subsequent in-depth discussions on the subjects of: Food Safety, Maryland Nutrient Management Regulations, Maryland Environmental Service, Direct Farm Marketing and Agritourism, Animal Manure Management in the Chesapeake Bay Watershed, Anaerobic Digester at the Eastern Correctional Institute using poultry litter and corn stover as feedstock, Plant Industries and Pest Management, the Farm Bill, Crop Insurance, and Forestry Issues. Current boards that have a commission representative are the Pesticide Advisory Committee, Maryland Agricultural Land Preservation Foundation, State Soil Conservation Committee, and the Governor's Intergovernmental Commission for Agriculture.

In addition, the commission conducted its bi-annual farm tours in Garrett and Allegany counties in the fall and Talbot and Caroline counties in the spring.

These tours and meeting topics, along with monthly reports from each of the represented commodity and business groups, keep the commission proactive with agricultural issues and assure the fulfillment of the commission's statutory mission.



Twice a year the Maryland Agricultural Commission tours various agriculture operations around the state. During FY 2012, the commission toured operations in Garrett and Allegany Counties and the mid-shore region of the Eastern Shore. This photo was taken before the commission's public hearing in Easton.



Office of the Assistant Attorney General

The Office of the Attorney General (OAG) provides legal advice and counsel to MDA, including the Maryland Agricultural Land Preservation Foundation (MALPF) and the State Board of Veterinary Medical Examiners (SBVME). In addition to advising the secretary and the numerous boards and units within MDA, the attorneys prosecute and defend cases brought by and against MDA in state court, federal court, and the Office of Administrative Hearings. They review for legal sufficiency regulations and legislation proposed by units within the agency, as well as intergovernmental agreements and contracts that the agency seeks to enter for goods and services. They also produce educational programs for agency staff.

In addition to the duties described above, some highlights of the OAG office during FY 2012 are described below.

- After working with the OAG's Civil Division last year to defend competing claims by the Waterkeepers Alliance and the Maryland Farm Bureau over whether certain nutrient management records maintained by MDA are subject to disclosure under the State's Public Information Act, the office defended a new action involving the same parties in the Circuit Court for Anne Arundel County. The OAG is now representing MDA in the appeal that the Alliance has noted to the Court of Special Appeals of Maryland. (The Alliance claims that the lower court erred in ruling that certain nutrient management records are not subject to public inspection.)
- Supported MDA's enforcement of the State's Nutrient Management Law; and reviewed for legal sufficiency new regulations proposed by MDA governing the application of nutrients in this state.
- Supported increased enforcement of MALPF easements, including defending one case filed against the Foundation for adverse possession. Worked cooperatively with landowners to resolve several violations informally.
- Successfully litigated a case in the Circuit Court for Howard County affirming MALPF's position that a farm under a state-held easement may not be subdivided without MALPF's approval. The OAG is now representing MALPF in the appeal that the landowner noted to the Court of Special Appeals.
- Defended, in the Circuit Court for Baltimore County, MALPF's action to approve a landowner's request to operate a creamery in conjunction with his dairy farm (The farm is subject to a MALPF easement.) The OAG is now representing MDA in this matter before the Court of Appeals of Maryland, which will decide whether the person challenging MALPF's action has standing to contest it under the Charitable Trust Doctrine.
- Supported enforcement of the Veterinary Practice Act. (The SBVME received an additional 70 complaints in FY 2012.) The OAG assisted in continuing to decrease the backlog of old cases and to efficiently process new complaints through informal resolutions. The OAG also assisted the SBVME in legislative, regulatory, and licensing matters. The OAG designed and implemented a protocol for summarizing and scanning closed disciplinary files to the cloud for interim storage.
- Assisted the OAG's Civil Division in successfully defending a former employee's claim, filed in U.S. District Court for the District of Maryland, charging that MDA had violated the Americans with Disabilities Act when it terminated his employment.

Maryland Agricultural Land Preservation Foundation

The Maryland General Assembly created the Maryland Agricultural Land Preservation Foundation (MALPF) in 1977 to preserve productive agricultural and forested land that provides for the continued production of food and fiber for present and future citizens. Preserved agricultural and forested land helps curb the expansion of random urban development, protects wildlife and preserves the environmental quality of the Chesapeake Bay and its tributaries.

If a landowner's property meets the minimum eligibility criteria for soils, size, and location, as established in statute, the landowner may apply to sell an agricultural land preservation easement to MALPF. An easement restricts the land to agricultural use in perpetuity, limits the ability of the land to be subdivided or developed for residential, commercial, or industrial use, and requires good stewardship practices.

Due to limited funding, MALPF combined FY 2011 and FY 2012 appropriations so that it could conduct one easement acquisition offer cycle and maximize the number of acres to

be purchased. MALPF had nearly \$30.4 million available for this cycle. Of this, almost \$8.7 million was county funding used to match state funds at a ratio of 60 percent state to 40 percent county dollars. This funding has secured acceptances on 59 offers which represent almost 6,800 acres. At the end of FY 2012, MALPF had purchased easements on a cumulative total of 2,078 properties, permanently preserving about 282,957 acres.

The General Assembly adopted legislation affecting MALPF during the 2012 legislative session. See Government Relations, page 9.

MALPF partners, with other state agencies and local governments, are working to meet a legislative goal (SJ 10, 2002) of preserving 1,030,000 acres of agricultural land by 2022. As of August, 2012, Maryland has preserved 567,400 acres of agricultural land under MALPF, Rural Legacy, GreenPrint, and through local land preservation and transfer of development rights programs. This represents about 55 percent of the goal.

GOALS AND OBJECTIVES

GOAL: THE PRESERVATION OF ADEQUATE AMOUNTS OF FARMLAND, WOODLAND AND OPEN SPACE IN MARYLAND TO ENSURE THE CONTINUED PRODUCTION OF FOOD AND FIBER AND TO PROTECT THE AGRIBUSINESS INFRASTRUCTURE FOR THE FUTURE.

Objective:

By the year 2022, preserve 1,030,000 acres of farmland, woodland and open space land in Maryland through the purchase of permanent easements, local government land preservation programs, local Transfer of Development Rights (TDRs), and similar programs (SJ10-2002).

PERFORMANCE MEASURES	2012 ACTUAL
Output: Total number of easements, cumulative	2,078
Outcome: Total acres under easements	282,957

Communications & Public Information Office

MDA's Communications and Public Information Office serves as MDA's liaison to the media, government agencies, elected officials, the agriculture industry, MDA employees and the general public. Its goal is to ensure all stakeholders understand the state of Maryland's agriculture industry, MDA activities and the department's policy initiatives.

MDA uses a media monitoring system to track and research media contacts, distribute news releases, maintain media lists for targeted stories, and distribute news clippings of interest to the agency and its constituencies. During FY 2012, staff distributed 277 news releases to 418 news outlets and interested parties, which generated 665 logged calls from the media. Each business day, news stories are identified, linked to the agency's website and distributed to all staff and other interested parties. The office also distributes a monthly e-newsletter MDA News to more than 1,800 subscribers.

During the year, the office increased the agency's presence on the internet, making it the first point of contact for many citizens. There were 474,681 visits to the site, of which 68 percent were new visitors during the year. The visitors viewed 952,860 pages. Activity increased steadily during the year. The leading page views after the home page were farmers' markets, jobs, licenses and permits, agritourism, and the daily news clippings. At the end of FY 2012, the office began increasing its social media presence and will continue to expand the use of those tools to further increase website traffic.

As part of the O'Malley-Brown Administration's efforts to provide transparency in government, the public information staff maintains an online regulatory action center to inform

the public about the department's enforcement actions, which range from civil penalties imposed after weights and measures inspections to announcing disciplinary actions imposed against veterinarians. The goal of the regulatory action center is to give the public a better understanding of how MDA protects consumers, businesses and the environment on a daily basis. It is also intended to be a deterrent of future violations of the law by the regulated agricultural community. Information on this portion of the site also generates significant media attention.

Some of the biggest news stories handled by the office during FY 2012 were related to proposed changes to nutrient management regulations, record-breaking participation in the cover crop program, ongoing environmental regulatory issues related to the U.S. Environmental Protection Agency's Watershed Implementation Plan, as well as the drought and the 18-county quarantine on the movement of firewood designed to protect the Eastern Shore from the invasive and highly destructive emerald ash borer beetle. The office also works closely with the MDA marketing staff to promote farmers' markets and other Buy Local initiatives as well as the Farm to School program and Home Grown School Lunch week. The office also assisted with various seasonal promotions and continued its efforts to promote conservation practices that homeowners can use to do their part to help restore the Chesapeake Bay. The office also worked closely with the Maryland Horse Industry Board to promote its new monthly Touch of Class Award program, which recognizes excellence in Maryland's equine industry.

The staff also takes a leadership role in organizing several high

Prior to the 2011 Buy Local Cookout, U.S. Department of Agriculture Secretary Thomas Vilsack held a Rural Roundtable in the Governor's Reception Room at the State House with more than two dozen Maryland farmers and agricultural leaders to talk about issues facing Maryland producers. The rural roundtable discussions, which Vilsack conducted across the country, are helping USDA develop new income opportunities for farmers and connect consumers with locally grown food. The discussion highlighted the diversity and strength of Maryland agriculture and the state's commitment to promoting new agricultural marketing opportunities that create jobs and help rural communities thrive. Pictured above (from right): USDA Secretary Vilsack, Alison Howard, Christine Bergmark and Mike Pennington. Photo credit: USDA



profile events, including Governor Martin O'Malley's Buy-Local Cookout, which is held at his official residence and kicks off Buy Local Challenge Week. The office also spearheads the editing and publication of the Buy Local Cookbook and all promotional materials and announcements leading up to and following the event. This Cookout and Challenge was produced for the fourth straight year in FY 2012.

The office also represents MDA with exhibits at the Maryland State Fair and conferences sponsored by the Maryland Municipal League, the Maryland Association of Counties, and the Maryland Farm Bureau.

Planning for emergency communications in the event of plant and animal disease outbreaks, as well as natural disasters, is an important component of the program. The office is actively involved in several multi-agency efforts to refine response and communications plans in the event of an animal disease outbreak or natural disaster, including the Delmarva Avian Influenza Joint Task Force, Maryland Emergency Management

Agency's (MEMA) Joint Information Center, and Maryland Pet Sheltering Network. During FY 2012, staff took shifts at MEMA headquarters during Hurricane Irene and during the drought to handle information requests from the media and the public.

During the year, staff also represented the agency on the Maryland Heritage Area Authority and the Maryland Agricultural Education Council. In addition, staff is actively involved in the Communications Officers of State Departments of Agriculture, the national Emerald Ash Borer public information working group and the state Smart, Green and Growing Communications Committee.

A University of Baltimore Schaefer Center Survey found that the public has an increasingly positive view of the agency's priority activities – farmland preservation, purchase of local products and environmental stewardship by farmers, an indication that MDA's public information efforts are increasingly successful.

Office of Government Relations

MDA's government relations liaison works with elected officials to ensure that agriculture's interests are understood and best represented in laws, regulations and policies. During the 2012 General Assembly session, MDA put forward nine departmental bills. All were passed and signed by the Governor.

Maryland Horse Industry Board – Licensing (Senate Bill 108) clears up ambiguities about the types of equine establishments that the board oversees and inspects and clarifies the types of operations that the Board licenses and regulates while more clearly defining the penalties of non-compliance.

Maryland Agricultural Land Preservation Foundation (MALPF) – Appraisal Requirement (Senate Bill 112) requires two appraisals, instead of one, in the case of a termination of a MALPF easement. While the agricultural preservation easements are intended to be perpetual, there is a provision in pre-2004 easement documents that allow landowners to request termination of their preservation easement if "future profitable farming is not feasible."

Weights and Measures – Fees (Special Funds) (Senate Bill 113) establishes a facility registration fee for businesses with small scales or businesses with motor fuel meters. The bill also increases the maximum fee per location for small scales, as

well as increases the fees for medium and large scales. The fee increases will enable the program to continue to function at its current level for the next five years, including keeping pace with salaries and benefits and replacing aging equipment.

Agricultural Nutrient and Sediment Credit Certification Program (Senate Bill 118) gives MDA the authority to add sediment credits to its existing agricultural nutrient credit certification program for verifying and certifying tradable credits, reviewing technical elements and approving practices, facilitating transactions between participating parties by reviewing contracts, and establishing a registry to post, trade, and track credits and assist users in the management of their accounts.

Maryland Agricultural Land Preservation Foundation (MALPF) – Easements (Senate Bill 129) provides technical fixes to improve the efficiency of program administration. Previous legislation eliminated the requirement for district establishment on a property so this bill is needed to eliminate all reference to districts and district agreements.

Maryland Agricultural Land Preservation Foundation (MALPF) – Lot Release (Senate Bill 148) clarifies the administration of family lots in order to prevent misuse of those

lots. The bill sets 18 as the minimum age to receive a family lot, three years as the expiration of a preliminary release, and authorizes MALPF to ask for evidence of occupancy.

Secretary of Agriculture – Farm Food Safety (Senate Bill 142) gives the Secretary of Agriculture the authority to develop voluntary on-farm food safety programs to assist Maryland fruit and vegetable producers in meeting new federal standards. The federal Food Safety Modernization Act, signed by President Obama in January 2011, requires the U.S. Food and Drug Administration to propose regulations for produce production food safety. The bill also amends the Secretary of Agriculture’s authority to establish quarantines on farms by adding pathogen infection or infestation as a reason to take appropriate action to control or restrict the use of farm products.

Department of Agriculture – Cost Sharing for Water Pollution Control (House Bill 1303) increased the maximum amount for water pollution control projects from \$100,000 to \$200,000, per project, in the Maryland Agricultural Cost Share Program. Farmers will continue to provide 12.5% as cost share.

Department of Agriculture – Animal Waste Technology Fund and Projects (House Bill 1304) transfers the animal waste technology projects part of the Maryland Economic Development Assistance Fund from the Department of Business and Economic Development to MDA. Projects funded, either by grant or loan, are the research, development, implementation, or market development of technology dealing with animal waste. The bill also requires MDA to establish an animal waste technology fund advisory committee, consisting of Chesapeake Bay agencies and stakeholder groups.

Office of Administrative Services

The Office of Administrative Services manages all technical and support services for MDA. It is comprised of five sections – Human Resources, Central Services, Fiscal Services, IT Services and Emergency Management.

MDA has about 500 permanent and seasonal employees, and the Human Resource Office facilitates the recruitment, training, appropriate compensation, and retention of qualified individuals. Additionally, the office assists with the transition of those employees leaving government service. Programs and services for employees include risk management, employee leave bank, teleworking, wellness, blood drives, and training as well as employee recognition.

Central Services manages facilities, records, inventory, telecommunications, warehousing, the agency motor fleet, and the distribution of supplies and mail. The office also oversees departmental procurement and is responsible for the maintenance of facilities. The motor pool provides quality maintenance and repairs of the department’s 266 vehicles in addition to semi-annual inspections on all vehicles. The MDA fleet traveled more than 2.2 million miles last year.

Fiscal Services handles all centralized accounting transactions for MDA. This encompasses all phases of the budget, grants management, accounts receivable, accounts payable and leave management.

Emergency Management for MDA addresses all emergencies within MDA. The department is in the process of completing a new management plan that will be tailored to MDA and in concert with the statewide emergency operations plan. Additionally, MDA continues to provide annual training and drills for first responders.



Agriculture Secretary Buddy Hance reads to kindergarteners at Sunderland Elementary School in Southern Maryland as part of March “Read Across Maryland” month. A Calvert County farmer, Secretary Hance selected “Seed, Soil, Sun: Earth’s Recipe for Food” by Cris Peterson, which explains how air and water combine with seed, soil and sun to create nearly all the food we eat.

Information Technology Services

Information Technology Services (IT) – which includes networking, application development, and technical support units – maintains and upgrades all MDA telecommunications and data processing systems.

The network staff, working with networkMaryland™, completed the expansion of the Wide Area Network (WAN) with the addition of Soil Conservation District Offices. WAN usage increased as a result of the Natural Resources Conservation Service removing state and local entities from its network. A server virtualization project is underway of which 12 physical servers have been consolidated reducing energy and support costs. Legacy Novell software was replaced with Microsoft, and Groupwise Email was migrated to Google.

The application development staff provides licensing and registration data services to Maryland citizens and is one of IT Services' top priorities. Many modifications have been

implemented to gather, distribute and use data for licensing and registration systems including data on inspection and regulatory services. The online license renewal system for the State Board of Veterinary Medical Examiners – MDA's first online license renewal system – was implemented during FY 2012. Additional secure web-based licensing, registration, and inspection systems are being planned.

The technical support staff supports and assists in the maintenance of MDA's internet site (www.mda.maryland.gov) and Maryland's Best website (www.marylandsbest.net). MDA's website was moved to the Maryland Department of Information Technology as part of a Statewide Website consolidation effort. Planning efforts are in place to implement tools to expedite and ease content updates to the website and to create greater accessibility and browser compatibility for Maryland citizens.



USDA/National Agricultural Statistics Service

The Maryland Field Office of the U.S. Department of Agriculture's (USDA) statistical agency, the National Agricultural Statistics Service (NASS), provides the public with data relating to the production of most crops grown and livestock raised in the state. Annual information is provided on the general economic well being of the state's agricultural sector. NASS statistics are used to administer and support USDA farm programs that benefit Maryland farmers, to determine the feasibility of new ventures affecting our state's farmers, and to direct program research and development.

NASS has a rich history of collecting and distributing agricultural statistics, dating back more than 145 years. Each year the employees of NASS conduct hundreds of surveys and prepare reports that impact every facet of Maryland's agricultural community. Its mission to provide timely, accurate and useful statistics in service to U.S. agriculture would not be possible without the voluntary cooperation of Maryland farmers who take valuable time to respond to NASS surveys.

In 2011 – the most recent year that annual statistics are available for this report – agriculture generated nearly \$2.09 billion in cash receipts for the state's farmers, not accounting for the additional impact provided by related jobs and services. Maryland's leading cash commodities were broiler chickens, greenhouse/nursery products, corn, milk and dairy products, and soybeans. The Maryland Field Office of NASS estimated

there were 12,800 farms in 2011 with an average size of 160 acres. Total land in farms in Maryland was 2.05 million acres, one-third of the state's entire land area.

In FY 2012, NASS, in cooperation with MDA, released the results of the first-ever survey of tillage practices for major crops in the state. In 2011, conventional tillage was used on 13.5 percent of the major crops in Maryland. No-till, a procedure whereby a crop is directly planted into a seedbed not tilled since harvest of a previous crop, was practiced on 64.2 percent of the major acreage. Soybeans showed the highest percentage of no-tillage, with 78.7 percent planted soybean acres.

In November 2011, NASS conducted a conservation survey aimed at gathering information from Maryland producers about farming and conservation practices in cultivated cropland. The 2011 Conservation Effects Assessment Project will provide updated science-based information to document the prevalence of all conservation practices in the Chesapeake Bay watershed and provide the base from which to strengthen conservation planning, implementation and management. Initial results from the study are expected to be issued by the USDA's Natural Resources Conservation Service (NRCS) in 2012/2013.

Complete results of NASS reports are available at www.nass.usda.gov/Statistics_by_State/Maryland.

Marketing and Agribusiness Development

MDA's Marketing and Agribusiness Development section develops marketing opportunities for Maryland farmers and serves as a conduit for federal resources and policy information specific to the agricultural sector. During FY 2012, Marketing focused its efforts on building demand for Maryland farm products through promotions, advertising, and business development activities with grocery store chains, food processors, chefs and other buyers. The market for local products is increasing in the state with more than 78 percent of Marylanders saying they would prefer to buy food grown in Maryland, according to the University of Baltimore Schaefer Center for Public Policy. Another key area of activity includes international marketing, with staff facilitating meetings with Maryland food companies and farmers, and international buyers from Russia, Cuba, China and Japan.

Buy Local

Through a combination of press releases, paid advertising on public and commercial radio, as well as in online and print publications, and through promotional events, Marketing developed demand for local products throughout FY 2012. Primarily funded by the U.S. Department of Agriculture,

promotions encouraged consumers to buy Maryland-grown fruits, vegetables, flowers, nursery products, wine and Christmas trees. Because of restrictions on federal funds, state funds were used to promote dairy, meat, poultry and the agritourism sectors. About 800,000





Marylanders received promotional messages from MDA during the year.

For consumers, the Maryland's Best website (www.marylandsbest.net) is the primary source of information for local farm stands, farmers markets and Maryland farms. The website includes farm contact information, directions and video interviews with farmers about their farming operations. More than 184,000 people have visited the website to learn about Maryland agriculture.

Governor Martin O'Malley supported MDA's Buy Local program and Maryland's Best by kicking off the 2011 Buy Local Challenge Week with the fourth annual Buy Local Cookout at his residence in July. This event included farmers, food writers, chefs, grocery store representatives and media, as the Governor encouraged Marylanders to seek out Maryland-grown food. Media students at Loyola University in Baltimore City designed and published a cookbook with recipes used at the cookout. Marketing used these cookbooks to promote the Maryland products included in each entry.

Marketing staff met with buyers from many national supermarket chains at the annual Produce Marketing Association convention in Atlanta. Also, Marketing worked with counterparts at the Delaware Department of Agriculture to develop a New England promotion of watermelons grown in Maryland and Delaware. This promotion targeted grocery store chains in Boston and surrounding areas.

During FY 2012, Marketing worked with Urbanite magazine in Baltimore to promote agriculture in the magazine's Urbanite Project competition and with the Georgetown magazine in Washington, D.C., to coordinate a motorcycle tour of Maryland farms with D.C. chefs.

To increase public awareness of local food, Marketing partnered with Baltimore-based movie producer Houpla Studio on the development of a one-hour documentary showcasing Maryland farmers working with Maryland chefs. The documentary aired on Maryland Public Television during the station's Chesapeake Bay Week.

Maryland Farm to School

Educators, farmers, and state and local officials gathered with Benjamin Baneker Elementary School students in St. Mary's County to kick off the 4th annual Maryland Homegrown School Lunch Week by eating healthy lunches, full of locally grown fruits and vegetables. Students (and officials) also enjoyed special classroom activities and hands-on outdoor educational activities with farmers. To draw attention to the connection between healthy food and the local farms that grow it, Governor O'Malley designated September 12-16, 2011, as Maryland Homegrown School Lunch Week.

The goal of the program is to educate students about where their food comes from, how it is produced, and the benefits of a healthy diet. Marketing works closely with the Maryland State Department of Education's School and Community



(LEFT) Extension agent Donna Sasscer shows students chickens and helps them learn where eggs come from. (RIGHT) Agriculture Secretary Buddy Hance and Cornelia meet with elementary students at the kick off to Home Grown School Lunch Week to help students learn more about where their food comes from.

Nutrition Program on the Farm to School program. All 24 school systems in the state participated by buying local products for school lunches during the week.

- Partner with the Delaware Department of Agriculture and the Mar-Del Watermelon Association to develop the market for Maryland and Delaware watermelons in New England.

Specialty Crop

MDA's Marketing section administers USDA's Specialty Crop grants. During FY 2012, MDA awarded \$420,123 to six projects that enhanced the competitiveness of specialty crops in Maryland. Some projects are designed to:

- Increase customer traffic at the Christmas tree farms and deliver increased sales of real Christmas trees to support the more than 200 real Christmas tree farms across the state;
- Increase specialty crop sales of fruits and vegetables to low-income population;
- Provide a basis for an efficient monitoring program and cost-effective, environmentally acceptable management strategies of the Brown Marmorated Stick Bug;
- Control costs and crop losses and protect the value of sweet corn sales;
- Continue with a food safety program; and

Farmers Markets

The Farmers Market Nutrition Program (FMNP) works with farmers markets in all 23 Maryland counties and Baltimore City. More than 300 Maryland farmers received \$515,000 from the FMNP program in FY 2012. Funded primarily by the USDA's Food and Nutrition Service, FMNP is designed to increase access to local produce for low income and senior citizens. This benefited almost 150,000 Women, Infants and Children (WIC) and 4,000 Senior recipients in Maryland.

International Marketing

Marketing's international component represents Maryland's processed food companies in Southern United States Trade Association (SUSTA) activities. MDA is a member of SUSTA through its membership in the Southern Association of State Departments of Agriculture. SUSTA activities for Maryland included food trade shows in South Korea, Japan, Russia and in-bound buyers from Korea.

MDA Marketing is a member of the United States Livestock and Genetics Export (USLGE) Association. With funding from this organization, MDA worked with the Maryland Horse Industry Board to promote the sale of sports horses to China and hosted a delegation from a horse ranch in Inner Mongolia at the running of the Preakness Stakes in May.

In FY 2012, the state's \$12,500 investment in SUSTA and USLGE activities resulted in estimated sales of \$3 million. MDA Marketing also supported Maryland agribusinesses at the annual Cuban agricultural trade show, which resulted in the sale of about \$60 million of soybeans and soybean meal.

Crop Insurance Promotion and ACRoS

Marketing Services administers two federally funded programs: crop insurance promotion and the Maryland Agricultural Conflict Resolution Service (ACReS), an agricultural mediation program.

The crop insurance promotion program is funded with \$371,000 from the USDA Risk Management Agency. Through press releases, newsletters, presentations and advertisements in agricultural media, MDA has increased participation of Maryland farmers in federal crop insurance programs to 6,654

farmers in FY 2012 from 5,240 in FY 2007. Farmer investment in crop insurance helps stabilize the Maryland agriculture economy as weather and market volatility make farming a challenging sector. In FY 2012, more than \$400 million of agricultural production is insured on more than 900,000 acres.

Farmers and others in the agricultural community who may be embroiled in disputes with family members, neighbors, government agencies, or even lenders can get a fresh start by trying mediation through the Maryland ACRoS, a no- or low-cost service offered by MDA for the past 11 years to help resolve agricultural-related disputes before they end up in court. MDA's USDA-certified mediation service is a voluntary, confidential process in which a neutral third party (i.e., the mediator) assists farmers, agricultural lenders, agencies, families and citizens to resolve disputes in a non-adversarial setting outside of the courts and regulatory process. Mediators are trained to help participants develop a solution that meets their needs. An initial consultation with program staff and initial mediation session (about two hours) is provided at no charge. If additional mediations sessions are needed, costs are shared by the parties, with full or partial waivers of fees based on income. During FY 2012, there were 24 request for mediation services and 10 requests for information about the program.



Governor Martin O'Malley (center) at the 2011 Buy Local Cookout with USDA Secretary Thomas Vilsak (left) and Maryland Agriculture Secretary Buddy Hance.

Photo Credit: Executive Office of the Governor.

GOALS AND OBJECTIVES

GOAL 1. CREATE NEW MARKETS AND SUPPORT EXISTING MARKET OPPORTUNITIES FOR MARYLAND FARMERS AND AGRIBUSINESSES.

Objective 1.1

Increase direct to consumer sales opportunities for Maryland agricultural producers by 3 percent per year.

PERFORMANCE MEASURES	2012 ACTUAL
Output: Number of producers participating in FMNP ¹	340
Amounts of FMNP checks redeemed by producers ²	\$515,000

¹ Bank list of farmers authorized to accept FMNP checks. ² Bank reports of checks paid.

Objective 1.3

Increase the international sales by Maryland agribusinesses and the export of Maryland agricultural products to international markets.

PERFORMANCE MEASURES	2012 ACTUAL
Input: Number producers participating in MDA Activities	350
Outcome: Number of reported sales	10
Dollar amount of sales (millions of dollars)	\$63

GOAL 2. PROVIDE EDUCATIONAL AND OUTREACH PROGRAMS TO FARMERS TO IMPROVE THE ECONOMIC WELL BEING OF THE MARYLAND AGRICULTURAL INDUSTRY.

Objective 2.1

Increase percentages of insurable crop acres in Maryland with buy-up levels of crop insurance to 65 percent by 2013.

PERFORMANCE MEASURES	2012 ACTUAL
Input: Insurable acres on Maryland farms	1,269,450
Outcome: Percentage of insurable acres with buy-up coverage	64%
Total crop protection in force (millions)	402
Number of crop insurance policies sold	6,654

Animal Health Program

The MDA Animal Health Program prevents and controls infectious and contagious diseases in Maryland livestock and poultry with particular emphasis on those diseases that threaten public health, endanger food supplies or threaten the economic security of the animal industries. Staff members work closely with federal and state counterparts, partners in the animal industries, local, state and federal governments and the public to ensure an efficient team effort for disease prevention, detection and control. Key components of the MDA effort include Animal Health Headquarters and Administration with six full time staff, field operations, with 9.5 full or part time staff and the Diagnostic Laboratory System with 16.5 full or part time staff.

The Animal Health Program also responds to all animal emergencies under the State Emergency Operations Plan, Emergency Support Functions 6 and 16. Animal emergencies are categorized as 1) animal health emergencies, such as a disease outbreak in livestock or poultry; and 2) animals in emergencies, such as assisting with feed provisions or managing pet sheltering operations during a natural disaster. The Animal Health Program provides secondary support to other state agencies managing emergency support functions.

MDA has a small but important regulatory role in protecting and promoting animal welfare that is limited to livestock at auction markets and certain aspects of animal transport and exhibition. MDA frequently assists local animal control and other agencies to protect animal welfare through field consultation, training, investigative support, and diagnostic evaluations of affected animals.

Program Operations

Regulatory and outreach activities are designed to help support compliance with animal health regulations and other efforts to promote animal health, public health and agricultural productivity.

Interstate Movement: All animals moving into or out of Maryland, or being imported or exported into or from Maryland, must be examined for signs of contagious or infectious disease, have required vaccines and disease testing, and be accompanied by a Certificate of Veterinary Inspection. Animal Health staff processed certificates of movement for 47,717 animals in FY 2012.

Animal Exhibitions and Non-commercial Herds and Flocks:

Animal Health staff inspected 37 separate exhibitions and processed 8,966 exhibition health certificates in FY 2012, a 10 percent decrease in exhibitor entries from FY 2011 (9,962). The field inspection staff, augmented by other MDA program staff, federal partners, exhibition officials and trained volunteers, inspected and tested livestock and poultry upon entry to events and during the course of the exhibition. Animals with signs of infectious or contagious disease were isolated and excluded from the exhibition. Outreach to 4-H and other fair and show exhibitors and sponsors continued throughout the year. No significant disease events occurred in FY 2012 exhibitions.

During FY 2012, MDA conducted increased outreach, inspection and training in the non-commercial poultry sector, as this sector continues to increase in size and disease risk. Two large swap meets were held and urban backyard poultry flocks increased in numbers. To address the increased risk, the Poultry Tester Training program was revamped and new testers were added. Also, Maryland Poultry Testers were approved to do testing of birds moving into the New York/New Jersey/Pennsylvania Live Bird Market System in addition to their longstanding service testing poultry for exhibitions.

Livestock and Poultry Auctions and Dealers: During FY 2012, Animal Health staff inspected all 244 commercial livestock and poultry auctions conducted in Maryland. During the inspections, animals are observed for signs of infectious or contagious disease, including foreign animal diseases, and for compliance with welfare, identification and other market regulations. Disease surveillance is conducted for diseases of concern such as avian influenza. The Tri-County Auction Market in Southern Maryland expanded from one to two auctions per month, with large flocks of poultry intermittently sold at this market; therefore, routine monthly avian influenza surveillance was increased to address the increased risk. Live Bird Market System oversight was established over movement and sales of spent hens from Pennsylvania breeder facilities to several farms in Southern Maryland. No major violations of market regulations and no avian influenza or other diseases of significance were detected in livestock and auction markets in FY 2012. A total of 33 inspections of livestock dealer operations or facilities were conducted.

Biologics: The Animal Health Program evaluated 40 commercial animal biological products, mostly vaccines, and

issued authorization letters to pharmaceutical companies or veterinarians allowing them to import, manufacture, market, distribute or use the biologic agent in Maryland.

Tissue Residue Inspections: In FY 2012, Animal Health staff performed three Violative Tissue Residue Investigations for the U.S. Food and Drug Administration (FDA). The FDA contracts with the Animal Health Program to conduct follow-up investigations of violations of antibiotic or other drug residues in food animals. These investigations are one of the tools used to address this high priority public health matter.

Contagious Equine Metritis (CEM) Import Quarantine Station: MDA operates two CEM quarantine stations in partnership with private businesses. One of these stations, opened in August 2009, remains in provisional approval status. At the quarantine station, imported horses receive extensive testing to ensure they are free of CEM prior to being released for breeding activity in the United States. CEM is a disease that is common around the world but has been eradicated in the United States. MDA issued 130 import permits through the CEM program in FY 2012, an 8 percent increase from FY 2011 activity (120).

Animal Disease Traceability (ADT) Program: The eventual goal of ADT is to use automated recordkeeping, similar to that used for tracking packages, to trace the movements of animals implicated in a disease outbreak within 24 to 48 hours. Traceback tests for cattle, swine and poultry in FY 2012 indicated that Maryland can meet the 24 to 48 hour proposed federal standard for tracing individual animals. Automated databases are being investigated, including use of the federal CORE ONE database, to maintain identification data to enable tracing of many animals rapidly when necessary in a disease outbreak investigation. While identifying animals of concern is a priority, an equally important priority is identifying those animals, farms and facilities that are not involved in a disease investigation so they can maintain normal commerce with little or no delay, minimizing economic losses and business disruptions.

Premise registration is one means to improve the ability to trace animals. To date, property owners and operators with livestock have registered 1,606 premises in Maryland. This represents about 20 percent of Maryland livestock producers. Participation is expected to increase after federal requirements for identifying animals moving interstate are implemented. Under Maryland law, most poultry premises must be registered with MDA. In the event of disease outbreaks, the database allows staff to quickly identify nearby premises,

test birds and provide appropriate information to producers. MDA staff aggressively registers poultry premises as they are encountered. Local jurisdictions are beginning to require MDA registration as part of the local approval process for backyard flocks. To date, 3,766 poultry premises are registered under the state program, with 384 new premises registered in FY 2012, an 11 percent increase from FY 2011, largely resulting from new urban flocks compliance with local requirements.

Emergency Response Readiness

The Animal Health program maintains a robust capacity for emergency response. Through continued training and a department-wide Agriculture Responders unit, MDA personnel are assigned and trained to respond to all agricultural emergencies, including animal emergencies. Staff is trained in and routinely uses the Incident Command System and the Web EOC system in emergency events under the departmental Emergency Operations and Incident Command System/Unified Command Plan. In addition, Animal Health personnel continue to collaborate with the Maryland Department of Health and Mental Hygiene, the Maryland Emergency Management Agency (MEMA), the State Board of Veterinary Medical Examiners and the Maryland veterinary community to recruit, train and organize the State Voluntary Veterinary Corps, a group of about 230 veterinarians and technicians willing to support emergency operations when activated.

In FY 2012, Animal Health staff participated in two actual state-wide emergency responses and MEMA activations for the September 2011 Hurricane Irene and Tropical Storm Lee emergency and animal sheltering events. Animal Health staff participated in state or regional emergency exercises for avian influenza, foot and mouth disease, and emergency pet sheltering. A pet sheltering training for MDA staff was held in conjunction with State emergency shelter partners. A joint Maryland-Delaware and Industry field training in emergency poultry depopulation was held in FY 2012, and additional training and practice was held in house to hone skills with this specialized technology and equipment. MDA staff participated in a joint Federal Emergency Management Agency and Animal and Plant Health Inspection Service Emergency Capabilities Training along with the Delaware Department of Agriculture. The Animal Health Program is a national leader with other Delmarva partners in developing improved technologies and tactics for detecting and responding to emergency poultry diseases, and protecting worker health during outbreak response, and is a member of the Delmarva Emergency Poultry Disease Task Force.

Disease Surveillance and Response

The Animal Health program oversees or conducts ongoing routine, active or enhanced surveillance for several livestock and poultry diseases, including foreign animal diseases. The program has four federal-state Cooperative Agreements for disease control programs, consolidated from nine in FY 2011, which fund much of the enhanced surveillance and outreach and education. Enhanced surveillance is an increased frequency or number of tests for a disease of particular significance or risk. Specific surveillance programs and/or investigations are highlighted below.

Quarantines: As a result of disease surveillance and response efforts in FY 2012, 10 quarantines (“hold orders”) were placed and 10 quarantines were released on farms for: suspect tuberculosis in cattle and goats; suspect brucellosis in bison; equine herpes virus and neurologic syndrome in horses; rabies or rabies suspect in cattle, goat, sheep and horses; infectious laryngotracheitis in poultry; trichinella in swine; and vesicular stomatitis in horses and sheep. There were 263 routine 30-day quarantines for swine entering the state placed through the Swine Permit process. In addition, there were 130 quarantine actions associated with horses moving through the CEM Quarantine Import Stations in Maryland.

Foreign Animal Disease: No foreign animal disease (FAD) was detected in Maryland during FY 2012. Two foreign animal disease (FAD) investigations, in equine and swine, were conducted. FAD training for Maryland Accredited private practice veterinarians was conducted and is now incorporated into CORE training for new Maryland Accredited veterinarians. During FY 2012, one field veterinarian from the Animal Health Program was trained and qualified as a Foreign Animal Disease Diagnostician (FADD) at the Foreign Animal Disease Laboratory at Plum Island, New York, providing needed staff certification and skills in this area. MDA now has four qualified FADD on staff.

Avian Influenza: The program continues enhanced surveillance for avian influenza and other high consequence diseases of poultry in commercial and non-commercial flocks with federal funding. MDA performed 8,605 tests in FY 2012. No avian influenza was detected. Avian influenza surveillance requirements were imposed on poultry shipments (spent hens) from Pennsylvania entering the Maryland Live Bird Market System, primarily for distribution from farms in Southern Maryland. The Maryland Poultry Tester Program was approved to allow Maryland testers to test and certify shipments of poultry (spent hens) from Maryland into the New

York/New Jersey/Pennsylvania Live Bird Market System.

Tuberculosis: Maryland remains free of bovine tuberculosis (BTB); nevertheless, the ongoing reemergence of BTB in cattle and white tailed deer elsewhere in the United States during the past several years is of concern. The Animal Health program is heavily involved in national efforts to develop programmatic changes needed to re-establish better control over this threat to public and animal health.

Other livestock and poultry diseases and issues that continue to be part of MDA’s surveillance programs include: Brucellosis in cattle, goats and swine; pseudorabies in swine; bovine spongiform encephalopathy (aka BSE or mad cow disease) in cattle; illegal garbage feeding to swine; Salmonella pullorum and exotic Newcastle disease in poultry; and scrapie in sheep and goats.

New Initiatives

Secure Milk Supply: In FY 2012, MDA entered into an agreement between USDA and the states of Virginia, Tennessee, North and South Carolina to collaborate on a mechanism to allow milk to move interstate from farm to processing in the face of a Foot and Mouth Disease (FMD) outbreak. Without such a plan, states are likely to close their borders to raw milk movements during a U.S. FMD event, resulting in shortages to the consumer and serious economic losses to producers, processors and haulers of milk. The program is voluntary.

At the close of FY 2012, the Mid-Atlantic Secure Milk Supply initiative has drafted documents representing broad agreement among the member states as to the standards, procedures and practices to be followed during an FMD event that will enable qualified dairy industry participants to move milk with minimum necessary disruption should FMD threaten the region.

During FY 2013, the plan is to conduct outreach, training and planning necessary to ensure all parties are prepared to fulfill their role in the plan. The Mid-Atlantic Initiative will continue to seek and support participation from adjacent states and other states that play an important role in the movement of milk in and out of the five-state region.

Core One Database Implementation: In FY 2012, the program formally adopted the USDA Commercial off the Shelf (COTS) database for managing animal health disease control program information. The system, known as Core One, replaces an antiquated USDA system. It was installed at

MDA headquarters and staff received user training. Once fully fielded, the system will support additional data management needs of the program. It is compatible with systems in use by other states and will better enable rapid sharing of data between states during a disease event.

MDA Animal Sheltering Teams: During FY 2012, the Animal Health Program spearheaded MDA efforts to better meet animal sheltering missions assigned to MDA under the State Emergency Operations Plan. MDA has recruited and trained from agency staff, a team to provide companion animal shelter support to state sponsored human shelters or to local governments on request during a disaster. The MDA animal

sheltering team is augmented by outside partners, both groups and individuals, governmental and private.

Other Animal Health Program Activities

Other MDA Animal Health program activities include: the licensing of livestock markets and dealers, accreditation of new veterinarians, and active participation in the National Poultry Improvement Plan which provides standard monitoring and certification programs for commercial poultry for significant diseases including avian influenza and salmonella, and for hatchery sanitation. A summary of selected Animal Health activities is provided below:

MDA ANIMAL HEALTH PROGRAM FY 2012 – SELECTED PARAMETERS

PARAMETER	TOTAL NUMBER
Biological Authorizations	40
CEM Permits (Quarantines)	130
Dealer Inspections	33
Drug Residue Inspections	3
Equine Health Certificate – Export	2,312
Equine Health Certificate – Import	2,273
Exhibition Inspections	37
Export Certificates (Non Equine)	2,060
Foreign Animal Disease Investigations	2
Import Certificates (Non Equine)	5,377
Inspections and Investigations - Total Combined	333
Intrastate Certificates Total (Show)	8,966
Livestock Dealer Licenses	43
Market Inspections	244
Quarantines Issued for Disease Investigations	10
Swine Permits Issued (Quarantines)	263

Veterinary Diagnostic Laboratory System

MDA operates a veterinary diagnostic laboratory system consisting of a livestock health laboratory in Frederick and a poultry health laboratory in Salisbury. The system provides regulatory diagnostic support to the Animal Health Program, the U.S. Department of Agriculture (USDA), other Maryland agencies and animal health agencies of other states. Additionally, the laboratories provide diagnostic services in support of Maryland producers and farm animal veterinarians. Both laboratories are longstanding members of the National Animal Health Laboratory Network (NAHLN), a program of USDA. Both laboratories serve as Basic Sentinel Clinical Laboratories for the Maryland Department of Health and Mental Hygiene for the purpose of detecting diseases of public health importance.

During FY 2012, both laboratories completed preparation to meet the laboratory accreditation requirements of the American Association of Laboratory Accreditation (A2LA). In June 2012, both facilities successfully completed an on-site accreditation audit visit by A2LA. Full A2LA accreditation is anticipated early in FY 2013. Membership in NAHLN and A2LA allows the laboratories to perform certain diagnostic activities important to Maryland livestock and poultry producers. Laboratory accreditation demonstrates laboratory accountability, competence, impartiality, performance capability, and data traceability that meets or exceeds national and international standards.

Laboratory System Missions and Staff

The Animal Health Laboratory System supports the animal and public health regulatory and emergency response missions of MDA, other state agencies, and local and federal government agencies. The regulatory activities of other state, federal and local governmental entities involved in animal health depend on the surveillance and compliance testing carried out in these laboratories. Examples include the diagnosis of certain high consequence pathogens of poultry such as avian influenza in support of national disease control programs of the USDA, support to the Maryland Department of Health and Mental Hygiene in diagnosing animal rabies and other animal diseases of public health significance, and support to the Maryland Department of Natural Resources for diseases of wildlife consequence such as chronic wasting disease. The system assists veterinarians, livestock and poultry producers, and the equine industry in maintaining healthy herds and flocks.

Additionally, the system provides post mortem and related diagnostic support to animal control agencies for certain matters involving cruelty and neglect.

To accomplish these missions, the system performs a wide array of diagnostic procedures on a variety of specimens and samples submitted by producers, agricultural businesses, animal owners, veterinarians and government agencies. To ensure full continuity of services on a day-to-day basis as well as providing surge capacity in the event of a disease outbreak, the laboratory scientists in the system are cross-trained so that a minimum of three are able to perform each diagnostic test at each laboratory.

The Laboratory System also provides educational and training opportunities to a diverse group of students, including students of the Virginia-Maryland College of Veterinary Medicine and other U.S. veterinary schools, the University of Maryland, Salisbury University, other U.S. college and universities, veterinary pathology residents from Johns Hopkins University and the Armed Forces Institute of Pathology, veterinarians in the poultry industry and high school interns. Students in the laboratory system are mentored by the directors and staff.

Within the broad system missions, each laboratory has specific geographic and technical missions. The primary mission of the **Frederick laboratory** focuses on food animal livestock and horses. Secondary missions include diagnostics for high consequence diseases of poultry, to include regional service and back-up for the poultry laboratory at Salisbury during an emergency. The Frederick laboratory primarily serves constituents on the western shore of the state. Five laboratory scientists perform diagnostic activities in bacteriology, serology/immunology, parasitology, virology, molecular diagnostics and mycology as well as important duties of supervision, quality assurance, safety assurance and operational support.

The director at Frederick is a veterinary pathologic diagnostician with responsibility for all activities of the laboratory. The director also serves as the lead diagnostician, conducting post mortem examination of animals and interpreting results generated by the science staff. The laboratory capability includes rabies, contagious equine metritis, equine herpes virus, equine infectious anemia, Lyme disease, Johne's disease, and most recently, avian influenza. Avian influenza testing

of poultry was added to the Frederick mission in FY 2011 to provide the agency with additional equipment and trained staff to support that activity in the event of a poultry health emergency requiring a substantial surge in testing capability at the Salisbury laboratory.

The primary mission of the **Salisbury laboratory** focuses on infectious diseases of poultry. Secondary missions include full service post mortem diagnostic support for certain diseases of public health significance such as Salmonellosis, support to disease and welfare investigations involving mammals, and equine infectious anemia testing for horses. The Salisbury laboratory primarily serves the Eastern Shore region of Maryland, to include the poultry industries of the Delmarva peninsula. The laboratory is staffed by three scientists and two laboratory technicians performing diagnostic activities in bacteriology, serology, parasitological, virology and mycology as well as important duties of supervision, quality assurance, safety assurance and operational support. The director is a veterinary poultry pathologic diagnostician with responsibility for all activities of the laboratory.

The director also serves as the lead diagnostician, conducting post mortem examination of animals and interpreting results generated by the science staff. The facility has a large molecular diagnostic capability that is dedicated primarily to the detection of avian influenza, Newcastle disease, infectious bronchitis virus, infectious laryngotracheitis, and mycoplasmal diseases.

The laboratory also performs equine infectious anemia, rabies and salmonella diagnostics. Laboratory personnel participate in disease outbreak surge capacity programs with cross-training in house and cross-training with the Maryland Department of Health and Mental Hygiene public health laboratory scientists. The facility has a close working relationship and shares a laboratory information management system with the University of Delaware Poultry Diagnostic Laboratory. Together they operate a poultry health diagnostic network that seamlessly serves poultry producers of the Delmarva.

A summary of testing carried out in FY 2012 at MDA Animal Health diagnostic laboratories for regulatory or otherwise select significant diseases is provided below:

ANIMAL HEALTH PROGRAM LABORATORY STATISTICS

DIAGNOSTIC ACTIVITY	NUMBER	TEST RESULTS
Mammalian Necropsy	153	n/a
Poultry Necropsies	1,053	n/a
Avian Influenza	8,605	All negative
Rabies	81	7 positive
Equine Infectious Anemia	15,270	All negative
Contagious Equine Metritis	1,365	All negative
Equine Herpesvirus (EHV-1)	25	4 positive
Johne's Disease in Cattle	3,091 Blood 269 Fecal	167 positive 83 positive

Maryland State Board of Veterinary Medical Examiners

The State Board of Veterinary Medical Examiners (SBVME) sets the standards that veterinarians, registered veterinary technicians (RVTs), and veterinary hospital owners must comply with. These standards are set by statutes adopted by the General Assembly or regulations adopted or amended by the Board. The SBVME also licenses and registers veterinarians; licenses and inspects veterinary hospitals; licenses animal control facilities; registers veterinary technicians; provides disciplinary information to other state veterinary boards and the public; and submits licensure verification to other state licensing boards upon request. Additionally, the SBVME investigates consumer complaints, initiates its own investigations, and determines whether disciplinary action shall be taken against licensees or registrants. Requests for approval of continuing education credits are reviewed by the SBVME.

The SBVME is comprised of seven members appointed by the Governor to serve five-year terms. Five members are veterinarians – at least two of whom must be primarily large animal practitioners. The remaining two members are consumer advocates.

SBVME staff consists of an executive director, administrative specialist, office secretary, investigator, and two inspectors. The inspectors divide their time between the SBVME and the Maryland Horse Industry Board.

The SBVME is an active, voting member of the American Association of Veterinary State Boards (AAVSB), a non-profit organization that provides programs and services to veterinary boards to assist them in carrying out their statutory responsibilities for the public's protection. The organization is comprised of 57 state veterinary medical boards and veterinary technician committees across the country.

To aid the AAVSB in fulfilling its mission, the SBVME has provided leadership for one of its committees. This contribution has led, in part, to the funding of the SBVME's attendance at the organization's annual meetings. The SBVME has attended and participated in the AAVSB's annual meetings since 2006.

Throughout FY 2012, SBVME staffed worked closely with the Maryland Department of Agriculture's information technology department and Towson University's Center for Applied Information Technology to develop electronic applications for renewal of veterinary registrations, veterinary hospitals, and RVTs. Extensive work was performed to ensure that

information provided through the online system would be easily transferred into the SBVME's existing database. With this new system, the SBVME was able to accept payment via credit cards for the first time in its more than 100-year history. Further, renewal applicants were given the option to print their renewal certificates or request that certificates be mailed to them. The SBVME is the first program within MDA to offer an online application and to accept credit card payments.

The online renewal system reduced the time normally required by staff to process registration certificates, and reduced costs associated with mailing certificates. About half of all veterinarians and RVTs and one-third of all veterinary hospital owners used the online renewal system during this first year of implementation. SBVME staff plans to assess ease of use, problems encountered, and suggestions for improvements to the online system via an online survey of its registrants.

During the past few years, the SBVME has imposed additional continuing education requirements on licensees deficient in certain areas of veterinary medicine. For all Maryland-licensed veterinarians, the continuing education requirement has increased to 18 hours per year. Additionally, the SBVME successfully legislated to increase its civil penalty sanctions for second or subsequent offenses. Such actions have helped to distinguish the SBVME as assertive and innovative when compared with veterinary licensing boards across the country.

In late FY 2012, the SBVME submitted proposed amendments and new regulations for adoption to the Joint Committee on Administrative, Executive and Legislative Review. If approved, regulations on the following topics will change in the next fiscal year: standards of practice and code of ethics for the practice of veterinary medicine; SBVME formal and informal actions; minimum standards for mobile veterinary clinics; civil penalty standards for veterinarians; qualifications for examination and registration of RVTs; and minimum standards for a limited use veterinary hospital. Most of these chapters were identified as needing updates during a mandatory review of all regulations conducted in FY 2011.

Amendments affecting veterinary technicians and the veterinarians who supervise them were submitted subsequent to the passing of Senate Bill 322 during the 2011 Legislative Session. Under Chapter 56, Acts 2011, effective October 1, 2011, the SBVME was granted the authority to repeal a narrowly defined list of procedures that RVTs could legally

perform, and granted the SBVME broad authority to adopt regulations allowing RVTs to perform a wider array of procedures, consistent with their training. The Maryland Veterinary Technician Committee conducted a review of rules and regulations governing veterinary technicians across the country. The Veterinary Technician Committee made recommendations to the SBVME, the vast majority of which were accepted

and then incorporated into existing regulations.

The SBVME is completely funded by its licensees and registrants. In April 2012, the SBVME increased its fees, which had held steady since July 1, 2004. Increases were made after careful analyses of the SBVME's expenses in coming years were conducted.

SBVME SELECTED STATISTICS

CATEGORY	2010	2011	2012
Licenses issued to new veterinarians	157	169	161
Registrations issued to veterinarians	2,305	2,164	3,652
Registrations issued to registered veterinary technicians*	130	123	193
Licenses issued to veterinary hospitals	493	528	651
Percentage of veterinary hospitals inspected and in compliance	99	99	97
Number of new complaints received**	86	87	70
Number of complaints closed	96	82	104

*Veterinary technicians are required to re-register every three years. This number reflects a combination of initial, first-time registrants, and individuals registered in prior years who re-registered.

**For 2010, this number includes six complaints filed against non-veterinarians. For 2011, this number includes two complaints filed against non-veterinarians and two complaints filed against veterinarians not licensed in Maryland.

GOALS AND OBJECTIVES

PERFORMANCE MEASURES	FY 2012
Registrations issued for veterinarians	3,652
Licenses issued for veterinary hospitals	651
Number of hospitals inspected	441
Number of initial inspections (new hospitals/owners)	21
Total number of inspections conducted	460
Number of hospitals receiving follow-up inspections	12
Quality: Percent of hospitals passing inspection	97

Weights and Measures

The regulation of weights and measures is one of the oldest functions of government. MDA's Weights and Measures Program ensures that consumers get what they pay for whether it is a gallon of gasoline or a pound of hamburger. Purchases that require measurement affect virtually every consumer in the state and involve millions of individual transactions annually. Having uniform standards of measurement creates fairness and confidence in the marketplace and benefits both buyers and sellers.

MDA is an active, voting member of the National Conference on Weights and Measures (NCWM), an organization comprised of state and federal government officials, and private industry representatives throughout the United States. The NCWM provides a forum for the discussion and development of uniform policy and protocols that guide the regulation of weights and measures.

There are 60,911 weighing and measuring devices in commercial use in Maryland at 9,161 separate businesses locations. MDA has 18 inspectors who are specially trained and certified to test and inspect these devices according to established protocols to make sure they are within the required tolerances. Devices failing inspection may be taken out of service until corrected by the owner. Inspectors also visit stores to verify that packaged products contain the quantities specified and that consumers are being charged the correct prices at checkout. In FY 2012, the field staff conducted 40,886 device inspections. Inspectors also tested 8,261 individual lots of pre-packaged commodities. Price verification inspections were conducted at 169 non-food stores. Inspectors found significant deviations from the advertised prices in a number of these stores. Eighteen firms received civil penalties for misrepresenting unit prices. In FY 2012, Weights and Measures Program imposed \$90,750 in civil penalties for violations.

In FY 2012, the field staff investigated 584 consumer complaints, the majority related to gasoline sales. Consumer complaints are given priority over routine inspections and require a significant amount of staff hours to investigate.

The registration of about 7,000 businesses has created a database that has become an effective management tool. It allows the administrative staff to target the most critical areas and provides each field inspector with a tool to plan their inspection work more efficiently, thereby reducing driving time and

providing more uniform inspection coverage. This information has helped management prioritize the use of limited program resources to better protect Maryland consumers and maintain a level playing field for industries that operate in the state.

Maryland's Metrology Laboratory maintains primary standards of mass, length, volume and temperature that are legally traceable to the National Institute of Standards and Technology (NIST) and provides a measurement capability at the state level that is consistent with national measurement goals. The laboratory is recognized by the National Voluntary Laboratory Accreditation Program (NVLAP) for compliance with criteria set forth in The International Standard ISO/IEC 17025:1999 and relevant requirements of ISO 9002:1994. The NVLAP is an independent agency under NIST which accredits testing and calibration laboratories that are found competent to perform specific tests or calibrations, or types of tests or calibrations.

The Weights and Measures Program also participates in the National Type Evaluation Program (NTEP) which tests and inspects the accuracy of new measuring devices and measuring systems before they are approved for use in commerce. NTEP laboratories are authorized by the National Conference on Weights and Measures. Meeting the required NTEP performance standards and procedures denotes a high degree of technical and professional competence. Authorization is specific to a type of weighing or measuring device. The Maryland NTEP laboratory is authorized in 14 areas of evaluation. All related costs are paid by the participating manufacturers requesting NTEP services.

Future program goals are to replace aging laboratory balances, field testing equipment and vehicles necessary to carry out the program's responsibilities. Anticipated future replacements are a precision laboratory balance, a large capacity scale test unit, trailers used to transport volumetric testing vessels and vans to carry and tow testing equipment. Weights and Measures is as much needed today as in the past and is maintaining a vital service.

WEIGHTS AND MEASURES ACTIVITIES TABLES: FIELD INSPECTION AND TEST EFFORT

	2010		2011		2012	
	% Violations	Total Tests	% Violations	Total Tests	% Violations	Total Tests
A. WEIGHING SYSTEMS						
Large Scales	22.9	829	23.6	881	21.5	1,067
Medium Scales	17.0	925	17.6	574	16.0	743
Small Scales	16.4	8,530	13.7	8,291	16.1	8,385
B. LIQUID MEASURING SYSTEMS						
Retail Gasoline Meters	18.9	30,018	18.2	25,837	19.6	28,970
L P Gas Meters	14.8	284	33.9	527	27.8	481
Vehicle Tank Meters and Other Large Meters	16.2	1,169	13.0	1,278	12.0	1,104
C. GRAIN MOISTURE METERS						
	19.1	131	13.3	120	24.6	134
D. PROGRAMMED TARE INSPECTIONS						
	9.9	1,852	8.1	2,282	11.9	2,072
E. PRICE SCANNING AND METHOD OF SALE						
	3.7	10,645	5.0	19,942	3.4	16,002
F. DELIVERY TICKET INSPECTIONS						
	0.8	2,658	1.9	1,326	0.7	1,294
G. PACKAGE LOTS						
	20.4	11,716	20.9	9,256	19.4	8,261

Inspection and testing of packages involve not only correct weight or measure determinations, but compliance with method of sale and labeling requirements.

WEIGHTS AND MEASURES ACTIVITIES TABLES : LABORATORY EFFORT

INSPECTION AND TEST	2010 TESTED	% REJECTED	2011 TESTED	% REJECTED	2012 TESTED	% REJECTED
Weights	4,362	13.1	2,828	10.2	1,726	13.3
Volumetric Measures, (Non-Glass)	120	77.5	81	75.3	34	41.2
Length Devices	0	0.0	0	0.0	0	0.0
Temperature Devices	92	0.0	117	0.0	31	0.0
Timing Devices	5	0.5	7	0.0	2	0.0
Volumetric (Glass)	0	0.0	0	0.0	0	0.0
Scales/Meters	0	0.0	0	0.0	0	0.0
Standard Grain Samples	289	N/A	372	N/A	405	N/A

The laboratory provides technical support for field inspection and provides a base of measurement utilized by Weights and Measures officials. Additionally, it provides measurement traceability for other state agencies and a broad range of Maryland industries.

WEIGHTS AND MEASURES ACTIVITIES TABLES: ADMINISTRATIVE CONTROLS AND MISCELLANEOUS

	2010 NUMBER	2011 NUMBER	2012 NUMBER
Weighing and Measuring Devices Registration Certificates, Issued	7,091	7,128	7,091
Type Evaluation of Devices Conducted (NTEP)	36	29	58
Citizen Complaints Received and Investigated	472	562	584
Disciplinary Hearings, Criminal Arrests, Summonses Obtained and/or Civil Penalties	80	64	93

Aside from day-to-day administration, coordination and support of the laboratory and field activities, Weights and Measures is involved in the registration of commercial weighing and measuring devices, and the examination and licensing of individuals for specific functions.

Food Quality Assurance

Grading Services

The Grading Services Section offers producers and processors a voluntary certification program for agricultural commodities including meat, poultry, eggs, fruit, vegetables and grain. MDA graders sample commodities and compare them with standards developed by the U.S. Department of Agriculture (USDA) and/or MDA for microbial, chemical and/or physical contamination, quality, size, labeling and packaging. Commodities that meet the state and federal standards are certified by MDA graders. Official certification provides a uniform basis for agricultural commodities that enhances their marketability. Foreign countries, wholesale food suppliers, large grocery store chains, and state institutions, among others, often require official certification to ensure they are purchasing agricultural commodities that meet their specifications. A cost-effective and service-oriented grading program is crucial to Maryland producers competing in these markets.

The primary commodities graded by the section this year were:

- 229.3 million pounds of poultry,
- 27.9 million dozens of shell eggs,
- 18.7 million pounds of meat,
- 0.14 million metric tons of grain, and
- 0.82 million pounds of fruits and vegetables.

Compliance Audits

Many buyers require compliance audits of production practices as well as product certification. The Grading Services section conducts compliance audits to ensure agricultural production facilities comply with standards related to animal welfare, good agricultural practices, food security, food safety and quality assurance. As buyers and consumers continue to demand verification of compliance with these standards, MDA anticipates increased demand for compliance audits and is training additional staff members to meet that demand.

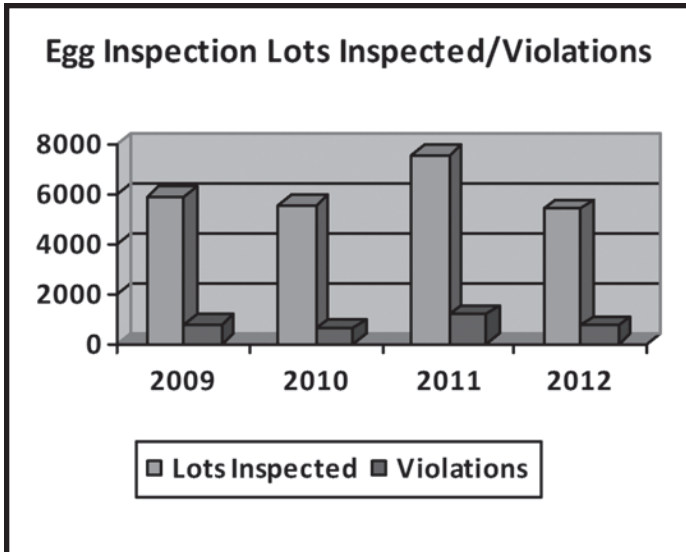
The Food Quality Assurance Program has adapted to continual changes in the agricultural commodity industry by

offering the services necessary for the industry to market its products. The number of Good Agricultural Practices (GAP) audits conducted has continued to increase not only because more wholesale and retail chain buyers require the audits but also because the U.S. Food and Drug Administration has announced it will implement regulations for the safe production of fruits and vegetables. MDA has received \$500,000 in grants from USDA during the past six years to develop and implement a GAP program geared toward smaller producers selling fruits and vegetables directly to school systems and consumers. The GAP program helps producers who sell wholesale to implement a food safety program. During FY 2012, training sessions were held for producers. The program also began conducting audits to verify producers participating in the MDA GAP program are complying with established food safety standards. These programs will help producers meet increasingly stringent buyer and federal requirements for producing fresh fruits and vegetables.

Egg Inspection

The Egg Inspection program enforces the Maryland Egg Law. Inspections are performed at the wholesale, food service and retail levels to ensure eggs sold in Maryland meet the standards for quality, size, refrigeration, microbial and physical contamination, labeling and record keeping. The section also registers egg wholesalers and packers. Portions of the labeling, record keeping and registration requirements provide traceability in case of a Salmonella enteritidis outbreak. Other sections of the law were established to reduce the risk to consumers of food-borne illness. Eggs found to be out of compliance with the established standards are removed from sale, and violation notices are issued to the responsible parties. Inspection activities are funded through the collection of \$.0026 per dozen of eggs sold in Maryland.

The percentage of sampled eggs found to be in compliance with the Maryland Egg Law increased to 86.48 percent this year from 83.95 percent last year. The number of lots being inspected decreased because of vacancies in the program and other activities conducted by program employees. The egg inspection chart shows comparison data for the eggs inspected and violations.



MDA continues to conduct Country of Origin labeling reviews for USDA in conjunction with egg inspections. Federal reimbursement for Country of Origin reviews has helped reduce the costs of conducting egg inspections; however, the assignments from USDA for FY 2012 were reduced as a result of federal budget issues.

Organic Certification

The USDA-accredited Maryland Organic Certification Program certified 76 farms and 20 handlers of organic products during FY 2012. The program also registered an additional 17 farms as organic that are exempt from the inspection requirements.

Maryland organic producers and handlers continue to benefit from the federal Cost-Share Reimbursement Program funded by USDA. This cost-share program allowed MDA to reimburse 75 percent of the inspection costs growers paid for certification. This program is expected to continue through FY 2012.

Grain Laws

All persons in the business of buying, receiving, exchanging or storing grain from a grain producer are regulated by MDA. Licenses are issued to businesses that meet requirements set by law for insurance and financial status. There are four categories of licenses issued based on the number of bushels purchased in a calendar year. Fees range from \$50 to \$300. A Directory of Licensed Grain Dealers is published and distributed annually. MDA licensed 48 businesses with 74 locations in FY 2012.

Poultry and Rabbit Slaughter

The poultry and rabbit slaughter program helps small poultry and rabbit producers to slaughter their animals on farm and sell them to restaurants, at farmer’s markets and other locations in Maryland. The program consists of food safety training, basic food safety requirements during slaughter, and inspections to verify that good food safety practices are followed. Producers who follow the requirements are certified by MDA. The program began in May 2010 and already more than 280 producers have been trained, and 37 producers have been certified.



Food Quality Assurance Program Manager Deanna Baldwin conducts a training program in Good Agricultural Practices.

Maryland Agricultural Fair Board

The Maryland Agricultural Fair Board was established by the state legislature in 1937. Originally known as the Maryland State Fair Board, the office was based at the Maryland State Fairgrounds in Timonium. When MDA was established, the office moved to Annapolis and renamed the Maryland Agricultural Fair Board.

The Board is comprised of nine members appointed by the Governor to a five-year term. A member may serve a maximum of two terms. They may come back on the board after a break in service. The current board divided the state into regions that each board member manages. When a Board vacancy occurs, all activities funded within that region may nominate a replacement. The Board meets three times a year and communicates throughout the year by phone and e-mail. Most meetings are held at MDA. The Board is managed by a part-time executive secretary.

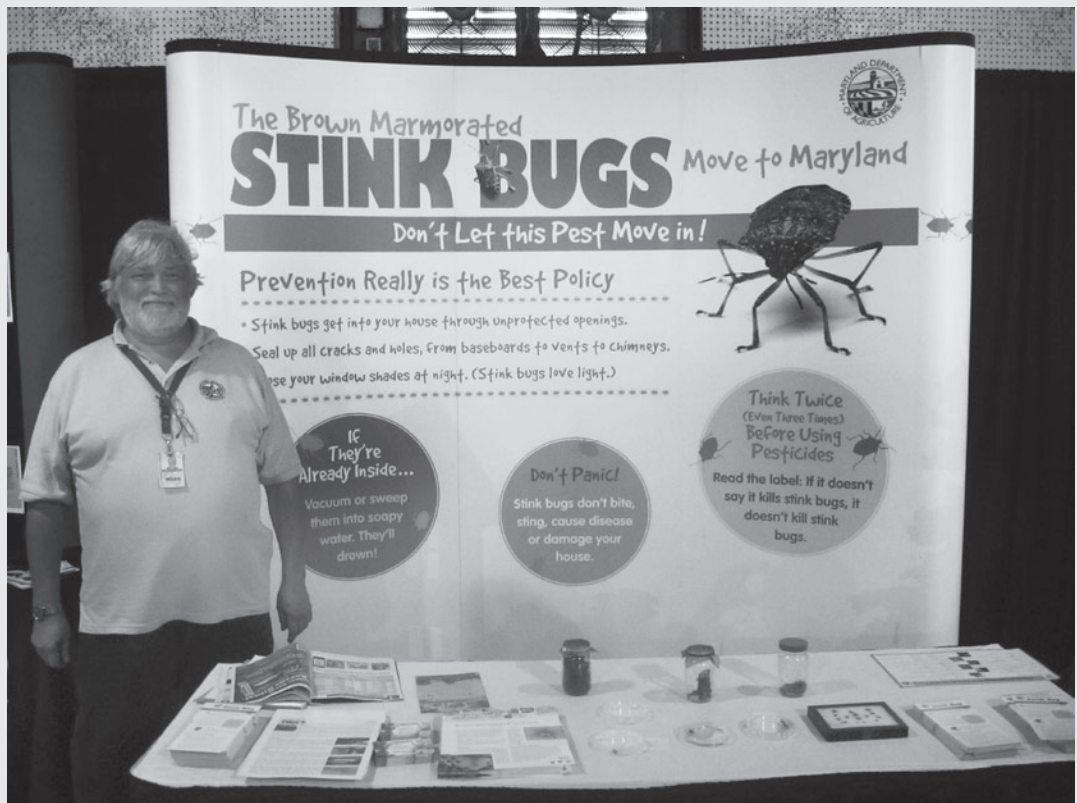
Funding comes through the Maryland Racing Commission

through a special grant and is made up of unclaimed pari-mutuel tickets and various fees. The current annual budget is \$1.6 million. The grant process starts in December and is finalized by May 15. Grants to fairs and shows may be used for ribbons, awards, and premiums. Currently the Board funds about 165 events. These range from the Maryland State Fair, to county fairs, to local community shows, to youth activities in 4-H and FFA.

The Board funds and publishes an annual guide to fairs and shows in Maryland. These brochures are placed in all Welcome Centers on state highways, all Extension offices, all fairs and shows, all chambers of commerce and all Maryland libraries.

Racing revenue continues to be in a state of change and this affects the grants given out by the Board. The Board holds regional budget meetings throughout the state to meet with each group to review their request, financial reports, and fair activities.

Ed Crow from Pesticide Regulation meets with citizens during the 11-day State Fair to educate them about how to control stink bugs and about safe pesticide use.



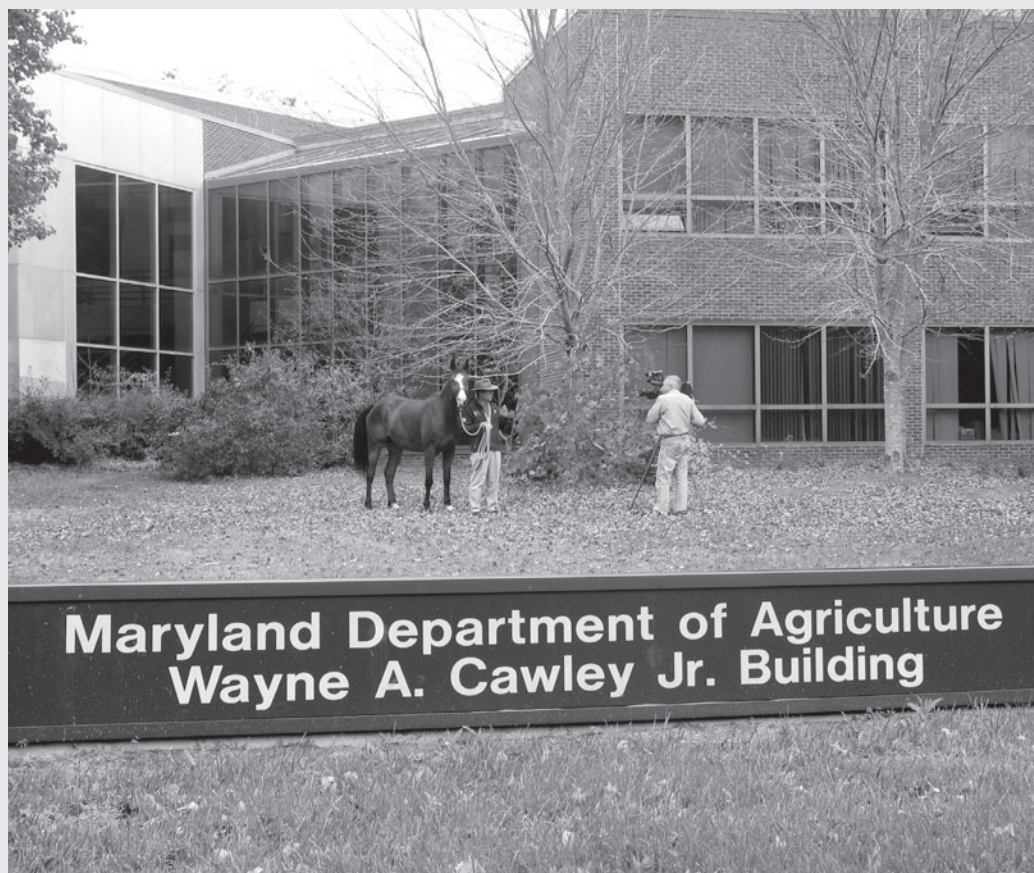
Maryland Horse Industry Board

The Maryland Horse Industry Board (MHIB) consists of the Secretary of Agriculture and 11 members from a cross-section of the horse industry appointed to four-year terms by the Governor. Maryland law defines six statutory duties of MHIB. These duties are to: (1) promote the use and development of horses in Maryland; (2) support research related to equine health and related issues; (3) create public awareness of the value of equine activities as they relate to green space preservation; (4) develop and disseminate information concerning the equine industry; (5) advise MDA regarding matters affecting the state's horse industry; and (6) license and inspect commercial stables that solicit business from the public, either by giving lessons, boarding horses, renting them for activities such as trail rides, or offering them a rescue or sanctuary.

As the commodity board for the Maryland horse industry, MHIB develops projects and initiatives to help grow the recreational horse industry and to help re-establish the prominence of the Maryland horse racing and breeding industries. To that end, MHIB began in FY 2012 embarking on a Five-Year Strategic Marketing Plan to put "more seats in saddles, and more seats in seats (at equine spectator events)"; to continue work on developing the concept of a Maryland Horse Park or branded Maryland Horse Experience; and to help unite the industry to maintain jobs, open space, and the rich 350-year heritage of the state's association with horses.

Key accomplishments of MHIB in FY 2012:

- **MHIB initiated legislation that more clearly defines and clarifies requirements for commercial stables that are licensed by MHIB.** This "housekeeping" bill – which was passed by both the Senate and the House and signed by Governor O'Malley – tightens up language to stipulate that stables which solicit business from the public and have "one or more horses" in their stables must be licensed and inspected by MDA.
- **MHIB licensed 578 stables in 2012.** The number of licensed stables decreased by 23 in 2012, which is partly a reflection of the 9 percent drop in the Maryland horse population; however, MHIB is adopting new marketing and licensing programs to increase the number of licensed stables next year.
- **MHIB continued the process of developing a Maryland Horse Park or branded Maryland Horse Experience by completing Phase I of a Maryland Horse Park Viability Study.** MHIB commissioned the Maryland Stadium Authority and its analyst, "Crossroads Consulting," to conduct Phase I of a Viability Study to determine if the development of a Maryland Horse Park concept is still relevant, based on updated numbers and trends from the 2006 Maryland Horse Park Feasibility Study. The study was completed in June 2012.
- **MHIB started implementing Year 1 of the MHIB Five-Year Strategic Marketing Plan.** Key components of Year One included:
 - a. Development of the "Touch of Class Awards,"** a monthly recognition program that raises the visibility of Maryland's horse industry by honoring outstanding Maryland people and horses who achieve acclaim on the national and international level. Through June 2012, the program had honored 10 people and 11 horses from nine counties in 10 different disciplines, from Thoroughbred racing to a Silver Medalist in endurance riding at the 2011 Pan Am Games. Awards were presented in front of crowds as large as 21,000 people at the Maryland Million and reported on in various media outlets, including television, radio, print, social media and other online sites, and generating about 100 news items that reached more than 1 million readers and listeners.
 - b. Participation in the Schaefer Center for Public Policy Survey of 1,000 Maryland households** to gauge the potential and current market of the horse industry in Maryland. The survey showed that 44.5 percent, or nearly one in two Maryland households, is interested in riding horses or attending equine events as spectators. Currently, 14.8 percent, or about one in seven Maryland households, have family members who either ride or attend equine events as spectators. The study showed there is a huge potential market (about 30 percent of households who indicated an interest in horses do not currently participate) and is the basis for an aggressive marketing campaign.
 - c. Starting in February 2012, MHIB's 32-member marketing committee began conducting brainstorming workshops to develop a central tag line or message for its marketing campaign.** After testing various messages at a series of events, the Board chose the tagline



The Maryland Department of Agriculture through the Maryland Horse Industry Board hosted a “welcome home” ceremony and presented a “Touch of Class” Award to John Crandell and his horse Heraldic, who won two silver medals in endurance riding at the Pan Am Games held in Chile this year. The ceremony was covered by several media organizations. The Crandall family raises world class endurance horses just a few miles from the MDA headquarters.

“Find A Horse. Find A Friend.” The target audience for the campaign is newcomers and re-entry folks –people who are new to horses, but who do not know where to go to become acquainted with horses, or people who might have ridden once or twice but lost interest.

d. Improvement of MHIB website. This effort will continue to be a work in progress through 2013.

e. Participation at 33 events promoting Maryland’s horse industry. Since June 2011, MHIB has participated in a series of events such as hosting a booth at the Maryland State Fair; joining with the American Horse Council and Maryland Jockey Club to present a private screening of the movie “War Horse” for 1,000 supporters in Washington, D.C.; staging booths at the Horse World Expo, the Delaware Horse Expo, the opening day of Pimlico Race Course, the Timonium Elementary School Health Fair and the Decanter Wine Festival. MHIB also attended the Mid Atlantic Therapy Conference, the American Horse Council annual meeting, and the

Maryland Jousting Association annual meeting and dinner; hosted the “Night of Champions” event at the Sports Legends Museum in Baltimore; helped sponsor the inaugural “Horses In Cinema” film series at the American Film Institute; helped the United Arab Emirates stage an event for the UAE’s Global Horse Racing Series in Washington D.C. and took part in an exchange trip to China with the BrotherFortune Corporation, both at their ranch in Inner Mongolia and then by hosting their delegation at the Preakness.

f. MHIB published 10,000 copies of a six-page, full color brochure called “Maryland Hor\$e Power” and decided to publish the first “Official Guide to Maryland’s Licensed Stables”. The double-sided tri-fold brochure disseminated information from the 2010 Maryland Horse Census as well as other economic impact information and was used extensively by various horse groups and individuals in meetings with elected officials and industry stakeholders. In the first year, about 6,000 copies

had been distributed at locales ranging from Maryland to China. For the Stable Guide, more than 700 surveys were sent out to currently licensed or previously licensed stables in April and data collection from the surveys started to be entered in a database in mid-June. Nearly 400 stables are expected to take part in the first guide.

- **MHIB awarded \$21,444 in grants to 15 Maryland horse organizations and individuals.** MHIB raised the amount that it awards recipients in its grants program by \$4,000 from the previous year, distributing the second highest amount of grant money in MHIB’s 14-year history.
- **MHIB created six new subcommittees and continued the Health Advisory Committee.** MHIB now has six

subcommittees comprised of: Health Advisory, Marketing, Budget Review, Events, Grants, and “Touch of Class” Awards. The Health Advisory Committee meets bi-annually. In November 2011, it held its fall meeting at the National Institutes of Health in conjunction with the exhibit “From Farriery to Veterinary Medicine” at the National Library of Medicine. The Marketing and “Touch of Class” Awards committees meet monthly or by email or conference call. The Budget Review and Events committees meet on an “as-needed” basis. The Grants Committee meets once a year to review grant requests.

Listed below are program statistics from the past three fiscal years:

MHIB SELECTED STATISTICS

	2010	2011	2012
Category			
Number of stable licenses issued	620	601	578
Number of inspections performed annually	445	481	468
Percentage of facilities inspected and in compliance	100%	100%	100%
Revenue collected from licensing horse stables in Maryland	\$77,500	\$74,375	\$72,250
Revenue collected from assessment based on tons of horse feed sold in Maryland	\$129,671	\$205,807	\$194,462
Outcomes			
Total amount of money distributed as grants for promotional, educational or research projects for Maryland horse industry	\$13,948	\$17,693	\$21,444
Percentage of total revenue distributed as grants for Maryland horse industry	10.8%	8.6%	11.0%
Staffed booths or presented talks at trade shows, conferences, fairs and exhibitions promoting Maryland equine	NA	10	33

Plant Protection and Weed Management

Note: Because of the seasonal nature of this program and its federal reporting requirements, data are reported on a calendar year basis. The information below pertains primarily to CY 2011, which includes the last half of FY 2012.

Apiary Inspection

MDA's Apiary Inspection Program controls honey bee diseases, parasitic mites, and other pests to maintain healthy colonies for the pollination of Maryland crops. Honey bees pollinate crops valued at more than \$40 million. Maryland fruit and vegetable growers rent 5,000 colonies a year to improve pollination. Beekeepers' colonies are essential to Maryland because two parasitic mites have nearly eliminated feral bee colonies.

American foulbrood is the most serious brood disease of honey bees and can destroy a colony in one year. The 13 colonies that inspectors found to have American foulbrood were destroyed to control the spread of this bacterial disease to healthy colonies. The incidence of disease remains relatively low - less than 1 percent of colonies inspected.

Varroa populations were very low in Maryland in 2011/2012, but brood problems were attributed to varroa mite in the season. The varroa mite has been found to be resistant to Apistan®, the primary product used to control this parasite. Four additional products are now available to control varroa.

Tracheal mite populations, as documented by the USDA honeybee laboratory, are so low that tracheal mite is no longer considered a threat to honeybees if colonies are monitored on a regular basis.

Africanized honey bees arrive occasionally on cargo ships coming from South or Central America. Swarm traps for collecting and monitoring bees were placed at 35 sites at marine terminals and other shipping locations. No swarms were collected in 2011/2012. MDA is working with two groups – the Mid-Atlantic Apiculture Research and Extension Consortium (MAAREC) to provide information to the general public about emergency incidents, and the Apiary Inspectors of America (AIA) for information on the control of movement, other than through natural spread.

The small hive beetle was detected in packaged bees and reported or detected in 21 counties this past year. Colonies are treated and monitored to ensure successful control of the beetles. There have been reports of larval damage to established colonies. The small hive beetle is a pest mainly in stored equipment and in honey houses, although it can render stored honey in the hive unmarketable.

Permits were issued for 3,376 honey bee colonies to move into Maryland, primarily for overwintering, and 1,532 colonies to move out of Maryland for pollination services. For the sixth year, Maryland beekeepers will send colonies to California for almond pollination. In the winter of 2011/2012, 2,000 colonies were transported to California for this purpose.

Maryland participated in a **National Honey Bee Survey** funded through the Farm Bill in 2011 and continued in 2012. Twenty five apiaries in eight counties were surveyed to document which bee diseases/parasites/pests of honey bees are and are not present in the US. This survey is a collaboration with USDA Agricultural Research Service, and designed to determine the presence/absence of exotic pests such as the Asian honey bee (*Apis cerana*) and parasitic mites in the genus *Tropilaelaps*, in the United States. The samples collected by MDA apiary inspectors were sent to ARS for virus analysis and Pennsylvania State University for analysis of nosema, tracheal mites, small hive beetle, *Tropilaelaps*, and other pests. Sample results are sent to the cooperating apiarist. An additional 24 apiaries will be surveyed in 2012.

Nursery Inspection and Plant Quarantine

The nursery and greenhouse industry continues to be a leading part of Maryland's agricultural economy, currently ranking second among commodities, with a total of about \$960 million in farm income. Other horticultural products and services sold boosted total gross receipts to more than \$1.96 billion. A primary goal of state plant protection and quarantine efforts is to facilitate the production, sale, and distribution of Maryland nursery stock. This is accomplished in large part by inspection and certification activities conducted on-site by MDA staff.

Maryland law and reciprocal agreements with other states require that plant material at each producing nursery be inspected annually prior to its subsequent sale to other states,

to ensure that materials are free of dangerously injurious plant pests. State phytosanitary certificates that assure specific compliance with established domestic quarantines were issued to 13 states. In 2011/2012, federal phytosanitary certificates required to export Maryland nursery stock or germplasm were issued to 49 foreign countries including Russia, Bolivia, and New Zealand. MDA staff continued to pursue further cooperative agreement opportunities and followed revised protocols that have streamlined and improved the preparation of Maryland nursery stock for sale and distribution to both foreign and domestic markets.

MDA staff inspected plant material at 446 Maryland locations to intercept dangerously injurious or exotic pests. The general health of Maryland-produced nursery stock was found to be excellent.

The **Japanese cedar longhorned beetle** (JCLB), *Callidiellum rufipenne* (Motschulsky) (Cerambycidae), was found and its identification confirmed in Maryland for the first time in November 2011. It was found on Japanese cedar, *Cryptomeria japonica* planted in the Severn area of Anne Arundel County. The identification was made by a MDA Entomologist and confirmed by a USDA Systematic Entomology Laboratory Research Entomologist. MDA Plant Protection and Weed Management Section (PP&WM) staff performed a survey in Anne Arundel County to determine whether the beetle is established in the area where the infested stock was planted. No additional infestation was found in Anne Arundel County, however an infestation was subsequently found in Harford County where it was infesting both Japanese cedar and Leyland cypress, *Cupressocyparis leylandii*. MDA PP&WM staff conducted a delimiting survey during February and March to determine the extent and severity of infestation(s).

A single additional Harford County infestation was found in a planting of *Chamaecyparis lawsoniana* (Lawson's false cypress) near the first discovered infestation. The Harford County infestations were within a few miles of the southeastern Pennsylvania border where JCLB is known to be established. University of Maryland Extension and MDA Forest Pest Management staff based in Harford County are on alert for evidence of this pest. This pest was detected due to dieback of leaders and branches of the infested plant material. Fully developed adult beetles were found in tunnels in the infested plants.

A USDA Pest Alert is available at: www.aphis.usda.gov/lpa/pubs/jclbpale.pdf.

Pest Survey

The Cooperative Agricultural Pest Survey (CAPS) is a joint project between the MDA and USDA's Animal and Plant Health Inspection Service (APHIS), and USDA Plant Protection and Quarantine (PPQ). USDA recommends specific pests of quarantine export significance as survey priorities and provides funding for these surveys. MDA adapts the appropriate survey methods and conducts the actual surveys. This cooperative program has provided necessary data used to certify Maryland products for export to many countries.

CAPS surveys document the presence or absence of exotic pests in Maryland, support PPQ exotic pest survey activities, and provide state-specific data for exotic pests in the United States. If any of these species were to become established, they would pose a significant threat to agricultural production and have a negative impact on Maryland's ability to export agricultural commodities. Early detection of exotic pests before they become established aids in eradication or control efforts and protects Maryland agriculture and the environment from potentially devastating losses. Federally funded surveys included exotic wood borers, exotic grape pests, imported fire ant, giant hogweed, noxious weed/Khapra beetle, emerald ash borer, and *Sirex noctilio*. Outreach and education is an important component of MDA activities.

MDA deployed and monitored 4,711 insect traps in 2011. Through various types of surveys, MDA collected 19,244 samples. Trapping techniques involved a wide range of devices, including purple prism, bucket traps, delta traps, Jackson traps and Lindgren funnel traps. Pheromones, food baiting and host volatile attractants are all employed for specific pests. The surveys target pests that are not known to occur in Maryland. Eight extensive surveys targeting 19 exotic pests that impact trees, stored products, field, fruit and vegetable crops, nursery stock, and natural areas were conducted. MDA conducted exotic wood borer surveys in six counties and Baltimore City at 15 sites; and surveyed for exotic field and vegetable pests at nine vineyards in five counties. No target pests were detected. A few pests, such as the emerald ash borer and imported fire ant, required departmental action.

Red Imported Fire Ant - The red imported fire ant, *Solenopsis invicta*, a stinging insect native to South America, is occasionally shipped out of the southern United States, in spite of a federal domestic quarantine that restricts its movement. A wide variety of commodities must be treated and/or certified free of fire ants before they can be transported to Maryland. This insect's ability to quickly colonize in a variety of habitats

and its aggressive foraging behavior would pose serious health and economic barriers to plant and livestock producers if established in Maryland. Coordinated inspection of trucks transporting tropical foliage plants from quarantined areas in the southern United States into Maryland has proven an effective strategy to retard movement of fire ants by targeting tropical plant brokers and their delivery sites. State agriculture officials in infested areas of the United States have been notified of violations by MDA and have been given guidance to infested shipping nurseries. Cooperation with officials in those states, and the brokers and recipients in Maryland, as well as survey and eradication efforts have had a positive impact on the incursion of fire ant. Thirty-nine isolated infestations have been eradicated in Maryland since 1989. One hundred and one surveys in eight counties and Baltimore City at 95 sites in 2011 yielded six positive sites. Not unexpected were three detections in Ocean City, two in Baltimore and one in Talbot County (registered nursery), all associated with tropical plants. Eradication treatments under an MDA Treatment Order and with departmental oversight have been completed at all positive sites detected in 2011.

Emerald Ash Borer (EAB) - Eradication efforts undertaken since the 2006 rediscovery of the EAB (*Agilus planipennis*) in Prince George's and Charles counties have been redirected since removing ash host material near positive trees was not eliminating the pest. A new action plan using all available strategies, including quarantine enforcement and chemical and biological control, are being undertaken to limit the spread of EAB. Trap trees in the immediate vicinity of known populations are being treated with systemic insecticides in conjunction with the release and monitoring of three parasitic wasps that specifically target and destroy EAB eggs or larvae. With material and assistance from USDA, MDA released 52,278 parasitoids at 12 sites with known infestations in 2011. Larvae and adult EAB were collected and provided for propagation of additional parasitoids. Surveillance efforts increased with 2,610 purple prism traps monitored in 23 counties and Baltimore City. There were 883 submitted samples from the prism traps, identifying 1,920 emerald ash borers. Four new counties (Allegany, Anne Arundel, Howard and Washington) were detected during the trapping survey. A factor which influenced the increased number of trap detections was the addition of Z-3 hexanol to the lure combination used on traps. Other detection methods included girdled trap trees, destructive sampling (where entire trees were debarked) and visual surveys. Due to the increased number of positive counties, the MDA and Federal quarantine orders were revised to include all counties west of the Chesapeake Bay and Susquehanna River (i.e., all 18 western shore counties). The EAB population in



Maryland is continuing to spread, as documented by the 2012 detections in Montgomery, Garrett and St. Mary's counties.

Khapra Beetle – The Khapra Beetle (*Trogoderma granarium*) is an exotic insect pest that feeds on seeds and grain products, and is known as one of the world's most destructive insect pests. Due to its risk of possible establishment in the United States, it is of great concern at all ports of entries, including airports and marine ports. The larval form of this insect causes the largest amount of destruction, feeding mainly on seeds, grain and cereal products. Because of its ability to survive for long periods of time without food and moisture, it is difficult to control. MDA's staff surveys a large warehouse that receives seed from countries known to have an established population of the Khapra beetle. There are 10 traps placed in the warehouse from early spring through fall. The survey has been ongoing since 2002 and there have not been any Khapra beetle detections.



MDA entomologist Kim Rice and Joe Vukovich, a USDA Plant Health Safeguarding Specialist, check one of the purple EAB survey traps.

Diagnostic Laboratories

The Plant Protection and Weed Management diagnostic laboratories provide testing and analyses that support MDA programs and provide answers to inquiries from outside the department. During 2011, samples submitted to the laboratory were received from within MDA, University of Maryland Extension, nursery and landscape businesses, and the general public.

Entomology Laboratory: In 2011, leaf damage, larvae, pupae, and adults of the daylily leafminer (*Ophiomyia kwansonis Sasakawa*), were collected from daylily (*Hemerocallis* sp. and cultivar) plants in Anne Arundel County. The discovery and identification of this pest, previously known only from Japan and Taiwan, has resulted in a number of publications, both in print and online. Also in 2011, several small adult cockroaches (*Ectobius pallidus*), were collected in a Montgomery County survey trap. This new state record insect is also established in Massachusetts.

Other observations of interest include Indian wax scale (*Ceroplastes ceriferus*), which was submitted for identification from several hosts, including the usual woody plants, as well as a number of herbaceous hosts. Also in 2011, expanding populations of brown marmorated stink bug (*Halyomorpha halys*) in the area appeared to crash after the summer's hurricane-residue rains.

The picture of a female dobsonfly (*Corydalus cornutus*) was submitted electronically for identification. This 3½-inch insect is rather striking in appearance. The year's strangest specimen was a cantaloupe seed sent in as a possible bed bug. The number of bed bug (*Cimex lectularius*) samples continues to rise.

Plant Pathology Laboratory: The Plant Pathology Laboratory evaluates plant samples for plant pathogens and diseases. General activities include: evaluating plant samples in support of the Nursery Inspection Program to ensure that all plant material in Maryland intended for distribution or sale is disease free; diagnosing plant diseases submitted by other sections of MDA, other Maryland agencies, home gardeners, homeowners, consultants, and industry representatives; providing technical and diagnostic support for virus-free certification programs; supporting the Cooperative Agricultural Pest Survey program through laboratory assays for specific diseases; and supporting USDA APHIS and MDA regulatory functions through diagnostic assays for pathogens of regulatory importance.

Between March and December, the lab processed 153 diseased samples submitted from six different sources: nursery inspectors (34 percent), Pesticide Regulation section (14 percent), and others (52 percent).

The Plant Pathology Laboratory conducted a disease survey for grape *Phytoplasma* yellows and brown rot fungus (*Phellinus noxius*). Nine vineyards in Baltimore, Calvert, Queen Anne's, Frederick, and Washington counties were surveyed for *Phytoplasma* yellows and brown rot diseases. No plants were found to be infected with the two diseases.

The lab also sent out 15 trace-forward letters to Maryland homeowners who received plants from Oregon nurseries suspected of having *Phytophthora ramorum*. Of the 15, two samples were tested and found to be negative for the pathogen.

The University of Maryland Plant Pathology laboratory has processed all samples submitted from MDA since the April 2012 departure of the department's Plant Disease Specialist.

Boxwood Blight: In late 2011, the MDA Plant Protection and Weed Management Section (PP&WM) received notice from USDA, APHIS, PPQ that a serious disease of boxwood, boxwood blight, previously not known to occur in North America, had been detected on plants from a nursery in North Carolina. The disease is caused by a fungal pathogen *Cylindrocladium pseudonaviculum*. This pathogen is known to occur in Europe and New Zealand where it causes plant mortality and serious disease suppression problems in both the nursery and landscape. Soon after, the pathogen was confirmed from a residential planting in Connecticut and at a nursery in Virginia.

Inspections were then performed by MDA PP&WM and USDA, APHIS, PPQ following a procedure known as "trace forward," whereby regulatory personnel visited locations in Maryland that received nursery stock from any out of state supplier where the disease had been found. All told, nine trace forward inspections were performed in late 2011 and early 2012, and suspect samples of diseased boxwood were taken at four locations. At only one location were boxwoods found to be positive for the disease.

This was at a landscape company in Glenn Dale. The presence of the disease was confirmed by the National Mycologist at USDA, Beltsville. Subsequently, MDA staff

visited the landscape company and directed a destruction of all of the infected boxwood. Follow up inspections have determined that the disease was eradicated from that location. MDA nursery inspection staff continued to look for signs of the disease throughout the season, and any suspect boxwood samples were sent to the plant pathologist at the University of Maryland. No additional boxwoods have been found to be infected with this disease to date. Additionally, MDA nursery inspection staff performed inspections of and issued certifications for freedom of symptoms of the disease to facilitate sales and shipment of healthy boxwoods from Maryland nurseries.

Greenhouse Laboratory: Plants were produced for integrated pest management and biological control programs that require food for insect colonies and plant material for research. These included purple loosestrife (*Lythrum salicaria*) to produce colonies of the beetle *Galerucella pusilla*, and mile-a-minute weed (*Persicaria perfoliata*), used to raise colonies of the stem boring weevil, *Rhinoncomimus latipes*.

In support of the EAB biological control program, 882 tropical ash (*Fraxinus uhdei*) were grown from seed in September and will be maintained in the greenhouse.

A collection of herbaceous perennials used for teaching and testing purposes by the Certified Professional Horticulturist Program, in conjunction with the Maryland Nursery and Landscape Association, was maintained.

Plant Certification

The **Maryland Ginseng Management Program** protects American ginseng (*Panax quinquefolius*) by monitoring the harvest and by licensing diggers and dealers of wild, wild-simulated, woods-grown and cultivated ginseng. MDA conducts a management program in cooperation with the U.S. Fish and Wildlife Service (FWS) that follows established protocols and Convention on the International Trade in Endangered Species (CITES) regulations to ensure the continued viability of this potentially threatened native resource and to protect it from over-harvest. Harvested ginseng is certified through the program to enable licensed dealers to sell this wild-harvested plant product in international markets. MDA also works with growers of wild-simulated and woods-grown ginseng to allow them to market and export their highly valued crops. The dried roots are highly prized, especially in China and Korea, for properties that putatively promote good health. During the 2011-2012 season, the program licensed 16 ginseng dealers and 323 ginseng collectors in the state.

During the 2011-2012 harvest and sales season, the certification program inspected, collected size and age data from, weighed, and certified 142 pounds of dry wild ginseng root, 355 pounds of artificially propagated dry ginseng root and 10 pounds green root, and 32 pounds of woods-grown root. The wild harvest and certification numbers were essentially the same as in 2010-2011. There was significant increase in the certification of artificially propagated ginseng root. (For the purposes of this report, wild simulated ginseng has been classified as artificially propagated.) As is generally the case, the increase in Maryland ginseng certified and sold likely reflects an increase in price of ginseng on the international market, not necessarily an increase in the abundance or active harvest of ginseng in Maryland. Harvest and sales data were gathered and reports were submitted in accordance with FWS requirements.

The amount of ginseng cultivated, including woods-grown and wild-simulated designations in Maryland, and certified by MDA, kept pace with the amount of wild ginseng harvested and certified in the state. This reflects both continuing interest in ginseng as an alternative crop, and the ability of Maryland growers to produce high quality ginseng. In this way, harvest pressure on wild ginseng may be reduced, in turn allowing wild ginseng populations in Maryland to rebound.

A number of responses to the annual questionnaires mailed to ginseng collectors and dealers at time of licensing continued to express concern that the incidence of out-of season poaching of wild ginseng in Maryland remains high. To work toward remediation of this problem, MDA continued its cooperation with the Maryland Department of Natural Resources, providing information and support to enable more effective policing and prosecution of violators of the regulations and laws that protect Maryland ginseng. In addition, the MDA Ginseng Management Program coordinator worked with the State Botanist (DNR Heritage) and with a non-profit group that helped compile 30 years of data from the MDA Ginseng Management Program for population trends and other data analysis.

MDA continued to watch for positive developments resulting from a regulation change made July 1, 2010. The harvest season for wild American ginseng in Maryland, which was August 20 to December 15, was changed to September 1 to December 15. This change effectively gives the ginseng fruit longer to ripen, on average, and ensures a higher percentage viability of seed. This will allow wild ginseng populations a better opportunity for recovery from harvest pressures. The modification complies with changes highly recommended by the U.S. Fish and Wildlife Service to have all states use

the same harvest season dates to help ensure the long term survival of wild American ginseng in its native range. To date, neighboring states of West Virginia and Pennsylvania have made the same changes to their harvest season.

Weed Integrated Pest Management (IPM)

A PP&WM entomologist and staff continued to work with the Maryland Department of Transportation, State Highway Administration (SHA) to conduct an IPM program to provide biological control to certain targeted weed species on SHA right of ways.

Weed IPM research activities were conducted at field plots at the Western Maryland Research and Education Center in Keedysville and along SHA rights of way. MDA weed management and biological control research projects have been conducted over each of the past 14 years, and have involved cooperation with the SHA, the Howard County Department of Recreation and Parks, the Maryland National Capital Park and Planning Commission, the Maryland Department of Natural Resources, the U.S. Department of Agriculture (both ARS and APHIS), and the U.S. Forest Service. Integrated Pest Management investigations now target the suppression of mile-a-minute weed (*Persicaria perfoliata*) and purple loosestrife, (*Lythrum salicaria*). MDA personnel rear, release and monitor biological control agents for each of these species.

During the past 14 years, research has focused on one or more of the following: the evaluation of organisms for potential biocontrol, testing herbicide formulation efficacy, and evaluating the use of competitive vegetation (including native grasses and forbs), in an effort to provide environmentally sound and cost-effective methods for suppression of noxious thistle species in Maryland. MDA is now focused strictly on biological control of the above two plant species, using very specific insect biological control agents.

MDA has entered into a new one-year agreement with the Landscape Operations Division of SHA to administer a rearing program for the *Galerucella spp.* leaf beetle, an herbivore of purple loosestrife, and to continue a release program to establish this biocontrol agent on additional populations of purple loosestrife on State highway rights of way. MDA also continued to implement a strategy for biocontrol of mile-a-minute weed on state highway rights of way, including lab and greenhouse rearing and field release and monitoring of the weevil, *Rhinoncomimus latipes*. Funding for rearing and release of the weevil is provided by SHA and USDA APHIS.

In 2011, MDA staff reared 9,834 *Galerucella* leaf beetles. Of those reared, more than 8,600 were released on four dates at three sites proximal to SHA rights of way.

MDA also continued to develop and refine a rearing protocol for the mile-a-minute weevil (*Rhinoncomimus latipes*). MDA staff reared more than 3,000 weevils in 2011. Of those reared, 1,500 were released at six SHA rights of way sites. Release numbers were supplemented by 2,000 additional weevils acquired from the New Jersey Department of Agriculture. Weevils were released in three counties where no prior releases had been made: Carroll, Wicomico, and Washington. *R. latipes* has also been released by MDA in Frederick, Anne Arundel, Baltimore, Cecil, Frederick, Montgomery, and Prince George's counties.

MDA continued to partner with the University of Delaware in a regional mile-a-minute weed biological control program. In this program, the University of Delaware coordinates a supply of mile-a-minute weevils provided by the New Jersey Department of Agriculture. The MDA entomologist coordinating the project in Maryland chooses and coordinates sites for release, makes the field releases, coordinates and/or performs the monitoring of release sites and impact of the weevils on mile-a-minute weed, and collects and collates data, which is then presented to the primary research coordinator for the regional project, at the University of Delaware.

Noxious Weed Management

This program supports the control and eradication of designated noxious weeds, in order to reduce their economic and aesthetic impact on farmers and landowners. Noxious weeds (Johnsongrass, shattercane, thistles, and multiflora rose) cause losses in excess of \$25 million annually to Maryland agriculture due to reduced quality and yields of crops and forages, increased control costs, and increased roadside and development property management cost.

A weed control advisory committee has been established in each of 19 participating counties, with representatives from farming organizations, governmental agencies, local farmers and other property owners. Each committee provides advice or input into planning the noxious weed control program in that county. A county weed control coordinator, usually employed on a part-time basis, determines the degree of noxious weed infestations within the county, locates uncontrolled infestations, provides information on currently recommended control practices, and initiates agreements with landowners to implement a control program. In many counties, the

local weed control coordinator also performs spot-spraying on roadsides, in cooperation with the SHA, to help eliminate Johnsongrass or thistles and to control noxious weeds on private or public lands for a fee. In counties with no weed control coordinator, MDA handles these duties.

The weed control program provided no grant assistance to the 19 participating counties in 2012. County programs relied on increased spray revenues or fee for services to offset the loss of the financial component. Spray revenues for all the county programs was in excess of a million dollars. The county programs are supervised by the state personnel as specified by agreement.

Noxious weed advisory notices were mailed to 188 managers of properties infested with a noxious weed. Generally these notices were effective in obtaining compliance. When necessary, MDA sent follow-up correspondence resulting in compliance.

The Weed Control Program also responds to citizens' requests for technical assistance in controlling invasive, difficult to control, persistent weeds, such as phragmites, kudzu, mile-a-minute, tree of heaven, Japanese stilt grass, purple loosestrife, knotweed, as well as invasive bamboo.

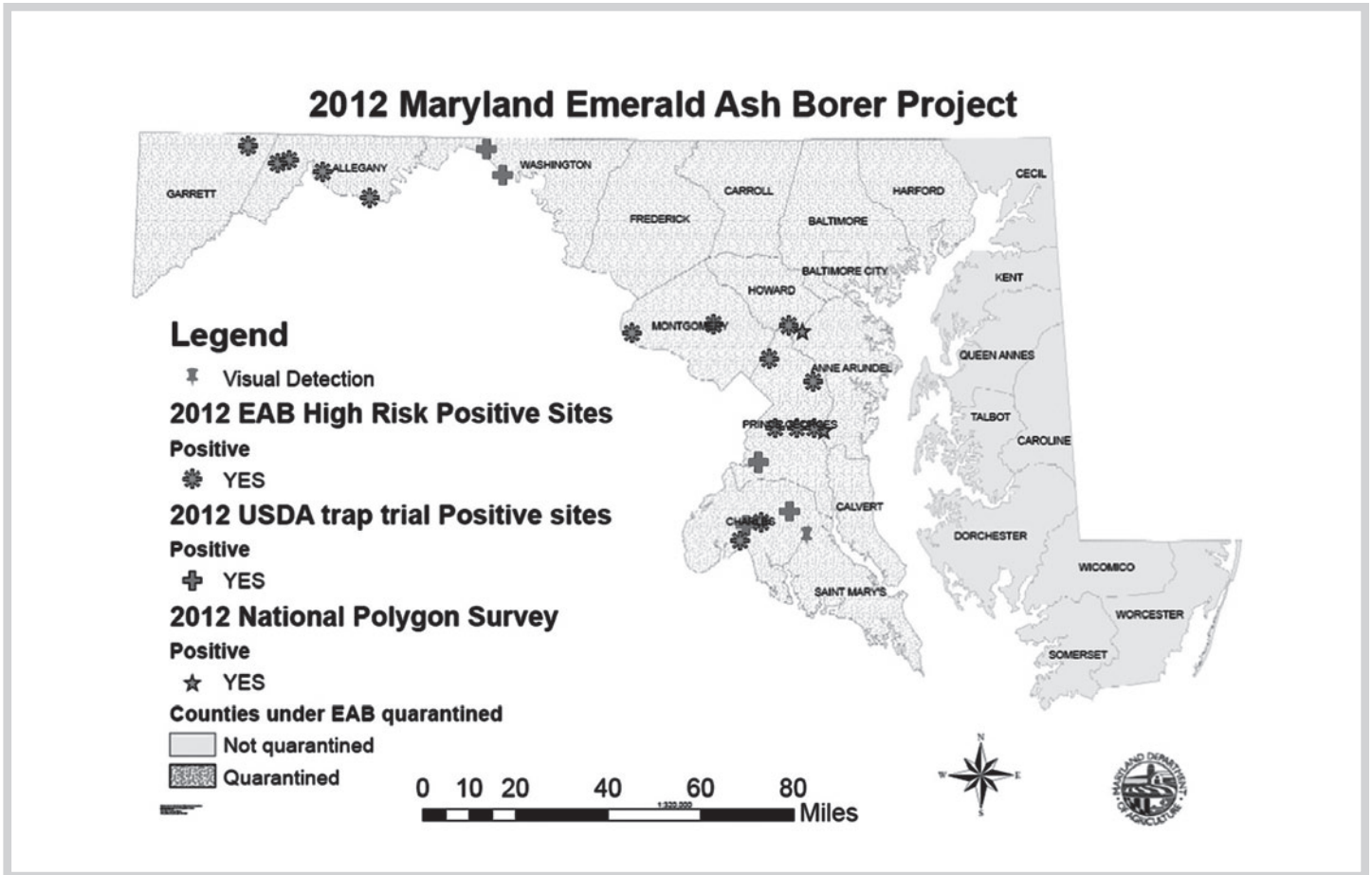
Giant hogweed (*Heracleum mantegazzianum*) is a federal noxious weed that was first detected in Maryland in 2003 at 29 sites in Baltimore and Harford counties. In 2005, eight additional sites in Garrett County were added to this list, as was one additional site in 2007. Currently in Garrett County, MDA Weed Control staff are monitoring 13 sites, three of these sites required treatment in 2011. Only three sites needed treatment in Baltimore County this year and none in Harford County. Eradication is a multi-year effort and will continue along with surveying and treatments as needed for any possible new infestations.

The Weed Control staff partnered with the Maryland

PLANT PROTECTION AND WEED MANAGEMENT SUMMARY OF ACTIVITIES

	2010 (CY 2009*)	2011 (CY 2010*)	2012 (CY 2011*)
Beekeepers Registered	1,362	1,425	1,616
Honeybee Colonies Registered	11,626	10,011	11,844
Honeybee Colonies Inspected	4,955	7,610	3,244
Ginseng Dealers Registered	11	13	16
Ginseng Collectors Licensed	303	298	323
Nurseries Certified	355	336	334
Plant Dealers and Brokers Licensed	1,477	1,432	1,506
Phytosanitary Certificates Issued	196	277	732
Plant Pest Surveys # target pests	49	33	19
Plant Pest Surveys # samples processed	16,872	20,537	19,244
Target Pests Detected	27	10	11
Management decisions based on target pest detected	101	64	168
Number of noxious weed advisory notices issued	283	405	188

* Because of the seasonal nature of this program and calendar year federal reporting requirements, data are reported on a calendar year basis.



Department of Natural Resources (DNR) for the 12th year in providing a phragmites management program. Upon request from landowners or managers, MDA supplied technical and spraying assistance for control. DNR provided 100 percent of the cost of the herbicide (Rodeo®) applied in the nine Eastern Shore counties for spraying phragmites. Spray revenue for phragmites control was more than \$75,000 for treating 130 acres in 235 locations in 18 counties.

In all counties, the Noxious Weed Control Program’s spraying service was offered to landowners participating in the Conservation Reserve Program or Conservation Reserve Enhancement Program. It is thought that seed contamination at planting is responsible for the occurrence and spread of noxious weeds in these plantings. Due to the likelihood of weed problems occurring on land in these programs, spraying services were offered for noxious weed control.

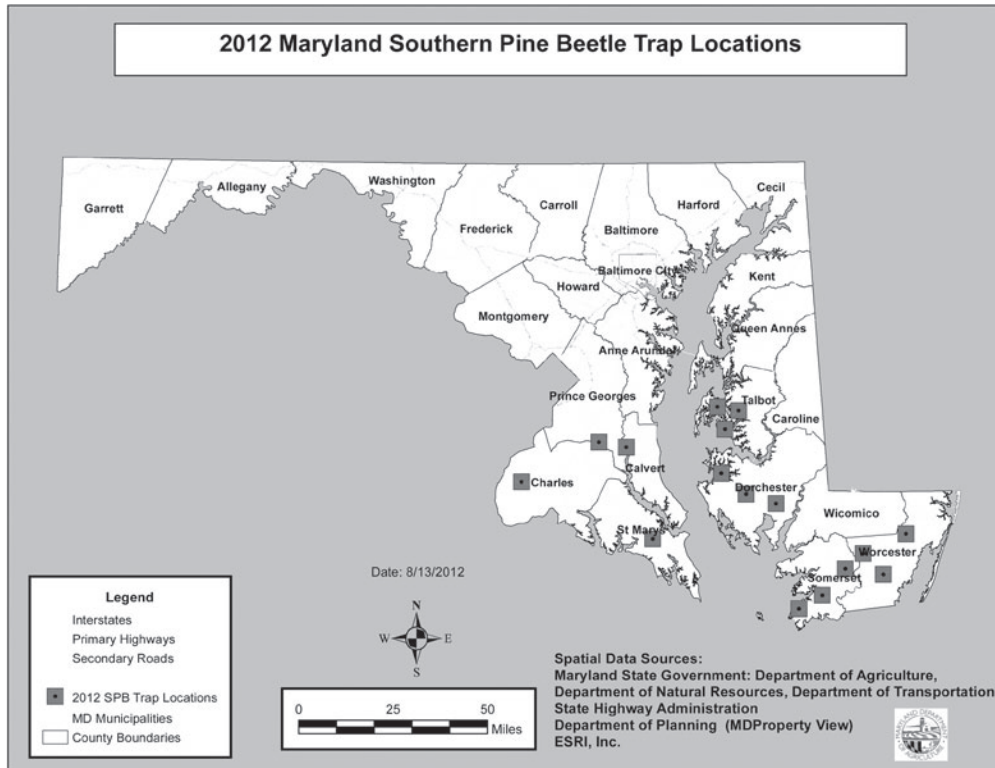
Other Activities

Snail Survey: The Plant Protection & Weed Management

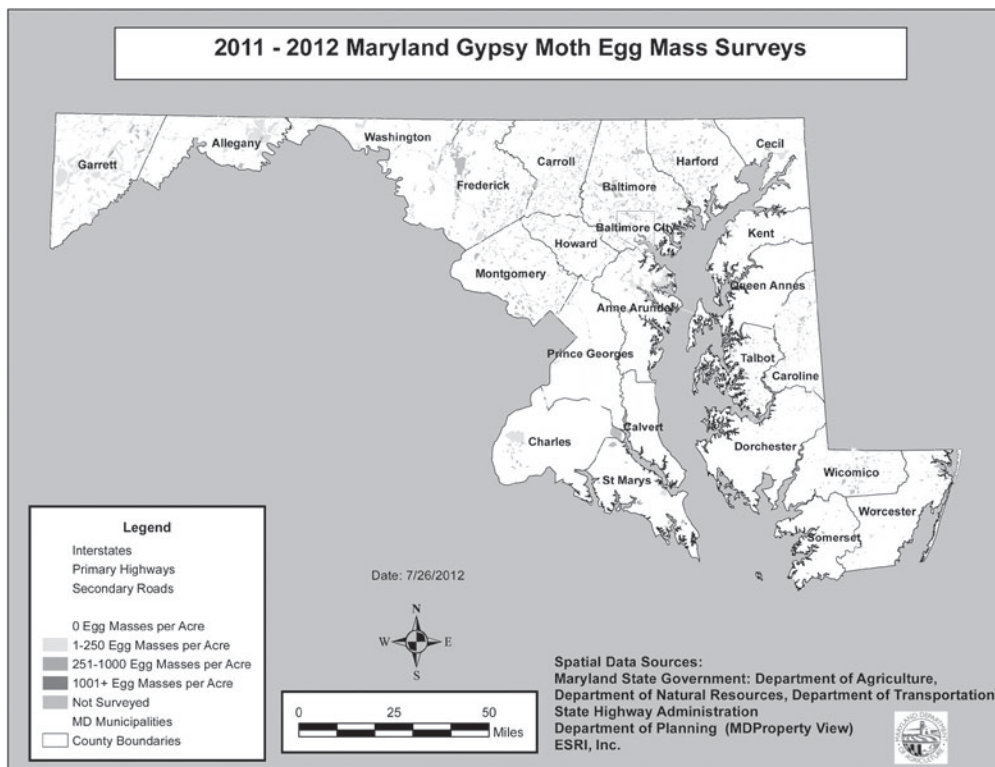
Section was notified by USDA in the spring of 2010 of a population of chocolate banded snails (*Eobania vermiculata*) at an importers private terminal holding area in the port area of Baltimore. The snails had been found on boxcars in Pennsylvania and West Virginia and reported to the importer, who contacted USDA.

A joint survey by USDA APHIS Plant Protection & Quarantine (PPQ), U.S. Customs and Border Protection (CPB) and MDA was conducted September 28, 2010, of the holding and adjacent areas. Although the chocolate banded snail is not designated actionable by PPQ, another snail, *Cerutuella cislalina*, was found during the survey and is an actionable pest. A follow up survey was conducted November 9, 2011, by MDA to determine whether control actions by the importer were effective and to determine the extent of the *C. cislalina* population. The results show that the chocolate banded snail is being controlled and of limited distribution and that *C. cislalina* is only outside of the holding area and extends along the rail lines leading to the holding area and an adjacent facility. Treatments for *C. cislalina* are pending.

Forest Pest Management

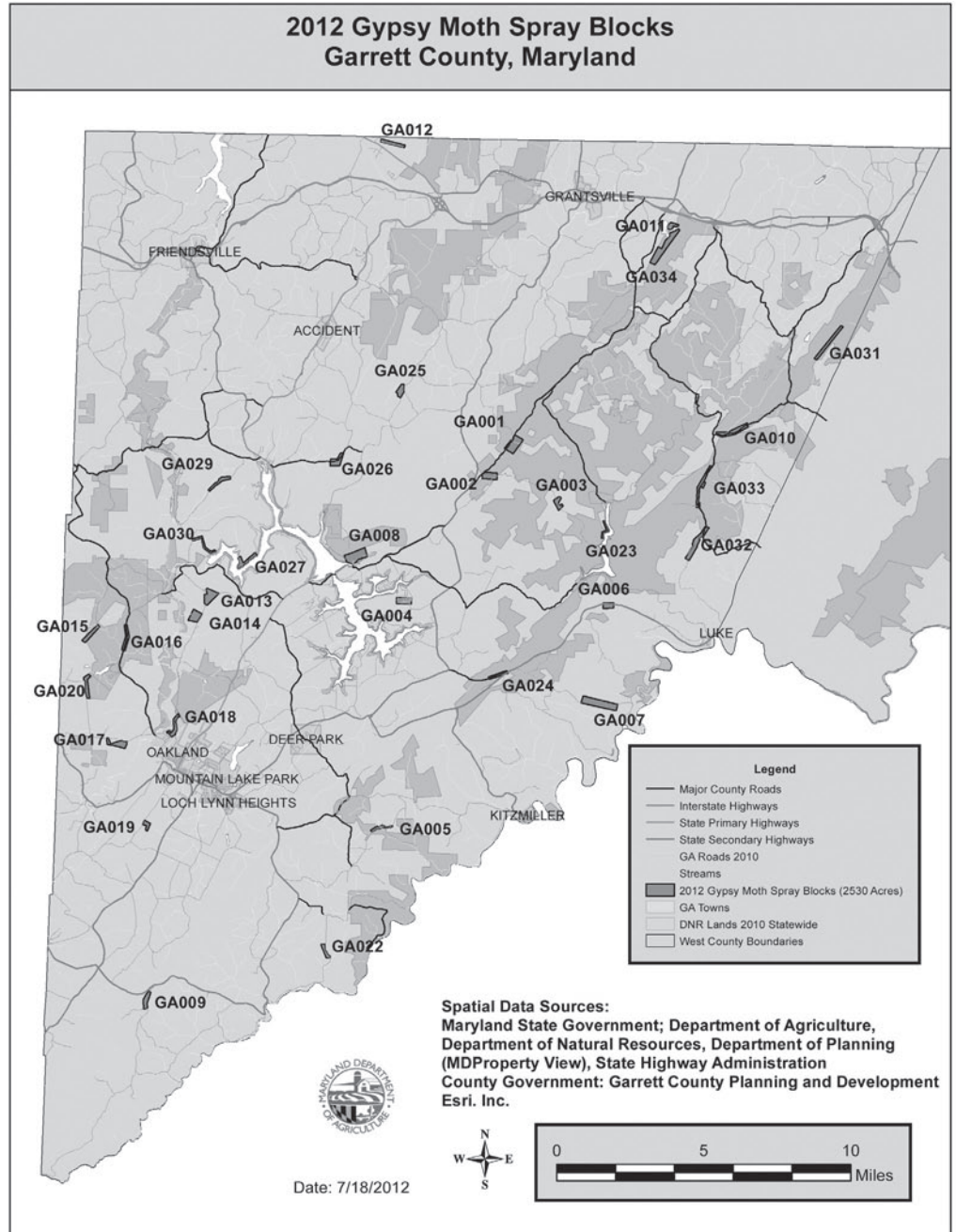


Southern Pine Beetle (SPB) is one of the most destructive insect pests of pines. Maryland is at the northern edge of its range, and the SPB is commonly found on the lower Eastern Shore and Southern Maryland. Since 1989, Maryland has participated in a SPB survey throughout the southern United States using pheromone-baited traps. Trap data indicated that SPB numbers would continue to remain low in 2012. Populations have been below outbreak level since 1994. Three sites that were detected in 2010 – two sites in Kent County and one in Talbot County – have collapsed.



Gypsy Moth is the most serious threat to oak forests in the United States. The first eggs were detected in Maryland in 1971, and the first extensive defoliation occurred in 1981. Each fall and winter, MDA conducts an extensive survey for gypsy moth egg masses to determine potential areas of defoliation. From August 2011 through March 2012, MDA conducted gypsy moth egg mass surveys on 467,815 acres of “high value” forested lands. “High value” forested sites include areas with development, recreational use, managed forest and wildlife resources and other site conditions that render dieback and mortality to be economically and socially important. The survey

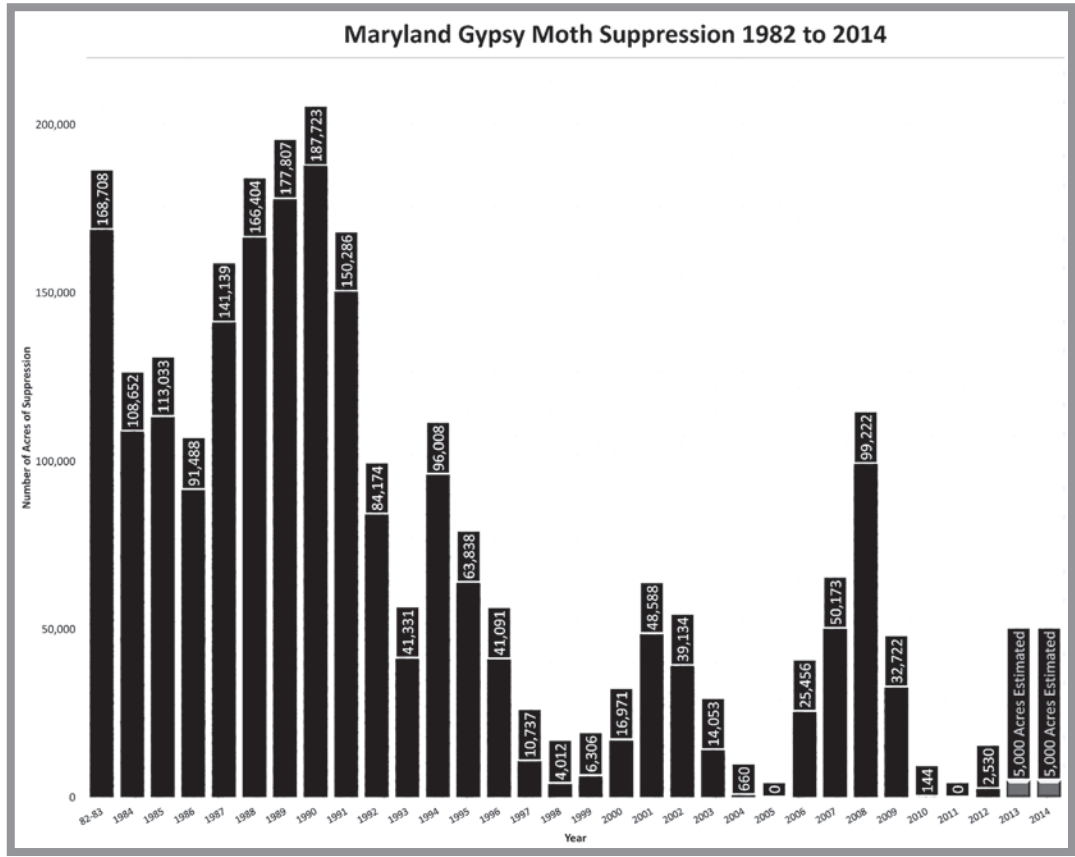
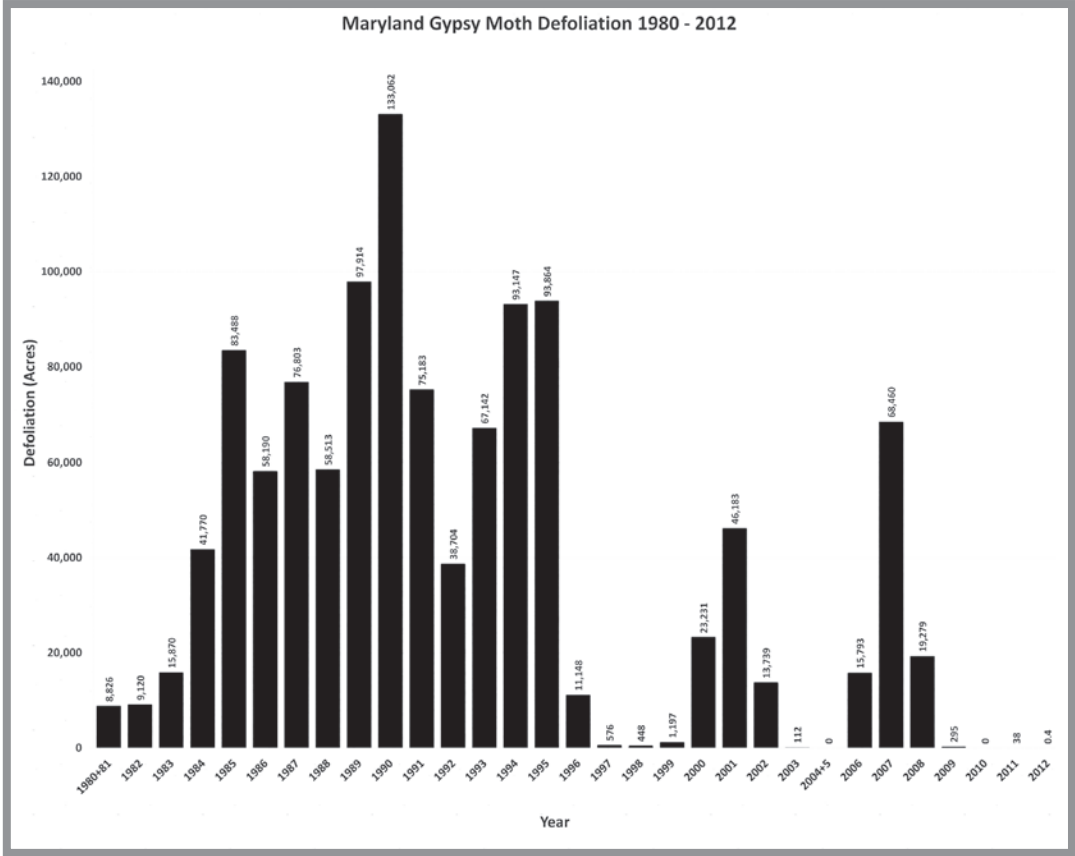
results indicated that the current populations were sufficient to cause moderate to heavy defoliation on 985 acres of high value rural and urban forest in 2012. These areas were part of the Cooperative Gypsy Moth Suppression and were eligible for funding from the U.S. Forest Service (USFS). In addition, 1,545 acres were treated. These additional areas had at least one survey point with 250 or more egg masses per acre but the average for the area was less than 250 egg masses. These additional areas were not eligible for USFS funding. During 2012, MDA sprayed 2,530 acres in 32 spray blocks. The insecticide was Foray 48B. All spray areas were in Garrett County. Application started May 16 and continued for four straight days, finishing May 19.

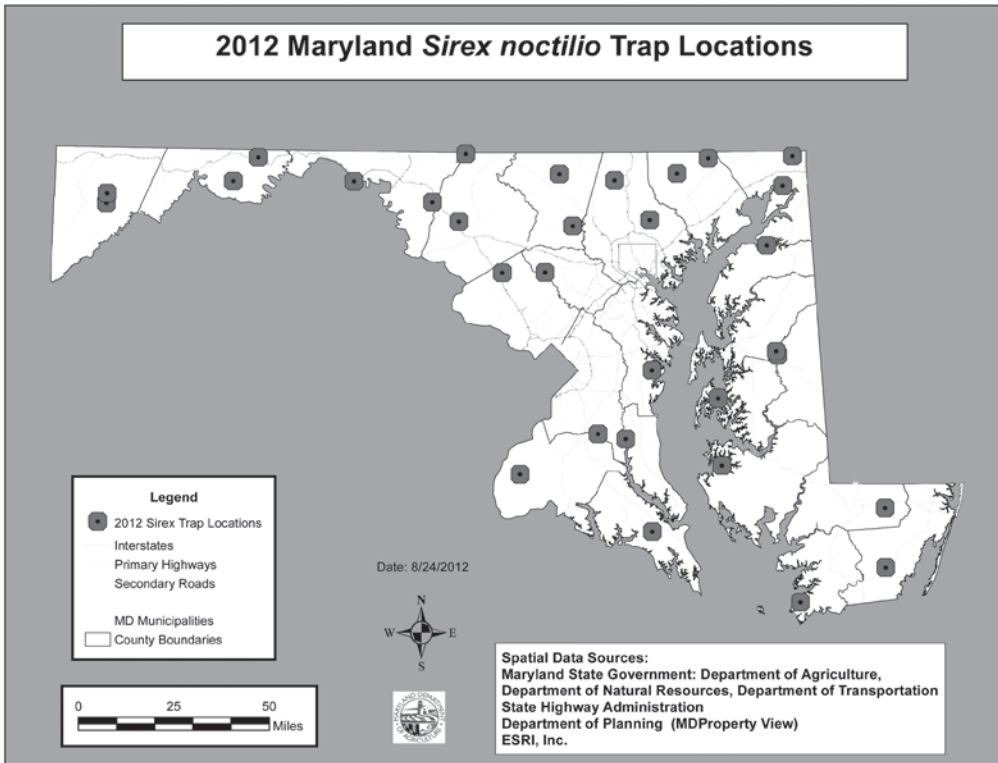


2011 - 2012 MARYLAND GYPSY MOTH EGG MASS SURVEY SUMMARY

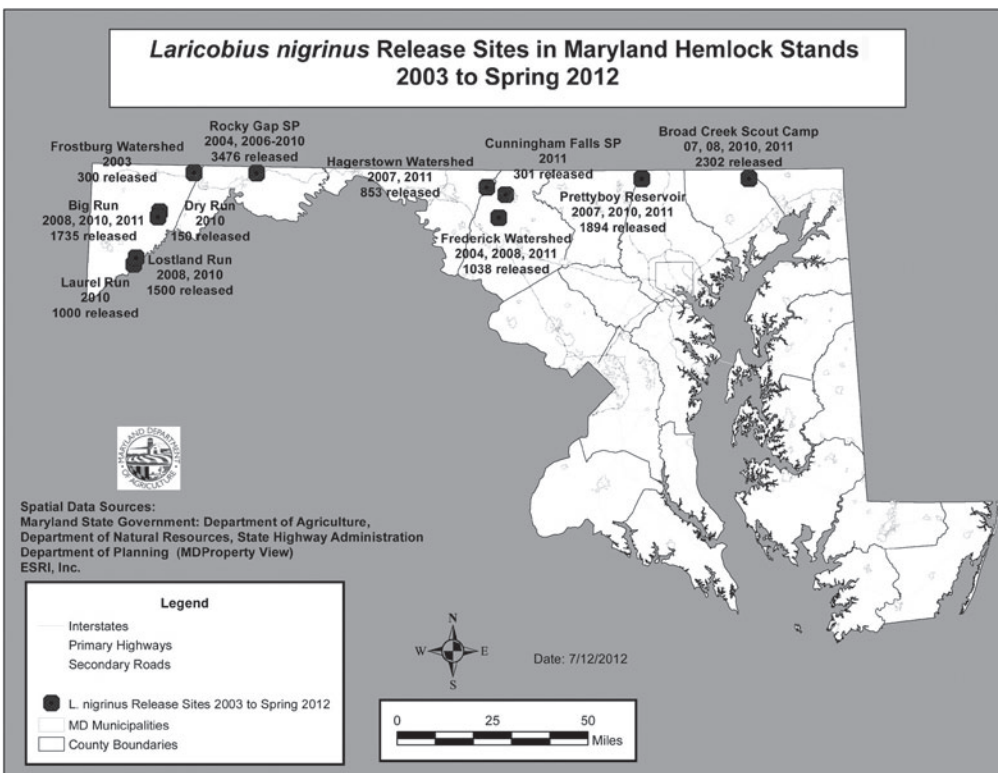
COUNTY	NUMBER OF BLOCKS SURVEYED	NUMBER OF ACRES SURVEYED	NUMBER OF POINTS SURVEYED
Anne Arundel	80	25,818	314
Allegany	178	51,583	557
Baltimore	179	28,930	610
Baltimore City	1	120	3
Caroline	6	3,848	41
Carroll	214	13,402	497
Cecil	92	24,339	425
Charles	58	79,411	209
Dorchester	30	2,603	110
Frederick	61	25,957	382
Garrett	230	66,944	887
Harford	146	23,275	508
Howard	130	11,148	369
Kent	69	6,271	200
Montgomery	197	19,537	680
St. Mary's	52	39,086	122
Somerset	12	637	39
Talbot	46	4,032	160
Washington East	65	22,802	356
Washington West	72	13,397	229
Wicomico	26	2,359	107
Worcester	34	2,316	122
TOTAL	1,978	467,815	6,927

Historical Gypsy Moth Defoliation and Suppression





***Sirex noctilio* (Wood Wasp)** has been the most common species of exotic wood wasp detected at United States ports-of-entry associated with solid wood packing materials. Recent detections of this wood wasp outside of port areas in the United States have raised concerns because this insect has the potential to cause significant mortality of pines. The *sirex* wood wasp has not been detected in Maryland but is known to be in Pennsylvania. To detect this insect, MDA placed two traps per county on the northern tier counties and one trap for all other counties, for a total of 30 traps in pine woods. All traps were negative during FY 2012.



Hemlock Woolly Adelgid (HWA) remains the major threat to the health of eastern hemlock. Infested hemlocks occur in the metropolitan area between Baltimore and Washington and in natural stands from Harford to Garrett counties. *Laricobius nigrinus*, a predatory beetle of the hemlock woolly adelgid, has been released in several areas since 2004. In FY 2012, MDA released 685 beetles in four areas of Garrett County, 302 in Harford County, 304 in Baltimore County, 962 in Frederick County and 353 in Washington County for a total of 2,606 beetles. Fourteen hundred of these beetles were collected from an MDA "nursery" in Rocky Gap State Park. MDA anticipated it would be able to collect 1,000 beetles fall (2011) for release in other areas of Maryland. Two hundred were collected last year.

Hemlock Woolly Adelgid

Suppression A joint task force of MDA and the Maryland Department of Natural Resources (DNR) addressed the multi-disciplinary needs of the HWA infestation. The task force prioritized more than 50 hemlock stands and selected them as the sites where suppression might be attempted. Only publicly owned sites would be part of this suppression project. MDA in conjunction with Boy Scout volunteers treated 96 trees by injection and 81 trees by soil injection. MDA, in conjunction with DNR Park Service treated 495 trees by injection and 5,107 trees by soil injection. MDA staff alone treated 1,115 trees by injection and 2,606 trees by soil injection.

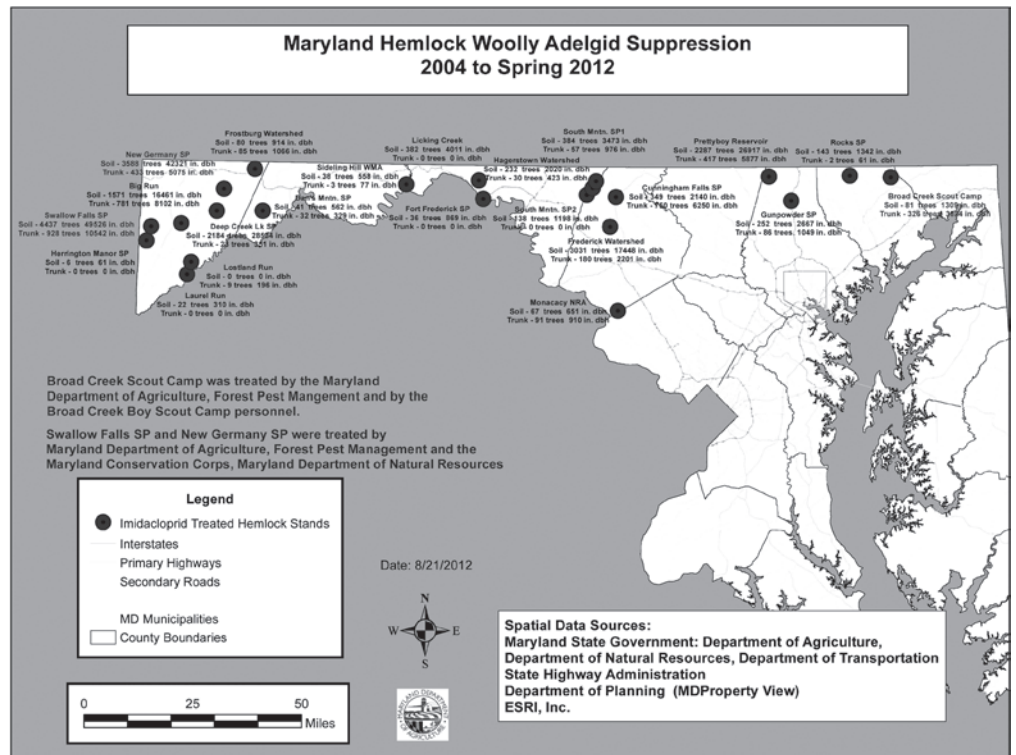
Hemlock Woolly Adelgid

Suppression Efficacy

Sixteen hemlock stands have been evaluated for efficacy of HWA treatments with imidacloprid between 2005 and 2012. Treated trees averaged a 77 percent reduction in HWA populations when measured one year post treatment; and non-treated trees averaged a 20 percent reduction in HWA populations when measured over the same time period. Measurements were based on three to 10 treated hemlock trees and three to 10 untreated hemlock trees per site with HWA counted on two to four 30cm branch tips per tree, as of July 19, 2012.

FALL 2011 LARICOBIVS NIGRINUS RELEASES IN MARYLAND FOR HEMLOCK WOOLLY ADELGID CONTROL

COUNTY	HEMLOCK STAND	NUMBER RELEASED
Baltimore	Prettyboy Reservoir	304
Harford	Broad Creek Scout Camp	302
Frederick	Cunningham Falls SP	301
Frederick	Frederick City Watershed	661
Washington	Hagerstown Watershed	353
Garrett	Savage River SF (Big Run)	685
Total		2606



FALL 2011 - SPRING 2012 IMIDACLOPRID TREATMENTS FOR HEMLOCK WOOLLY ADELGID IN MARYLAND

HEMLOCK STAND	COUNTY	# OF TREES	INCHES DBH*	# OF TREES	INCHES DBH*	# OF TREES	INCHES DBH*
Savage River SF (Big Run)	Garrett	324	2,867	516	4,974	840	7,840
Cunningham Falls SP	Frederick	346	2,560	56	435	402	2,995
Frederick Watershed	Frederick	75	665	492	3,023	567	3,688
Broad Creek***	Harford	96	1,087	81	1,309	177	2,396
Rocks SP	Harford	0	0	14	219	14	219
Frostburg Watershed	Garrett	85	1,066	0	0	85	1,066
Prettyboy Reservoir	Baltimore	92	1,181	83	1,537	175	2,718
Deep Creek Lake SP	Garrett	0	0	1,346	17,092	1,346	17,092
Swallow Falls SP**	Garrett	73	697	1,609	16,611	1,682	17,308
New Germany SP**	Garrett	422	4,879	3,498	40,571	3,920	45,451
Monocacy NRA	Frederick	91	910	67	651	158	1,561
Gunpowder Falls SP	Baltimore	44	525	32	322	76	847
South Mountain	Washington	58	871	0	0	58	871
Total		1,706	17,308	7,794	86,743	9,500	104,051

*DBH = the diameter of the tree trunk at 4.5 feet above the ground

** Treatments done by Forest Pest Management and Maryland Conservation Corps (Department of Natural Resources)

***Soil treatments done by Broad Creek Boy Scout Camp

Emerald Ash Borer (EAB):

MDA’s Plant Protection Section and Forest Pest Management Section put up 195 EAB purple traps in the quarantined counties of Maryland that were not designated as of special interest. MDA traps picked up a new EAB find in Garrett County.

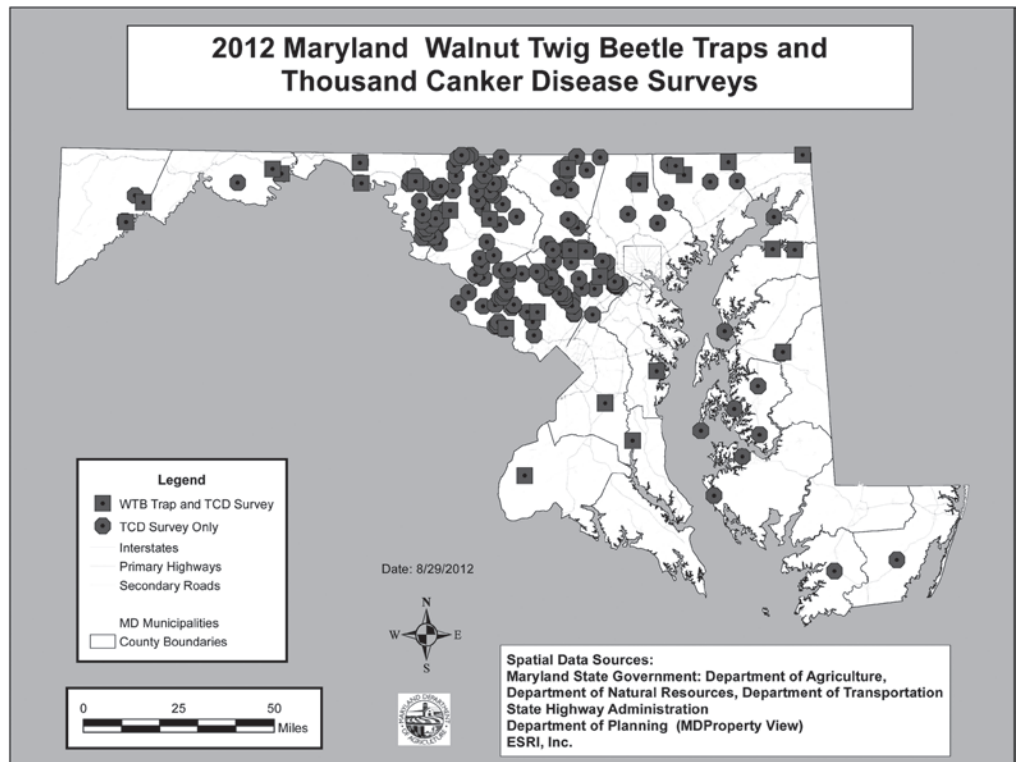
2012 EMERALD ASH BORER TRAPS*

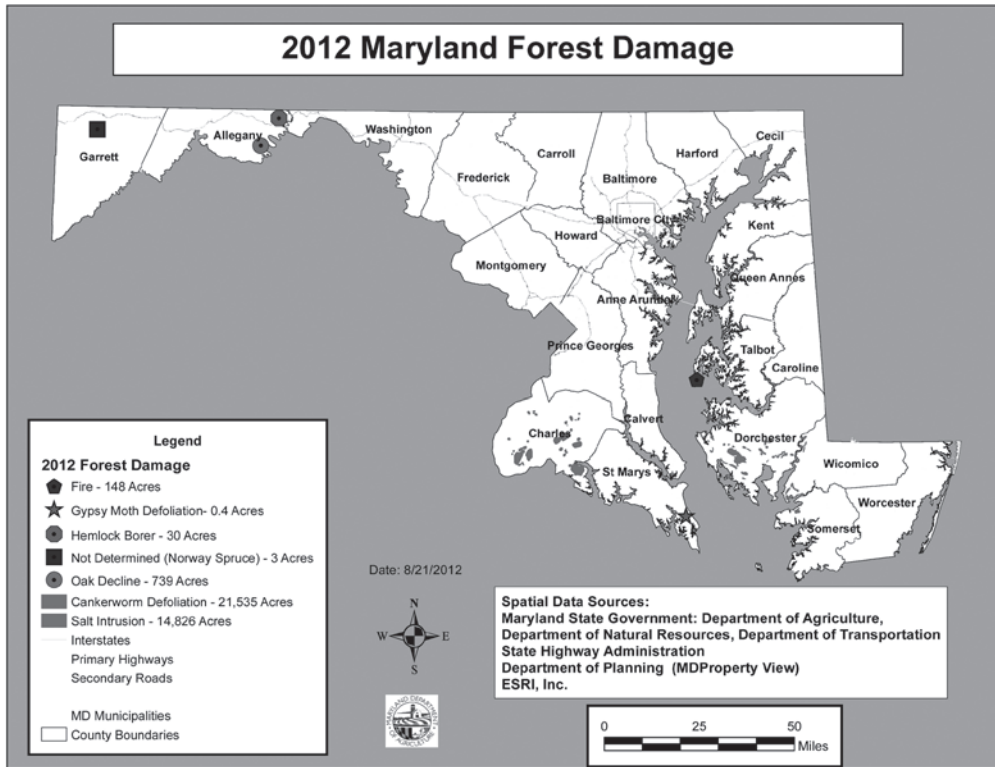
COUNTY	# OF TRAPS
Baltimore County	35
Baltimore City	15
Harford County	10
Frederick County	30
Carroll County	30
Garrett County	40
Allegany County	15
Washington County	20
Total	195

* Number of EAB traps monitored by Forest Pest Mangement personnel.

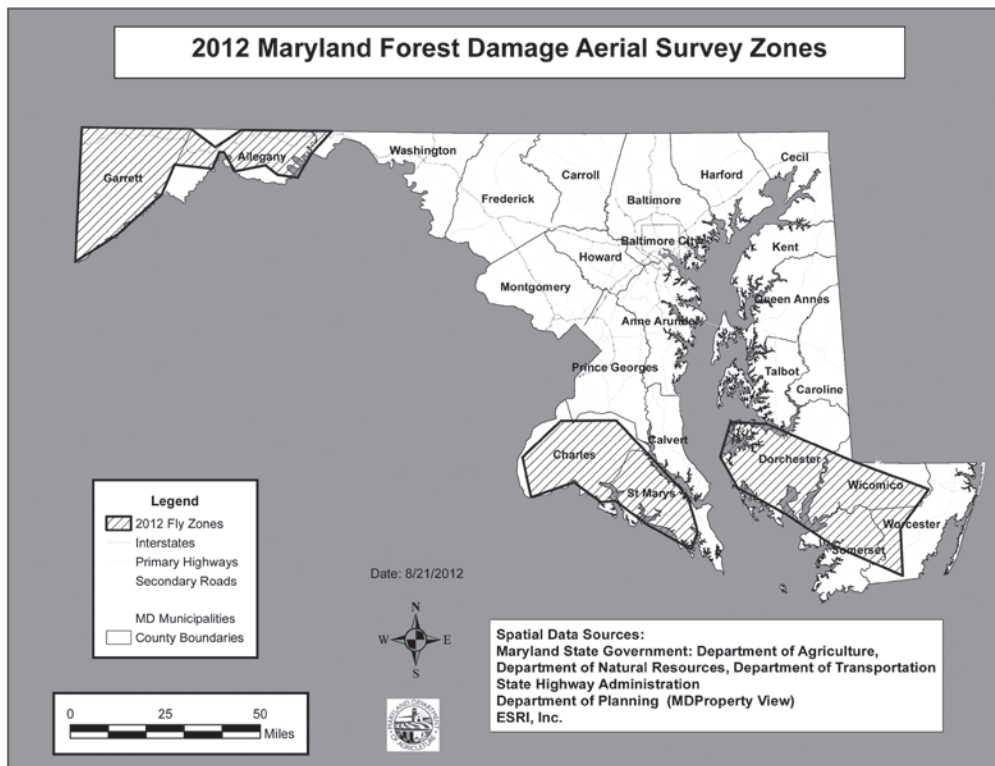
Thousand Canker Disease of Black Walnut (TCD) and Walnut Twig Beetle (WTB): Eastern black walnut planted in the western United States have experienced dieback and mortality. The WTB spreads the TCD. An infested tree usually dies within three years of visible symptoms. This beetle and disease had not been reported in the natural range of the eastern black walnut until it was discovered in Tennessee in 2010. Since then, it has been found in Pennsylvania and Virginia.

Maryland, with other mid-Atlantic states, started surveying for this disease in 2011. In 2012, MDA staff visually inspected 206 sites for visible symptoms of TCD. So far, the disease has not been seen in Maryland. Twenty eight traps baited with a pheromone for the WTB were set statewide. No WTB have been found.





Forest Pest Damage



2012 Aerial Survey Damage Assessment: Garrett, Charles and St. Mary's counties were flown to map any damage done to the forest of Maryland. This was to document the results of the gypsy moth suppression in Garrett and to map defoliation by canker worms in Charles and St. Mary's counties. MDA relied on the "Disturbance Mapper," a new technology that uses satellite imagery to detect changes in forest conditions.



MDA's Beechcraft King Air airplane, which applies insecticide to control mosquitoes, is equipped with Ag Nav Global Positioning System as well as night vision and extended range capabilities. The agency has been using it since 2005 to help prevent mosquito-borne diseases.

Mosquito Control Section

MDA's Mosquito Control program helps reduce the risk of mosquito-borne disease and provide relief from mosquito annoyance in 16 counties. The program is staffed by 14 classified employees (i.e., scientists, inspectors, pilot, mechanic and administrative staff), four long-term contractual employees and 56 seasonal employees. Regional offices in Annapolis, College Park, Hollywood and Salisbury provide the bases for field operations. The program operates 61 light trucks, one heavy truck, three boats, seven all-terrain vehicles, 49 ULV sprayers, three units of earth moving equipment and one aircraft.

Authority for Mosquito Control activities is the Maryland Mosquito Control Law, Agriculture Article, Title 5, Sub-title 4. Participation in cooperative mosquito control projects by counties and communities is voluntary and available to all jurisdictions in Maryland within the limit of available resources.

Costs for mosquito control services are shared between MDA, local governments and participating communities.

Weather conditions, particularly rainfall, and tides, have significant impacts on mosquito populations. During 2011, Maryland experienced high levels of spring and late season mosquito activity. Hatching of large spring mosquito broods is not unusual for Maryland. However, unusual weather conditions in September, primarily from coastal storms and high tides, added as much as 30 inches of precipitation in some areas of Maryland and extensive flooding of the coastal marshes. This, combined with moderate temperatures, provides favorable conditions for mosquito development late in the season. Mosquito control activities continued through October.

MOSQUITO CONTROL ACTIVITY SUMMARY

MOSQUITO CONTROL ACTIVITY SUMMARY	CY 2009	CY 2010	CY 2011
Communities participating in mosquito control program	2,132	2,165	2,030
Number of light trap nights	2,767	2,676	2,909
Percent of light trap nights below threshold	55	68%	66%
Number of landing rate counts performed	22,487	26,189	25,140
Percent of landing rate counts below action threshold	37	33.6%	34%
Number of public service requests	4,008	3,414	3,597
Number of mosquitofish stocked	13,527	6,939	2,306
Acres managed by open marsh water management	1,085	824.5	640
Acres treated with insecticide	2,038,534	1,492,387.5	1,817,514.2
Acres treated for mosquito larvae	10,505	5,276.58	7,432.9
Acres treated for adult mosquitoes	2,028,029	1,487,110.9	1,810,087.3
Acres treated by aircraft	308,599	105,653	309,469
Acres treated by ground equipment	1,729,935	1,386,734.5	1,508,045.17
Number of mosquitoes tested for arboviruses	40,680	23,043	24,474
Number of human cases of West Nile virus statewide	2	23	19
Number of human cases of West Nile virus in areas with mosquito control	1	2	2
Number of cases of arbovirus in domestic animals	2	1	2
Number of mosquito pools positive for arbovirus	8 ¹	8 ²	15 ³

1. Department of Defense collected 1 positive pool at military reservation in Montgomery County.

2. Department of Defense collected an additional 3 positive pools at military reservations in Montgomery County.

3. West Nile virus Positive Mosquito Pools: Baltimore County-2, Prince George's County-1, Somerset County-1, Montgomery County-11

Other Arbovirus disease surveillance in mosquitoes includes 6 pools positive for Cache Valley virus in Anne Arundel, Baltimore and Prince George's Counties. Submitted by DOD.

Mosquito Biological Control

Open Marsh Water Management (OMWM) is an applied ecological practice which reduces or eliminates mosquito breeding on tidal marshes by maximizing predation of the mosquito larvae. This is accomplished by providing fish with access to larval habitats to consume the mosquito larvae. Ponds to serve as reservoirs for the fish are dug and connected to breeding areas by a system of ditches and channels. Existing ditches and channels are often used, modified or extended to allow fish to swim from reservoir ponds into breeding areas. As water recedes from the breeding areas, fish are able to return to the reservoir ponds via the ditches. Properly designed and constructed, OMWM projects control mosquito larvae without the need for applications of pesticide. Furthermore, OMWM increases water fowl usage, increases the number of small fur bearing mammals on the marsh and improves water quality. OMWM projects are also known to benefit fish and crab populations.

Most of the marsh work performed by the Mosquito Control Section is maintenance of existing projects.

Projects Performed in 2011	
LOCATION	ACRES
1 Revells Neck, Phase 2	91.6
2 Revells Nick, Phases 3,4	114.4
Byrd Road Project Phases 1-4	17.4
Byrd Road Project Phase 5	5.3
Firehouse Road Project	309
Jane's Island St. Park	64
Total	601.7

Mosquito-Borne Disease Surveillance

The cooperative effort between MDA and the Maryland Department of Health and Mental Hygiene (DHMH) to monitor the occurrence and distribution of mosquito-borne viruses continued for its 12th year in 2011. Mosquito control staff collected 24,474 mosquitoes that were identified, sorted into subsamples (pools) of 1 to 40 mosquitoes of same species, and sent to the DHMH virology laboratory for virus detection analysis. Four mosquito pools tested positive for West Nile virus in 2011. West Nile positive pools were also collected at sites in Maryland by the U.S. Department of Defense (DOD) in Montgomery County. A total of 15 West Nile positive pools were collected in Maryland during 2011 by MDA and DOD. Other arbovirus surveillance results in 2011 included six pools positive for Cache Valley virus in Anne Arundel, Baltimore and Prince George's counties. One case of St. Louis Encephalitis was diagnosed in a patient who had traveled outside Maryland. Nineteen human cases of West Nile virus illness, including one fatality, were reported by DHMH in 2011.

Mosquito Control Air Spray Program

The air spray program for 2011 started in April, with larviciding of freshwater woodland areas for the springtime fresh water species of mosquitoes that emerge from these areas and cause annoyance problems in the surrounding communities and towns. During the 2011 season, Worcester, Somerset and Dorchester counties were treated with either Altosid Liquid Larvicide, or Vectobac 12AS. A total of 6,762 acres was larvicided in these counties.

The season began with an abundance of rainfall, and mosquito numbers increased in the summer months. Adulticiding acreage was 166,030 by the end of June, and it appeared that MDA was heading for a season record total for air spray acreage. However, a drought that hit during the second week of July and continued through August until Labor Day depressed mosquito breeding throughout the state. Conditions of record high temperatures along with scarce rainfall prevailed throughout this time frame.

During September, the lower coastal counties of Worcester, Somerset and Dorchester experienced tides above the mean high tide mark which caused flooding along the marshes and woodland areas, resulting in high numbers of adult mosquitoes that inundated the surrounding communities and towns on the lower Eastern Shore. Landing rate counts averaged 40-50 per minute with high counts of 100 mosquitoes per minute in some locations.

Between September 12 and October 21, 2011, some 110,541 acres were treated for adult mosquitoes by aircraft. Both Hart Miller Island and Poplar Island dredged material containment facilities operated by the Maryland Port Authority and Maryland Environmental Service (MES), plus two adjoining privately owned islands in Talbot County (Coaches and Jefferson), were sprayed by aircraft for adult mosquitoes. Unofficial mosquito counts taken by MES staff were at record highs. Mosquitoes caused harsh working conditions for MES crews on the islands and affected residents of the shore communities.

A total of 309,469 acres was sprayed by aircraft in 2011, which is the highest on record. 2003 and 2009 also had high acreage done by our aircraft.

A co-pilot/flight crew member was put on long-term contract in 2011 to assist the pilot with on flight preparation, aerial application of insecticide and night flying. This position is required with night time applications when FAA requires night vision helmets to be worn to operate the aircraft.

No major problems in maintenance or operation of the aircraft occurred during the 2011 season.

Mosquito Control Section Public Education Report CY 2011

Public education continues to be an important part of MDA's mosquito control program, particularly because of continuing

problems created by the introduction and spread of the Asian tiger mosquito.

The predominant type of public education provided this season was through media interviews. There was intense media interest in mosquito populations after the above-average rainfall in the spring and early summer. MDA staff conducted 31 interviews this season with both print and TV media outlets throughout the state.

Outreach was done at 10 different school functions in 2011, all in Prince George's County. These included a science fair, a career day and the county's science quiz show, The Science Bowl.

Mosquito control employees spoke at 11 community meetings in Prince George's, Montgomery and Anne Arundel counties, and did four mass-yard inspections for Asian tiger mosquito breeding sites in Prince George's, Montgomery and Howard counties.

Employees spoke at three professional meetings – a regional mosquito association meeting and two recertification seminars.

MDA hosted month-long exhibits in three different libraries in Prince George's County (i.e., Greenbelt, Surratts/Clinton and New Carrollton) in June, July and August, 2011.

Many of these public education efforts are difficult to quantify, particularly the media interviews; however, more than 900 people attended events with known participant levels.



NUMBER OF HUMAN CASES OF WEST NILE VIRUS ILLNESS IN MARYLAND, CY 2002 – CY 2011

COUNTY	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	TOTAL 2002 - 2011
Allegany											0
Anne Arundel	8	7	2			2			3	5	23
Baltimore City	5	14	4	2	6		3		3	2	41
Baltimore County	1	17	3	1	3	2	2	1	12(1)*	1	47
Calvert						1					1
Caroline		1	1								2
Carroll		2									2
Cecil											0
Charles	1	1									2
Dorchester			2								2
Frederick	5	3					1				9
Garrett											0
Harford		2				2	3			1	8
Howard		3			1	1			1		6
Kent											0
Montgomery	7	10	1				4		4 (1)*	9	26
Prince George's	7	4	3	1	1	1				1	17
Queen Anne's		5					1				6
St. Mary's	1										1
Somerset											0
Talbot											0
Washington	1	4		1							6
Wicomico											0
Worcester						1					1
TOTAL	36(7)	73(8)	16	5	11(1)	10	14	1	23(2)	19(1)	215(21)

The statewide case total from 2002-2011 includes: *Number of fatalities in parentheses.

MOSQUITO CONTROL ACTIVITY SUMMARY 2011 SEASON

COUNTY	GROUND LARVICIDING	GROUND ADULTICIDING	AIR LARVICIDING	AIR ADULTICIDING	TOTAL ACRES TREATED W/ INSECTICIDE
Allegany					0.00
Anne Arundel	111.80	91,761.42			91,873.22
Baltimore City					0.00
Baltimore County	128.30	34,135.49			34,263.79
Calvert	34.43	133,670.87			133,705.30
Caroline		80,527.00			80,527.00
Carroll					0.00
Cecil	2.50	67,279.00			67,281.50
Charles	20.80	59,366.10			59,386.90
Dorchester	26.03	145,957.55	4,771	234,093	384,847.58
Frederick					0.00
Garrett					0.00
Harford	27.00	2,916.46			2,943.46
Howard	2.52				2.52
Kent		25,966.05			25,966.05
Montgomery	7.10				7.10
Pr. George's	39.40	31,379.40			31,418.80
Queen Anne's	75.75	56,197.82			56,273.57
St. Mary's	18.30	57,778.20			57,796.50
Somerset	61.00	129,779.00	1,805	67,458	199,103.00
Talbot	95.78	118,368.00		970	119,433.78
Washington					0.00
Wicomico	8.70	268,140.00			268,148.70
Worcester	11.50	204,151.90	186	186	204,535.40
TOTALS	670.91	1,507,374.26	6,762	302,707	1,817,514.17

NUMBER OF COMMUNITIES PARTICIPATING IN MOSQUITO CONTROL DURING 2009 – 2011

COUNTY	2009	2010	2011	% CHANGE FROM PREVIOUS YEARS
Allegany	3	3	*	-100
Anne Arundel	252	254	236	-.4
Baltimore City	1	0	0	0
Baltimore County	359	359	359	0
Calvert	76	76	**	-100
Caroline	65	65	**	-100
Carroll	3	3	*	-100
Cecil	40	42	41	-2.4
Charles	101	93	80	-14
Dorchester	129	117	114	-2.56
Frederick	10	9	*	-100
Garrett	0	0	*	0
Harford	52	57	71	+24.6
Howard	11	11	12	+9
Kent	35	35	32	-8.0
Montgomery	20	20	20	0
Prince George's	302	334	334	0
Queen Anne's	20	24	98	+308
St. Mary's	109	104	99	+4.8
Somerset	126	127	139	-8.6
Talbot	117	117	106	-9.4
Washington	4	5	*	-100
Wicomico	169	173	157	-9.2
Worcester	128	137	132	-3.6
TOTAL	2,132	2,165	2,030	-6.2%

* A single asterisk indicates a county no longer participates in the program.

** A double asterisk indicates a county-run program, separate from MDA.

Pesticide Regulation Section

The Pesticide Regulation Section (PRS) is responsible for regulating the use, sale, storage and disposal of pesticides. The primary functions of the section are to enforce state and federal pesticide use laws and regulations and to ensure that pesticides are applied properly by competent individuals so that potential adverse effects to human health and the environment are prevented. The PRS contains five major programs: (1) Pesticide Applicator Certification and Training; (2) Pesticide Use Inspection and Enforcement; (3) Pesticide Technical Information Collection and Dissemination; (4) Integrated Pest Management in Schools and on School Grounds; and (5) Special Programs.

Pesticide Applicator Certification and Training

Private and commercial pesticide applicators are certified by the PRS. Private applicators are farmers and other individuals applying restricted-use pesticides to their own land or rented land for the purpose of producing agricultural commodities. Commercial applicators apply general use and restricted use pesticides as employees of licensed pest control businesses, not-for-hire businesses or public agencies.

A total of 128 new private applicators were certified in 2012 for a three-year period after passing an examination while 1,563 private applicators renewed their certificates by attending recertification training. Currently, there are 3,252 certified private applicators. MDA approved and monitored 133 private applicator recertification training sessions that the University of Maryland Extension, MDA, or the pesticide industry conducted.

A total of 529 new commercial pest control applicators and consultants were certified in 2012 in one or more of the 13 categories of pest control by satisfying minimum experience or education requirements and by passing written certification exams. The section certified 1,077 public agency applicators in 2012, bringing the total number of certified commercial, public agency applicators and consultants to 4,496. In 2012, a total of 18 exam sessions were held during which 1,850 exams were administered to 784 applicants. Once certified, commercial applicators are required to participate in at least one update training session approved by MDA each year in order to renew their certificates. Four hundred fifty-six (456) recertification training sessions for commercial pesticide applicators were approved and monitored by MDA

and conducted by the pesticide industry, the University of Maryland Extension, or the department. By attending recertification training, 3,634 applicators were recertified in 2012.

During 2012, the section licensed 1,525 commercial businesses and 160 not-for-hire businesses to apply pesticides and to perform pest control services. A total of 332 public agency permits were issued to governmental agencies that apply pesticides while 33 pest control consultant licenses were issued. A total of 4,905 registered employee identification cards were issued during 2012. MDA currently has 7,971 employees of pesticide businesses and public agencies registered to apply pesticides under the supervision of certified applicators. A total of 148 dealer permits were issued to businesses that sell restricted use pesticides.

Pesticide Use Inspection and Enforcement

Besides enforcing state pesticide laws, MDA enforces federal pesticide laws under a Cooperative Enforcement Agreement with the U.S. Environmental Protection Agency (EPA). Routine



Supervising Inspectors Ellis Tinsley and Petey Councill conduct an inspection at a bulk pesticide storage facility to assure that pesticide storage, repackaging, mixing and loading operations are meeting state and federal regulations to protect the environment.

inspection activities are conducted throughout the year and include use observations and inspections of businesses, public agencies, dealers, market places and producer establishments. Consumer complaint and pesticide misuse investigations are conducted by the staff.

In 2012, MDA performed 750 routine business inspections during which 222 businesses were cited for violations of the Pesticide Applicators Law and Regulations. MDA inspected 78 pesticide dealers to ensure that restricted use pesticides were sold only to certified applicators. MDA conducted 186 observations during which pest inspections and pesticide applications performed by commercial and private applicators were observed. A total of 108 consumer complaints were investigated. Under the federal cooperative agreement, 28 pesticide producer establishment and 33 market place inspections were conducted. Other enforcement actions taken during 2012 included the assessment of 12 civil penalties totaling \$15,950.

In FY 2012, the PRS continued conducting compliance assistance inspections at commercial agricultural pesticide application firms, custom blending operations and agricultural pesticide refilling establishments. PRS inspectors conduct inspections of bulk pesticide storage containers and mixing and loading pads at these facilities to ensure they are in compliance with state and federal regulations. These regulations were developed to protect the environment from agricultural pesticide releases at bulk storage sites and from agricultural spills and leaks resulting from pesticide refilling and dispensing (repackaging, mixing and loading) operations.

Pesticide Technical Information Collection and Dissemination

A listing of pesticide sensitive individuals was first compiled in 1989. These individuals receive advance notification of pesticide applications made to adjacent properties by commercial ornamental plant and turf pest control businesses and public agencies. A mailing was sent to all commercial companies and public agencies licensed or permitted in the ornamental plant and turf pest control category. During 2012, the Pesticide Regulation section registered 167 individuals.

Searchable databases of registered pesticide products, licensed pesticide businesses, commercial and private applicators and pesticide dealers continue to be posted on the MDA's web site. These databases provide information to applicators and the public about pesticides that may legally be sold, distributed or used in Maryland and the names and addresses

of licensed pesticide businesses. Pesticide dealers can check the certification status of pesticide applicators prior to selling them restricted use pesticides. This database is linked to EPA's registration database so that information on each pesticide product queried, such as the EPA registration number, pest controlled, site of application, formulation active ingredient and the brand name can be obtained.

Integrated Pest Management in Schools

The section continues to promote and support implementation of the Integrated Pest Management (IPM) Program in Public Schools. Regulations that require schools to develop and implement notification and IPM plans for indoor pest control became effective in 1999, and regulations for notification and IPM plans for school grounds became effective in 2002. MDA's PRS staff provided technical assistance in the development of the plans and distribution of information on potential adverse effects of pesticides applied. The PRS staff continues to work with Maryland Public School districts on implementation of IPM on school property. In addition, PRS staff members serve as members of the Northeast Region IPM Center's School IPM Working Group, the Northeast Region's K-12 IPM Curriculum Subcommittee, and the Association of Structural Pest Control Regulatory Official's IPM in School Committee. PRS staff continues to work with the Maryland Public School district's on the use and implementation of IPM on school property.

Training Events: During 2012, PRS inspectors and the enforcement program coordinator attended the annual EPA Region III State Pesticide Inspector's Workshop hosted by the District of Columbia's Department of the Environment. Seventy-three inspectors from Maryland, Delaware, Pennsylvania, Washington D.C., Virginia and West Virginia attended. The agenda for the workshop included health and safety training for the inspectors as well as presentations on the importance of personal protective equipment to prevent pesticide exposures, conducting inspections at pesticide producing establishments and market places where pesticides are sold, pesticide label interpretation, concerns and challenges of invasive species control, investigating fish kills along with respirator fit testing.

Special Programs

During 2012, the section offered its recycling program for empty plastic pesticide containers to growers and commercial pesticide applicators at 22 locations. Collection centers were

maintained in six counties (Frederick, Harford, Kent, Prince George’s, Talbot and Washington) with the assistance of county government agencies. Between June and September, 28 collection days were held. In addition, 13 pesticide dealer/custom applicators participated in inspection and collection of containers at their own facilities. A total of 43,050 containers weighing 39,000 pounds were collected. The containers were processed for transporting to a plastic recycling facility.

In 1995, MDA began conducting a pesticide disposal program; however, due to budget constraints has not been able to conduct the program since 2007. The program resumed in 2012. PRS collected unwanted or unusable pesticides from 54 participants (farmers and growers) in 16 counties throughout the state. This program collected 17,866 pounds of pesticides. The program has collected approximately and properly disposed of more than 185,000 pounds of unusable or unwanted pesticides.

MDA’s PRS staff continued to offer outreach and assistance to growers and pesticide dealers under the Worker Protection Program. The Worker Protection Standard (WPS) was established to minimize occupational exposure to agricultural pesticides and requires agricultural workers, who could be exposed to pesticides, to receive training on pesticide safety. Brochures on the WPS have been produced and widely distributed to the regulated community. To aid with on-farm compliance, the section has developed a pocket-sized WPS Compliance Evaluation Checklist which is available to the WPS regulated community. The section also contracted with Telamon Corporation to provide pesticide safety training to farm workers. In 2012, Telamon members provided training in Spanish to 427 farm workers and 22 non-farm workers (i.e., health care providers). Telamon also provided pesticide safety and awareness training to 340 children of farm workers, from pre-K through eighth grade.

GOALS AND OBJECTIVES

GOAL 1. TO UTILIZE PROPER PESTICIDE MANAGEMENT IN ORDER TO REDUCE THE POTENTIAL ADVERSE IMPACTS OF PESTICIDES ON HUMAN HEALTH, ENVIRONMENTAL RESOURCES AND AGRICULTURAL COMMODITIES.

Objective: 75 percent of inspected licensees, permittees and certified applicators will be in compliance with pesticide laws and regulations.

PERFORMANCE MEASURES	2012 ACTUAL
Outcome: Percent of licensees and permittees in compliance with laws and regulations.	70
Efficiency: Percent of licensees and permittees inspected.	43

Objective: 80 percent of private and commercial applicator recertification training sessions will address targeted pesticide issues and high volume violations.

PERFORMANCE MEASURES	2012 ACTUAL
Input: Number of certified private and commercial applicators.	7,752
Output: Number of re-certification training sessions conducted.	541
Quality: Percent of training sessions addressing targeted pesticide issues.	77

PESTICIDE REGULATION SECTION ACTIVITIES, 2010 – 2012

	2010	2011	2012
Commercial Pesticide Businesses Licensed	1,458	1,522	1,755
Not-For-Hire Businesses Licensed	173	171	1155
Commercial Pest Control Applicators Certified In One or More Category	3,280	3,481	3,300
Registered Personnel Employed by Licensed Businesses and Public Agencies	11,372	10,266	7971
Public Agency Permits Issued	319	325	325
Public Agency Applicators Certified In One or More Category	1,051	1,102	1,077
Private Applicators Certified to Date	3,328	3,354	3,256
Dealer Permits Issued	120	141	148
Applicator Certification Examination Sessions Held	18	18	18
Individuals Taking Certification Examinations	825	824	931
Certification Examinations Administered in All Categories	2,130	2,158	1,978
Number of Businesses Inspected	807	1099	750
Number of Businesses with Violations	276	324	222
Unregistered Employee Violations	16	24	19
Records Incomplete or Inaccurate Violations	184	110	143
Vehicles Not Properly Identified Violations	32	14	51
No Anti-siphon Device Violations	18	14	11
No First Aid/Safety Equipment Violations	8	14	5
Incomplete or No Customer Information Violations	24	49	18
Pesticide Dealer Inspections	78	89	89
Application Records Reviewed	809	990	978
Hearing and Investigational Conferences	0	6	1
Consumer Complaint Investigations	31	53	108
Pesticide Use Observations	79	75	186
Pesticide Samples Collected for Analysis	51	81	63
Market Place Inspections	30	61	33
Pesticide Producer Establishment Inspections	28	30	28
Container/Containment Inspections	N/A	8	8

State Chemist Section

The State Chemist Section regulates the sale and distribution of pesticides, feeds, pet foods, fertilizers, compost, soil conditioners and agricultural liming materials in order to enhance and promote agricultural production, protect consumers and the environment from unsafe products, ensure the sale of effective products and provide the regulated industry with a competitive marketplace. Regulation is accomplished by product registration, laboratory analysis, inspection, and voluntary compliance and enforcement actions such as stop sale orders.

Registration of Products

Pesticide products, commercial feeds, fertilizers, fertilizer/pesticides, liming materials, and soil conditioners are registered for sale or distribution only after careful review of the label to determine the material's nature, proposed uses and potential adverse impacts on agriculture, the environment, the general public, and the regulated industry. During FY 2012, the section registered 12,381 pesticide products; 3,608 fertilizers; 423 soil conditioners; 671 fertilizer/pesticide mixtures; 153 liming materials; and 15,201 commercial feeds. MDA inspectors also brought 282 previously unregistered products into compliance. See Table 1 on page 65.

Inspection

Field inspectors routinely sample randomly selected products at retail outlets, distribution centers, warehouses, and formulating facilities. These inspections enable MDA to maintain efficient regulatory control that ensures the sale, distribution and use of effective products that are safe for the consumer and environment, when used in accordance with approved label instructions. The inspectors sample a representative cross section of products for chemical analysis and obtain reliable data on the distribution, formulation and sale of these commodities. This enables the section to stop the sale or distribution of ineffective products or those that are harmful to humans, animals or the environment because of unacceptable levels of pesticides, plant nutrients, trace elements and/or toxic materials. In FY 2012, the State Chemist Section inspectors performed 1,109 on-site inspections. See Table 2 on page 65.

Laboratory Analyses/Investigations

MDA's chemists have expertise and experience in the use of highly sophisticated computer controlled instruments which analyze agricultural chemicals and toxic contaminants in commercial products, crops and environmental samples (i.e., water, soil, fish, etc.). The laboratory staff provides reliable scientific data that are used to assist farmers and to initiate or support regulatory actions against violative products or violators of state and federal agricultural and environmental laws. The laboratory also provides support to the Maryland Department of the Environment, the Maryland Department of Natural Resources, the U. S. Department of Agriculture, and the U. S. Environmental Protection Agency.

Homeland Security

Food Emergency Response Network (FERN). MDA's State Chemist's laboratory is the primary Food Emergency Response Network (FERN) chemistry laboratory for Maryland. It is an essential part of a federal-state network that is expected to be in a state of readiness for quick response to a chemical terrorist attack on human and animal food supplies. In the event of an attack, the laboratory staff would provide rapid and accurate analysis of food, feed, crops and water samples to determine if such items would be embargoed or released for human and animal consumption. The laboratory is an active participant in a federal/state laboratory proficiency program for the analysis of highly toxic materials in food and water.

Since 2005, MDA's Maryland State Chemist laboratory has participated in 16 FDA/USDA/FERN collaborative check sample analysis studies involving highly toxic materials - three of which are among the most deadly known natural toxins and two among the most deadly man-made toxic chemicals. The laboratory successfully identified the toxic materials in the collaborative check samples. The toxins/chemicals include heavy metals, Ricin, alpha amanitin, cyanide, tetramine, melamine, sodium fluoroacetate, and pesticides.

Ammonium Nitrate (Potential Explosive for Terrorist Activities). MDA inspects fertilizer manufacturers and warehouses twice a year to determine how much ammonium nitrate is being stored and to monitor sales and distribution records to ensure they are maintained in accordance with federal/state law.

Enforcement. Any regulated product determined to be ineffective, misbranded or deleterious to the public, agriculture, or the environment is removed from the market place. Determination for product removal is based on inspection, laboratory analysis of official samples, information received from federal or state regulatory agencies, products offered for sale but not registered for use or distribution in Maryland, and review of labels or other materials submitted by companies to support product registration. See Table 3 on page 66.

Human and Animal Health Activities

Aflatoxin and Vomitoxin Contamination. MDA routinely monitors Maryland and imported grain products (i.e., livestock feed) for the mold by-products (mycotoxins) known as Aflatoxin and Vomitoxin. The inspection staff and laboratory continue to assist the farm community in ascertaining the levels of Aflatoxin, nitrates and prussic acid in silage and feed resulting from drought to prevent livestock death or illness.

Protein Adulteration Surveillance - Melamine. The section continues to monitor for protein adulteration in pet foods by analyzing them for melamine. Since the pet food crisis in 2008, which resulted in many deaths of cats and dogs, and the hospitalization of many others, the section continues to monitor wet, moist and canned pet foods for melamine by an ELISA technique. If any pet foods are found to be over 10 parts per million they are confirmed by a second technique, HPLC-MS/MS. The section analyzed 10 samples in FY 2012 for the presence of melamine; all were found negative.

Bovine Spongiform Encephalopathy (BSE-Mad Cow Disease). MDA continued an inspection program in conjunction with the U.S. Food and Drug Administration (FDA) that began in 1999 to determine if feed mills, retail and wholesale distributors, haulers and grain storage facilities within Maryland comply with FDA regulations pertaining to the prevention of bovine spongiform encephalopathy (BSE), also known as Mad Cow Disease. Feed mills and/or feed distributors are issued stop sale orders for products determined to be in non-compliance with state and FDA regulations. In FY 2012, the section completed 50 BSE inspections and collected 150 samples from feed mills, various retail and wholesale distributors, grain haulers/storage facilities and pet food manufacturers. All inspected facilities complied with FDA regulations. Recent terrorist activities have resulted in placing additional emphasis on section inspection activities that go beyond protocols established by the FDA. Inspectors distributed handouts that

list specific precautions that farmers, retailers, distributors and warehouses should follow to help ensure that ruminant animal feed manufactured or distributed in Maryland does not contain ingredients that may transmit BSE. Inspectors have been instructed to personally emphasize to mill workers, distributors, etc. the need to read, understand and follow the specific precautions that appear on the warning handouts.

Antiterrorism and Homeland Security Issues. Because of the nature of the duties and capabilities of the section, many of its activities have homeland security implications. MDA's State Chemist section cooperates with the Maryland Department of Health and Mental Hygiene, Laboratories Administration, the State Police, the Maryland Department of the Environment and all local health departments through its position on the Laboratory Emergency Preparedness Advisory Committee.

USDA - Pesticide Data Program (PDP)

Since 1997, the USDA has contracted with MDA to sample various food items from principal distribution centers in the state. These samples consist of such diverse items as pineapples, potatoes, processed food, processed fruit juices, produce, milk, and peanut butter which are analyzed by federal and state laboratories for several hundred different pesticides. In concert with the EPA Food Safety Program, the data will be used to establish new pesticide food tolerances with added emphasis on the diet of infants and children. See Table 2 on page 65.

Food Safety Survey of Maryland Produce. Since 1992, the section has collected from roadside vegetable/fruit stands random samples of Maryland grown produce which were then tested for 400 different pesticides. The data will be sent to EPA and USDA for incorporation into national data banks. The surveys indicated that Maryland grown produce does not contain any toxic levels of pesticides.

Drugs and Additives in Livestock Feed. To help ensure the safe and effective use of drugs in livestock feed, MDA has expanded its feed analysis program. Any feed products containing drugs that do not meet the federal requirements relative to use, over-formulation or deficiency are removed from the market place. Removal of volatile products not only protects farm livestock but also protects the public from exposure to drug resistant bacteria. In FY 2012, the section analyzed 70 samples of feed for 12 different drugs. Distributors and registrants of defective feed products were notified and either stop sale orders or warnings of potential

regulatory action were issued to remove unacceptable products from the marketplace. In addition to monitoring animal feed for drugs and phytase, the section randomly samples and screens ingredients that are used in the production of feed for pesticides and heavy metals.

Environment

Commercial Fertilizer Regulation. Since the early 1990's, the Maryland State Chemist Section has seen the need to mitigate the leaching of commercial fertilizer nutrients into tributaries of the Chesapeake Bay. The section issues Stop Sale Orders and Warnings to registrants of products that are over formulated with either nitrogen and/or phosphorus compounds. Maryland was the first to implement this regulatory policy.

Commercial Fertilizer Distribution and Sales. MDA's State Chemist Section continues to record the amount of commercial fertilizers, fertilizer-pesticide mixtures, soil conditioners and agricultural liming materials sold by the ton within the state. The section also records the distribution by tonnage of fertilizers for farm/non-farm use and by county. See Table 5 on page 68.

Newly Passed Legislation Affecting the Chesapeake Bay and Human Health. Legislation passed during the 2009 and 2011 Sessions pertaining to phosphorous reduction in turf fertilizers has resulted in an increased emphasis in reviewing

and monitoring of labeling, registration and analysis of turf fertilizers containing phosphorous.

As a result of these new laws, the state chemists must develop laboratory procedures/methods that will enable MDA to precisely measure organic and inorganic available phosphorus to determine compliance of commercial lawn/turf fertilizer products. Section scientists must also develop methods to determine if arsenic in feed is naturally occurring or deliberately added as an organic arsenical. The procedures/methods developed in support of these laws must be practical relative to the time to perform analyses and the expenditure of funds for equipment and instruments that will be necessary to provide accurate, reliable, and precise data to support regulatory decisions.

Compost Facility Operator Certification. The Maryland Commercial Compost Law requires an MDA certified facility operator to be onsite to oversee the manufacturing process from beginning to end. Before becoming a certified compost facility operator, an individual must pass an examination on the manufacturing of commercial compost. Eight people took the exam during FY 2012. Additionally, individuals passing the exam must fulfill specific continuing education requirements to maintain their certification. This involves attending training courses approved by the Maryland State Chemist as well as participating in facility inspections conducted by State Chemist inspectors.



TABLE 1. PRODUCT REGISTRATION AND ENFORCEMENT ACTIONS

PRODUCT REGISTRATION	FY 2010	FY 2011	FY 2012
Pesticides	12,013	12,476	12,381
Fertilizers	3,615	3,701	3,608
Soil Conditioners	422	451	423
Fertilizer/Pesticide mixtures	759	724	671
Liming materials	137	148	153
Feeds	15,653	15,336	15,201
TOTAL	32,599	32,430	32,437
Number of companies with registered products	2,748	2,839	2,810
Registrants	2,293	2,330	2,315

ENFORCEMENT	FY 2010	FY 2011	FY 2012
Non-Registered Notices	510	506	282
Stop Sale Orders	192	157	159

TABLE 2. INSPECTION PROGRAM

INSPECTIONS (FEED, FERTILIZER, PESTICIDE, COMPOST, ETC.)	FY 2010	FY 2011	FY 2012
Plants, warehouses, retailers, etc.	1,234	961	1,109
Ruminant Tissue (BSE) inspections - FDA	54	48	50
Pesticide Data Program sites visited (USDA/MDA)	384	283	251
Pesticide Date Program samples collected (USDA/MDA)	712	766	717
Maryland grown produce food safety samples (farmers markets, roadside stands, etc.)	80	64	162

TABLE 3. STATE CHEMIST REGULATORY ACTIONS

	FY2010	FY2011	FY2012
STOP SALES			
Deficiencies			
Pesticides	1	0	1
Fertilizers	90	47	63
Feeds	59	36	44
Over-Formulations			
Pesticides	0	0	0
Fertilizers	33	27	13
Feeds	2	1	5
Mycotoxins (Feed)	65	17	0
LABEL VIOLATIONS	7	7	15
WARNINGS			
Deficiencies			
Pesticides	0	0	2
Fertilizers	61	24	14
Feeds	40	26	14
Over Formulations			
Pesticides	25	0	1
Fertilizers	49	10	7
Feeds	0	28	9
Mycotoxins (Feed)	14	2	0
PRODUCTS NOT REGISTERED BROUGHT INTO COMPLIANCE			
Pesticides	11	4	4
Fertilizers	15	41	17
Soil Conditioners	2	1	3
Fertilizer/Pesticide mixtures	4	3	1
Liming materials	5	2	1

TABLE 4. SAMPLES COLLECTED AND ANALYZED

	SAMPLES COLLECTED FY2010	CHEMICAL ANALYSES FY2010	SAMPLES COLLECTED FY2011	CHEMICAL ANALYSES FY2011	SAMPLES COLLECTED FY2012	CHEMICAL ANALYSES FY2012
Pesticides	268	672	236	592	162	406
Fertilizers (nitrogen, phosphorus, potassium, micro nutrients)	423	3,364	257	2,044	206	1,640
Liming materials	38	143	33	124	40	150
Feeds & Pet Foods (protein, drugs, phytase, etc.)	1,189	14,804	1,072	6,025	597	3,355
Broiler feeds for Phytase	35	70	22	44	59	118
Livestock feeds for drugs, additives, mineral supplements, and ingredients	172	2,141	39	485	245	3,047
Ruminant Tissue (BSE) - state routine inspections	57	57	93	93	26	26
Toxic Metals - feeds, fertilizers and liming materials	89	1,092	62	763	51	623
Melamine in animal and human food	9	9	25	25	10	10
Vomitoxin (DON) in feed	478	574	233	280	57	68
Aflatoxin in feed	63	75	151	180	88	105
Food Safety of Maryland grown produce	80	29,200	64	16,640	162	28,000
Service samples for farmers, veterinarians, etc.	31	380	38	467	39	479
Quality Assurance - national and international	116	4,764	101	415	55	226
EPA samples (pesticide misuse investigations, market place monitoring)	54	452	78	655	78	655
Ruminant Tissue (BSE) - FDA	150	150	150	150	150	150
Food Emergency Response Network (FERN) (federal and state laboratories network)	10	36	12	43	13	47

TABLE 5. COMMODITY SALES - TONS

	FY 2011	FY 2012
Fertilizers	370,122	336,954
Fertilizer/Pesticide mixtures	16,768	11,464
Soil Conditioners	234,358	248,752
Liming materials	204,662	195,589
TOTAL	825,910	792,761

Turf and Seed

Seed is the single most important input to any agricultural system. To be successful, a grower must begin with quality seed. MDA's Turf and Seed Section conducts regulatory and service programs, including seed and field inspections, testing, certification and quality control services, which are designed to ensure the continued availability of high quality seed to Maryland's seed consumers.

Today's seed industry exists in an environment of rapid change. The continued development of biotechnology and the expansion of genetically modified organisms has had an enormous effect on the production, distribution and marketing of seed and upon state seed programs. Seed regulatory, testing and certification programs throughout the country are being challenged to meet the demands brought about by these changes in seed technology.

Seed Laboratory

MDA's seed testing laboratory supports regulatory, certification, supervised seed mixing and turfgrass activities. It also provides service testing for seed producers, dealers, farmers and other seed consumers. Turfgrass professionals depend upon the laboratory to test the purity, germination and noxious weed seed of lots destined for use on golf courses, sod production fields, public grounds and other areas demanding high quality turf. Commercial vegetable growers use the laboratory for specialized vigor and germination testing, particularly for peas, garden beans and lima beans. The

State Highway Administration relies upon the laboratory to test all grass, wildflower, shrub and other seed planted along Maryland's highways. Maryland farmers participating in the Maryland Agricultural Water Quality Cost-Share (MACS) cover crop program use the laboratory to ensure that the seed they plant meets the quality standards required for that program. The laboratory also identifies seed submitted by farmers, veterinarians, health officials, other government agencies and the general public. The laboratory conducts Round-up® Ready testing of seeds for authorized seed producers to assist with their quality control programs. The laboratory also tests seeds used on wetland mitigation, restoration and conservation projects.

Key to a successful laboratory operation is a well-trained staff. The Association of Official Seed Analysts (AOSA) maintains an accreditation program for seed analysts in official laboratories throughout the United States. Analysts who pass rigorous tests, which include both written and practical examinations, are certified as official purity and germination analysts. Currently, six MDA staff members are certified by AOSA in both purity and germination testing, and two analysts are certified in germination testing. The laboratory staff also routinely participates in various seed referee tests. These referees develop new testing methodology and ensure uniform and accurate seed testing throughout the country, while also serving as continuing education requirements necessary for certified analysts to maintain their credentials.

Seed Regulatory

The Maryland Seed Law requires all seed offered for sale in the state to be accurately labeled. This includes agricultural, vegetable, flower, lawn and turf seed, as well as specialized seed such as seeds of trees, shrubs, native species, wildflowers and seed used in reclamation and wetlands mitigation and conservation projects. Quantities of seed range from small packets of vegetable and flower seed sold to home gardeners to bulk sales of thousands of pounds of crop seed sold to farmers. All seed distributed in Maryland is subject to inspection by MDA.

For much of its seed needs, Maryland relies on other areas of the country and the world where climates are better suited to seed production. Thus, it is important that Maryland maintain a strong and effective regulatory program in order to prevent low quality seed from entering the state.

MDA inspects both retail and wholesale seed dealers throughout the state. Inspectors review label claims, ensure that germination test dates are current and look for seed lots that have been found to be mislabeled or otherwise illegal for sale based on samples taken at other locations. Seed lots are sampled and submitted to the laboratory for testing. Lots found in violation of the Maryland Seed Law are placed under a stop sale order until they are brought into compliance. Corrective action may include re-labeling, reconditioning, destruction of the seed lot or its removal from the state. Seed dealers who fail to comply with a stop sale order are subject to civil penalties.

Seed Certification

The seed certification program is adapting to changes in the seed business. As large investments in biotech research by private companies increases, demand for traditional certification services decreases as does the involvement of public institutions, which have been the source for most certified seed varieties.

With the increased number of crop varieties being released by private companies, the demand for quality assurance inspections by third parties is strong, particularly from small to medium-sized seed companies that cannot afford their own quality control programs. Companies growing seed in Maryland look to MDA for expertise in field inspections, sampling, and laboratory analysis for quality control. MDA anticipates that quality control inspection acreage will increase as certified acreage decreases.

Staff members help seed growers and conditioners produce a product that meets some of the highest quality standards in the United States. Maryland seedsmen have become a net exporter of wheat, barley, and soybean seed, adding much revenue to the Maryland agriculture economy.

MDA cooperated with the Maryland Crop Improvement Association, the Maryland Agricultural Experiment Stations, and the University of Maryland in the production and distribution of Maryland Foundation seed. Much effort was spent to maintain the genetic purity of foundation seed of public varieties important to Maryland agriculture. This foundation seed was distributed to participating Maryland seedsmen for the production of Maryland certified seed.

Supervised Seed Mixing

The supervised seed mixing system enables certification to be continued when certified lots of different kinds and varieties of seeds are mixed together. Demand from the industry and consumers for this service is strong. MDA's oversight of this process ensures that consumers receive quality seed, not low quality substitutions. All seed used on State Highway Administration projects and for the production of Maryland certified turfgrass sod is mixed under this program. Many county and local governments, school systems, golf courses, recreation departments and professional seeding contractors require that the seed they purchase be mixed under this program.

Prior to mixing, component seed lots must be officially sampled and tested by the Maryland State Seed Laboratory. Seed lots that meet applicable standards are then mixed under the direct supervision of an MDA inspector who ensures that the mixer is free of contaminants and that only approved seed lots are used in the mixture. Special tags sewn onto each bag verify that the seed was mixed under MDA supervision.

Turf Regulation

Maryland's Turfgrass Law requires that all turfgrass sod, plugs and sprigs be accurately labeled. Due to the overall high quality of sod produced by Maryland sod growers, staff efforts are usually limited to responding to complaints which are promptly investigated and resolved. In most cases, the problems are due to site preparation and other growing conditions rather than the quality or condition of the sod. The Maryland public continues to be able to purchase some of the highest quality sod available anywhere.

Turf Certification

Maryland’s turf certification program is a national model for certification programs. Growers must plant varieties recommended by the University of Maryland based on performance trials conducted in this region.

All seed used in this program is tested by the Maryland State Seed Laboratory and mixed under the supervision of MDA inspectors, and all certified turfgrass fields are inspected for quality before harvest. Many sod specifications require Maryland certified turfgrass as a means of assuring the use of high quality varieties that are well adapted to this area.

Customer Service

Providing good customer service is a priority of the Turf and Seed section. Because marketing and planting seed is time-sensitive and because weather has an impact, customers rely on MDA staff to provide inspections, schedule supervised mixes, and send out seed test results rapidly to enable their businesses to remain successful in the seed market.

100th Anniversary of the Maryland Seed Law

On October 1, 1912, the Maryland State Seed Law was enacted. The Turf and Seed section will celebrate its one hundred years of quality seed testing and service to Maryland’s agricultural industry during FY 2013.

GOALS AND OBJECTIVES

GOAL 1. ENSURE THAT SEED OFFERED FOR SALE IS ACCURATELY LABELED AND IN COMPLIANCE WITH MARYLAND SEED LAW IN ORDER THAT THE CITIZENS OF MARYLAND MAY RELY ON THE ACCURACY OF THE LABELING AND THUS BE ASSURED THEY ARE PURCHASING THE QUALITY OF SEED THEY DESIRE.

Objective: Ensure that 90 percent of seed lots offered for sale in Maryland are labeled correctly.

PERFORMANCE MEASURES	ACTUAL 2012
Outcome: Percent of seed lots found to be correctly labeled	83.5

GOAL 2. TO ENSURE THAT SERVICE SAMPLES OF SEED SUBMITTED TO THE LABORATORY ARE COMPLETED IN A TIMELY MANNER.

Objective: Ensure that all service purity analyses will be completed, on average, within three days of receipt of seed sample and all service samples submitted for germination testing will have been planted, on average, within three days of sample receipt.

PERFORMANCE MEASURES	ACTUAL 2012
Quality: Average number of days between receipt of service sample and completion of purity analysis	6.2
Average number of days between receipt of service sample and planting for germination test	5.1

TURF AND SEED ACTIVITIES 2010-2012

	2010	2011	2012
Field Inspections			
Acres of Turf Inspected	5,895	4,446	4,811
Acres of Crop Seed Inspected	9,904	10,878	10,951

Supervised Mixing			
Pounds of Seed Mixed (thousand)	1,337	1,913	2,151

Retail and Wholesale Seed Inspections			
Number of Lots Sampled	1,014	1,092	995
Number of Regulatory Seed Tests Conducted	3,145	3,140	2,972

Seed Testing			
Purity Service Tests Conducted	3,031	2,935	3,140
Germination Service Tests Conducted	4,535	4,020	4,439

Office of Resource Conservation

MDA's Office of Resource Conservation works closely with Maryland farmers to plan and implement conservation practices and programs that balance crop and livestock production with the need to protect natural resources. The office provides educational and financial assistance, technical assistance, and regulatory programs to improve agricultural management and help Maryland meet its Chesapeake Bay restoration goals. Conservation staffers work with local, state and federal agencies to implement policies established by the State Soil Conservation Committee. The Office of Resource Conservation is comprised of four key areas: Program Planning and Development, Conservation Grants, Conservation Operations, and the Nutrient Management Program.

State Soil Conservation Committee

Established in 1938, the State Soil Conservation Committee (SSCC) consists of 11 members representing local soil conservation districts (SCDs) and state and federal agriculture and natural resource agencies. The SSCC coordinates the activities of Maryland's 24 soil conservation districts and appoints SCD supervisors. SSCC also develops, reviews and refines policies on soil conservation and water quality issues, while advising the Secretary of Agriculture on these matters. The committee serves as a forum for all agencies involved in protecting natural resources.

In FY 2012, the SSCC approved or recommended the following policy initiatives:

- An increase in the cost-share ceiling for animal waste management projects financed through the Maryland Agricultural Water Quality Cost-Share Program (MACS);
- Modifications to the information required for supervisor nominations;
- Streamlining measures for Maryland's conservation delivery system;
- Eligibility guidelines and standards for the 2012-2013 MACS Cover Crop Program; and
- A comprehensive overview of staff training needs.

In FY 2012, the SSCC received the following briefings and tracked these initiatives:

- Farm Manure to Energy Initiative – A grant-supported project that links farmers with excess manure with management technologies that provide value-added benefits such as energy or usable by-products;
- Updates and issues related to the Chesapeake Bay Model and the development of Maryland's Watershed Implementation Plan II for the Chesapeake Bay;
- Proposed modifications to Maryland's nutrient management regulations, including restrictions on winter manure application, incorporation of organic fertilizer sources, setbacks for fertilizer applications and fall nitrogen restrictions on small grains;
- Legislation recommended by the Taskforce on Sustainable Growth and Wastewater Disposal that requires counties to adhere to state criteria when developing local planning documents;
- A proposed "certainty" program that provides criteria for best management practices (BMPs) that farmers would implement in exchange for being 'held harmless' from new regulatory requirements at the state and federal levels for a period of time; and
- The process for updating the phosphorus site index (P index) along with changes that are likely to occur and the system that will be used to "ground-truth" the new P index prior to adoption.

Program Planning and Development

The Program Planning and Development section is responsible for planning, developing and coordinating policy, programs, and public information about resource conservation issues and nonpoint source pollution. Programs and activities are coordinated among local soil conservation districts, federal and state agencies, and public and private agricultural and natural resource organizations. The section also provides staffing support to the State Soil Conservation Committee, Governor Martin O'Malley's BayStat Program and the Conservation Reserve Enhancement Program Advisory Committee.

Geographic Information Systems (GIS). GIS is a powerful software technology used for resource management and development planning. The technology allows a vast amount of information to be linked to a geographic location. Data from many sources, including digitized and scanned maps, aerial photography, soil surveys, global positioning systems data and others are integrated and analyzed to create “smart maps” of a specific location.

In FY 2012, staff continued to provide technical assistance and spatial data to a range of program areas within MDA. GIS staff teamed up with the department’s Information and Technology office to install the ArcGIS 10 software program at MDA’s headquarters building and field offices. Staff coordinated MDA’s participation in the beta version of ArcGIS Online, a cloud-based collaborative content management system that lets organizations manage their geographic information (i.e., maps, applications, data and other spatial information) in a secure and configurable environment.

New priority watershed maps based on the Chesapeake Bay model were developed for soil conservation districts to assist in determining eligibility for cover crop bonus payments. Staff also assisted with an online mapping application to help pesticide applicators identify the location of sensitive crops in order to prevent exposure to spray drift from neighboring fields. Finally, GIS staff continued to work with an interagency committee to revise and update the Maryland Integrated Map (MDiMap), a statewide data viewer that allows government agencies and the public to access state, local and municipal government spatial data sets and GIS applications. One application contained in MDiMap is AgPrint, which targets areas for preservation and establishes conservation priorities.

Information and Education. The Information and Education Program provides creative, editorial, design, and production services to program areas within the Office of Resource Conservation. Displays, brochures, conservation activity books and other materials are provided to soil conservation districts statewide to assist with their educational outreach efforts.

In FY 2012, the program produced annual reports for the Maryland Agricultural Water Quality Cost-Share Program and the Nutrient Management Program. In addition, the spring and winter editions of the Maryland Nutrient Management Newsletter were produced and mailed to 6,500 farmers and certified nutrient management consultants.

An extensive information campaign was developed to update homeowners and lawn care professionals on Maryland’s new



During Earth Week, MDA held a public demonstration, showing homeowners some easy conservation practices they could use at home to help protect the Chesapeake Bay.

Here, University of Maryland Extension Home and Garden Information Center Director Jon Traunfeld demonstrated a number of easy steps homeowners can take, including how to take a soil test, how to read a soil test lab report, how to understand the contents of a fertilizer bag, how to compost, conserve water and grow a vegetable garden.

lawn fertilizer law. The campaign, coordinated with MDA’s Nutrient Management Program, University of Maryland Extension and the State Chemist Section, included fact sheets, brochures, posters, web page development, direct mail, soil sample information and educational displays. In addition, the popular Backyard Actions for a Cleaner Chesapeake Bay fact sheet series was updated with information on the lawn fertilizer requirements and distributed to the Master Gardeners and soil conservation districts statewide.

In other areas, the program developed a comprehensive communications campaign to promote farmer participation in Maryland’s 2012-2013 Cover Crop Program. The effort included news releases, direct mail, print and outdoor advertising, and publicity placement in agricultural newsletters and publications. Graphics support was provided for Maryland’s revised nutrient regulations, Watershed Implementation Plan II and a range of special events and announcements. During the fiscal

year, the program provided educational exhibits for 50 events including the 11-day Maryland State Fair, Maryland Home and Garden Show, Towson Gardens Day, Master Gardeners' Workshop and Montgomery County's Close Encounters with Agriculture Program.

Conservation Grants

In FY 2012, the Maryland Agricultural Water Quality Cost-Share Program (MACS) provided Maryland farmers with \$25.5 million in grants to install 2,238 conservation projects that control soil erosion, reduce nutrient runoff and protect water quality in streams, rivers and the Chesapeake Bay. These projects will prevent an estimated 2.8 million pounds of nitrogen and 125,000 pounds of phosphorus from entering Maryland waterways each year. Farmers who received cost-share grants from MACS in 2012 invested about \$1 million of their own money into these conservation projects.

Protecting waterways from sediment pollution is another important MACS goal. In FY 2012, MACS provided farmers with grants to install practices that will manage an estimated 14,677 tons of soil. Additional measures to protect streams from livestock traffic were installed through the Conservation Reserve Enhancement Program.

Managing animal waste to protect local waterways is a major Bay restoration goal. In FY 2012, MACS helped farmers construct 44 animal waste storage structures that will help farmers use this valuable resource more efficiently.

Although MACS helps farmers install conservation practices that they otherwise could not afford, grants do not cover equipment purchases or start up costs for major projects. Low Interest Loans for Agricultural Conservation (LILAC) provide farmers with the cash they need to get a project in the ground. Guaranteed by the Maryland Water Quality Revolving Loan Fund, LILAC loans are typically offered at 3 percent to 4 percent below market rates at lending institutions statewide. In FY 2012, MACS provided farmers with \$162,000 in LILAC loans to help pay for manure handling and conservation equipment.

The majority of MACS projects are funded through the capital program, which includes the sale of general obligation bonds; however, the following practices are financed using special funds from the Chesapeake Bay Restoration Fund, Chesapeake Bay 2010 Trust Fund and a combination of general and private funds.

Cover Crop Program: MDA provides grants to help farmers offset seed, labor and equipment costs associated with planting cover crops in the fall to control soil erosion, reduce nutrient runoff and protect water quality in the Chesapeake Bay and its tributaries over the winter. For a second year in a row, the cover crop program experienced record participation. During the 2011-2012 planting season, MACS provided farmers with \$19.8 million in grants to plant 430,000 acres of cover crops statewide. This acreage represents a 9 percent increase over the previous year. Collectively, the 2011-2012 cover crop planting helped prevent an estimated 2.6 million pounds of nitrogen and 86,000 pounds of phosphorus from reaching the Bay and its tributaries.

Manure Transport Program: The Manure Transport Program provides grants to help poultry, dairy, beef and other animal producers transport excess manure off their farms. In FY 2012, Maryland farmers transported 35,380 tons of manure to approved farms and businesses using \$297,587 in state grants. More than 90 percent of this tonnage was shipped to alternative use facilities and not land applied in the watershed. Delmarva poultry companies provided matching funds to transport poultry litter, bringing the total amount of financial support provided to farmers through the Manure Transport Program to \$587,354.

Conservation Reserve Enhancement Program: Maryland's Conservation Reserve Enhancement Program (CREP) is a federal-state partnership program that pays landowners to take environmentally sensitive cropland out of production for 10 to 15 years and install conservation practices that protect water quality and provide wildlife habitat. Through its water quality bonds, MACS provides CREP landowners with cost-share grants to establish conservation practices on environmentally sensitive land that they have agreed to no longer till or graze. Special funds are used to award a \$100/acre signing bonus for program enrollment or re-enrollment. In FY 2012, MACS provided 132 landowners statewide with \$394,000 in cost-share funds to install stream protection measures on land enrolled in CREP. About \$356,800 was provided in signing bonuses.

Resource Conservation Operations

This program provides operating funds and staffing support to the state's 24 soil conservation districts for promotion and delivery of local soil conservation and water quality programs.

Technical Assistance: In FY 2012, MDA funded 78 field office positions statewide in local soil conservation district offices. These technical experts work one-on-one with farmers to

install practices that protect local streams and other natural resources while meeting the Chesapeake Bay’s Total Maximum Daily Load (TMDL) reduction goals for nitrogen, phosphorus and sediment.

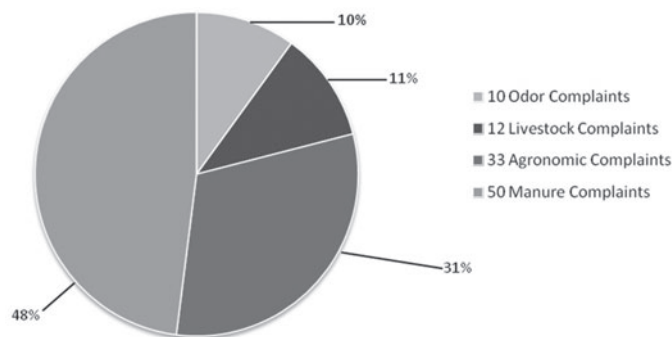
Much of their work involves developing Soil Conservation and Water Quality Plans (SCWQPs) for farms. Unlike nutrient management plans, which deal specifically with fertilizer and manure applications, SCWQPs address a range of natural resource concerns for the entire farm. A key feature of Maryland’s Watershed Implementation Plan (WIP) to protect the Chesapeake Bay, SCWQPs are required by numerous federal and state programs, including the Federal Food Security Act, the Chesapeake and Atlantic Coastal Bays Critical Area Law, Maryland Agricultural Land Preservation Foundation and the Maryland Department of the Environment’s (MDE’s) Animal Feeding Operation (MAFO) Permit. In FY 2012, technical staff working in soil conservation district offices statewide developed or updated SCWQPs to protect 37,350 acres of Maryland farmland. Overall, about 891,000 acres of agricultural land in Maryland were being managed under a current SCWQP in 2012.

Best management practices (BMPs) are conservation measures used by farmers to control soil erosion, manage nutrients and protect water quality. They are featured in all SCWQPs. MDA field technicians work with farmers to design, install and maintain BMPs such as livestock stream crossings and animal waste storage structures. Field technicians also help farmers calculate costs to install BMPs and apply for state and federal cost-share and low interest loans. In FY 2012, MDA field staff helped Maryland farmers install 3,275 highly valued BMPs on their farms that were supported by both state and federal financial assistance programs.

Enforcement: Cases of water pollution caused by agriculture are handled using a progressive approach that is based on the severity of the situation. Conditions likely to cause pollution or that result in inadvertent farm pollution require timely corrective action, whereas chronic or willful mismanagement of farm resources is handled through a formal enforcement action. During the year, MDA and the Maryland Department of the Environment (MDE) work jointly with soil conservation districts to assess farm management complaints and take action against polluters when necessary.

In FY 2012, MDA received 105 complaints concerning agronomic issues, odors, manure and livestock concerns. Ninety-seven of these complaints were corrected or closed, seven complaints are pending and one enforcement actions was initiated.

TYPES OF AGRICULTURAL COMPLAINTS : FY 2012



Agricultural Water Management: Drainage ditches are commonplace on the Eastern Shore. A network of about 820 miles of ditches is maintained by 101 public drainage associations (PDAs) and four public watershed associations in Caroline, Queen Anne’s, Somerset, Wicomico and Worcester counties. The network drains about 183,000 acres of agricultural and developed land. MDA regulates local PDAs to ensure that operation and maintenance plans for public drainage systems are in good working order and that best management practices are installed to protect water quality. In FY 2012, MDA received a \$265,000 Conservation Innovation grant that will allow innovative new drainage management practices to be used by PDAs.

Nutrient Trading: Launched in 2010, the Maryland Nutrient Trading Program provides a voluntary public marketplace where municipal and industrial wastewater discharge facilities, developers and farmers can buy and sell nutrient reduction credits for nitrogen and phosphorus. The program helps improve water quality in the Chesapeake Bay and its tributaries by enabling the private sector to finance agricultural BMPs that offset and reduce nutrient runoff and emissions. In FY 2012, the Maryland General Assembly authorized MDA to expand its trading program to include sediment credits.

The Maryland trading platform is based on the World Resources Institute’s NutrientNet suite of tools and incorporates both Chesapeake Bay Program model information and the national Nutrient Tracking Tool (or NTT) developed by USDA’s Natural Resources Conservation Service.

MDA’s nutrient trading website, www.mdnutrienttrading.com, contains a credit calculator, a marketplace, and a central registry to assist potential trading partners. To date, more than 200 farms – accounting for about 2 percent of Maryland’s total

agricultural acreage – have been assessed using the online calculation tool. About 60 percent of these farms have met program requirements and could be eligible to trade. Credits can be sold directly to a buyer or a third-party broker or aggregator.

Special Projects and Grants: The Office of Resource Conservation manages 27 ongoing research and technical assistance grants totaling \$6.7 million for special programs and demonstration projects designed to help dairy farmers, small-sized equine operations, poultry producers and other agricultural landowners improve pasture and manure management, control soil erosion, manage nutrients, reduce runoff and safeguard water quality in streams, rivers and the Chesapeake Bay.

Chesapeake Bay Restoration Partner: The office coordinates agriculture's role in the Chesapeake Bay restoration effort. As part of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has set limits on the amount of nutrients and sediments that can enter the Chesapeake Bay while directing the Bay states to develop statewide Watershed implementation Plans (WIPs) that outline strategies to achieve these pollution limits, known as the Bay's Total Maximum Daily Load or TMDL.

During the year, MDA staff worked with local soil conservation districts to complete the agricultural component of Maryland's Phase II WIP. The plan outlines specific actions to be taken by local partners to help Maryland meet its water quality goals in five major tributary basins: the Potomac River, Eastern Shore, Western Shore, Patuxent River, and Maryland's portion of the Susquehanna River.

Following months of gathering preliminary data, agricultural workgroup meetings were held in each of Maryland's 23 counties during the summer and fall of 2011. Workgroup members included farmers and representatives from soil conservation districts, environmental groups, agricultural interests, government agencies and University of Maryland Extension. All told, more than 1,000 people worked to identify local opportunities to install additional BMPs and assure that agricultural nutrient loads could be addressed.

On May 30, 2012, following a public comment period, EPA approved Maryland's Phase II WIP.

Conservation Tracker: Conservation Tracker is an integrated database management system that monitors agricultural conservation practices implemented in Maryland. The system

tracks both publicly and privately funded BMPs outlined in Maryland's Watershed Implementation Plan to protect the Bay. In FY 2012, BMP information obtained through Conservation Tracker was provided to Maryland's BayStat Program and the EPA's Chesapeake Bay Program Office for use in gauging progress.

Maryland Envirothon: MDA and soil conservation districts are primary sponsors of the Maryland Envirothon, an outdoor natural resources competition for high school students interested in learning about natural resources and gaining a better understanding of today's complex environmental issues. Designed by soil conservationists, foresters, wildlife experts and other natural resource professionals, the Envirothon moves students beyond the classroom to solve real life environmental problems in a natural setting. Students compete at the local, state and national levels. A five-member team of students from Harford County won this year's state competition and went on to place seventh among top-ranking teams from 44 states, nine Canadian provinces and one Canadian territory at the 2012 Canon Envirothon, North America's largest environmental education competition. The Maryland Envirothon is sponsored by the State Soil Conservation Committee, the Maryland Association of Soil Conservation Districts and other natural resource agencies.

Maryland Nutrient Management Program

Maryland law requires all farmers grossing \$2,500 a year or more or livestock producers with 8,000 pounds or more of live animal weight to follow nutrient management plans when fertilizing crops and managing animal waste. These science-based plans specify how much fertilizer, manure or other nutrient sources may be safely applied to individual crop fields to support crop growth while preventing excess nutrients from contaminating waterways. Nutrient Management Plans are required for all agricultural land used to produce plants, food, feed, fiber, animals or other agricultural products.

Non-agricultural nutrient applicators, including commercial lawn care companies, landscapers, golf course managers and public groundskeepers, are required by law to follow University of Maryland guidelines when applying nutrients to lawns, athletic fields or other landscapes. Both agricultural and non-agricultural nutrient applicators are required to maintain accurate records of soil test results and nutrient applications and make these records available to MDA if they are selected for audit.

The Nutrient Management Program includes regulatory and

enforcement activities, a certification and licensing program for consultants and farmers, training and education programs and an urban nutrient management program.

Revised Nutrient Management Regulations: On June 29, 2012, following months of discussions with stakeholder groups, MDA's revised regulations for the use of manure, biosolids and other organic nutrient sources on crop fields were published in the Maryland Register. In crafting the regulations, MDA relied on the best available science from the University of Maryland as well as input from Governor Martin O'Malley's BayStat Scientific Panel and environmental, agricultural and municipal stakeholders. The new rules are designed to achieve consistency in the way all sources of nutrients are managed and help Maryland meet nitrogen and phosphorus reduction goals spelled out in its Watershed Implementation Plan (WIP) to protect and restore the Bay. Public meetings were scheduled across the state in July with public comments to be submitted through August 13, 2012.

Agricultural Enforcement

Nutrient Management Plan Submissions: Maryland farmers are required to submit their initial nutrient management plans to MDA. By the end of the fiscal year, 99.6 percent of the state's 5,433 regulated farm operators had met the requirement. During FY 2012, MDA initiated progressive enforcement actions against five operators. By the end of the fiscal year, 22 operators remained out of compliance and one \$350 fine was paid for failure to have a plan.

Annual Implementation Reports: Farmers are required to update their nutrient management plans every three years and submit Annual Implementation Reports (AIRs) to MDA by March 1 summarizing their nutrient applications for the previous growing season. In April 2012, MDA issued warning notices to 1,586 farmers who failed to file their AIRs on time, followed by 451 notices of pending fines and 127 default notices. By the end of the fiscal year, 98 percent of 5,300 regulated farmers managing 1,264,500 acres of land had submitted their AIRs. In FY 2012, MDA collected \$10,700 in fines against 43 farmers for late or missing AIRs.

On-Farm Audits and Inspections: MDA's team of eight nutrient management specialists conducted 647 on-farm audits, representing roughly 12 percent of the farms regulated by the program, an increase of nearly 30 percent over FY 2011. Specialists issued 189 warnings to correct major violations, documented conditions and issued timelines for minor violations to be corrected. Follow-up inspections determined

that 20 percent of the non-compliant operators had corrected problems and met program requirements by the end of the fiscal year. Farmers with outstanding problems are in various stages of the enforcement process. In FY 2012, MDA collected \$1,100 in fines from six farmers who failed to take corrective actions in a timely manner.

Nutrient Management Plan Reviews: MDA nutrient management specialists review nutrient management plans prepared by certified consultants and farmers to ensure that they meet regulatory standards and are effective in protecting water quality. A site visit is conducted as part of this review process. In FY 2012, MDA specialists reviewed 95 plans developed by certified consultants and farmers. About 95 percent of these plans met regulatory requirements. In addition, 23 commercial nutrient applicators were inspected and found to be in compliance.

Certification and Licensing Programs

Consultant Certification: Certified 20 new consultants who passed the Nutrient Management Certification Exam, bringing the number of people who have successfully completed the program to 1,169.

University of Maryland Consultant Program: Funded 20 University of Maryland consultants in FY 2012.

Farmer Training and Certification: Trained and certified 44 farmers to write their own nutrient management plans. To date, 455 farmers have been certified to develop nutrient management plans for properties that they own or manage.

Farmer and Consultant Education Programs

Nutrient Applicator Voucher Training: In FY 2012, MDA and University of Maryland Extension (UME) conducted 31 voucher training sessions attended by 722 individuals seeking to obtain or renew their vouchers.

Continuing Education: With UME, MDA sponsored 44 education classes on nutrient management topics and approved an additional 32 courses and field events sponsored by other recognized organizations. The sessions were attended by 1,145 individuals.

Nutrient Management Exam Training: MDA provided a two-day training course for 25 individuals planning to take the certification exam. Some 72 percent of these individuals passed the exam.

Urban Nutrient Management Program

Maryland's New Lawn Fertilizer Law: MDA's urban nutrient management program spent much of 2012 gearing up to implement the phased in requirements of Maryland's new lawn fertilizer law, the Fertilizer Use Act of 2011. The new law requires MDA—with technical guidance from the University of Maryland (UME)—to establish a training, certification and licensing program for lawn care professionals and to conduct a homeowner education program on Bay-friendly fertilizer practices.

During the year, a \$100,000 grant was secured from the Chesapeake Bay Trust to establish the training program and develop a database to track urban progress in meeting the goals of Maryland's Watershed Implementation Plan. In addition, work was begun on the regulations needed to implement the certification program and a dedicated web site was established to educate visitors on the new lawn care requirements which take effect fully October 1, 2013.

Enforcement: Non-agricultural land encompasses a wide range of properties, including private landscapes managed by commercial lawn care companies, highway rights-of-way, golf courses, athletic fields, school campuses and recreational facilities. MDA's Urban Nutrient Management Program currently regulates about 700 individuals and companies that apply fertilizer to 10 or more acres a year, a figure that will more than double next year when Maryland's new lawn fertilizer law takes effect.

In FY 2012, the records of 41 golf courses, 27 lawn and landscape companies and three public lands maintenance offices were reviewed. The reviews resulted in 22 warnings for non-compliance. More than half of the violations were due to lack of soil tests. Operations that failed their inspections were ordered to secure soil tests or adjust fertilization rates for subsequent applications. By the end of the fiscal year, 12 follow up inspections were conducted resulting in 11 satisfactory ratings. MDA collected one \$250 fine in FY 2012.

Training: MDA provided three training sessions for about 150 lawn care technicians and professionals in FY 2012.



Maryland Department of Agriculture Budget Allocation for Fiscal Year 2012

STATE OF MARYLAND BUDGET ALLOCATION FOR FY 2012

Operating	\$30,484,128,884
Capital	\$1,481,109,320
Total State Budget	\$31,965,238,204

MARYLAND DEPARTMENT OF AGRICULTURE BUDGET ALLOCATION FOR FY 2012

	General	Special	Federal	Bonds	Total
Operating	\$26,757,092	\$23,134,833	\$4,151,366	—	\$54,043,291
Capital	—	\$5,438,000	—	\$10,367,000	\$15,805,000
Total	\$26,757,092	\$28,572,833	\$4,151,366	\$10,367,000	\$69,848,291

BONDS

AgLand	\$4,367,000
MACS	\$6,000,000
Tobacco	—
Total	\$10,367,000

MDA Honors Employees with Long Service Awards

MDA honored 41 employees during FY 2012 for their years of dedicated service to the department. Janet Crutchley with the Office of Resource Conservation and Bettie McCaffrey with the Office of Marketing, Animal Industries and Consumer Services received special recognition for 40 outstanding years of public service. Shaun Sanders of the Office of Resource Conservation was honored for 35 years of service. Six employees were honored for 30 years of service, and 14 employees were honored for 25 years. The remaining honorees were recognized for public service of 10, 15, or 20 years. **The following is a listing of the MDA employees who were recognized, by county of residence.**

Allegany County

- Barbara Butler (Resource Conservation), Cumberland – 25 years
- Conrad Zimmermann (Resource Conservation), Cumberland – 25 years

Anne Arundel County

- Bettie McCaffrey (Marketing, Animal Industries and Consumer Services), Glen Burnie – 40 years
- Judith Plymyer (Attorney General's Office), Millersville – 30 years
- George Williams, Jr. (Central Services), Annapolis – 30 years
- Regina Dorsey (Animal Health), Annapolis – 25 years
- Wilfredo Marte (Fiscal Services), Annapolis – 25 years
- S. Patrick McMillan (Marketing, Animal Industries and Consumer Services), Arnold – 25 years
- Pamela Randall (Turf and Seed), Arnold – 25 years
- Diane Chasse (MD Agricultural Land Preservation Foundation), Annapolis – 15 years
- Mark Anderson (Resource Conservation), Severna Park – 10 years
- Joanna Kille (Executive Direction), Arnold – 10 years
- Mark Smith (Plant Protection and Weed Management), Annapolis – 10 years

Caroline County

- Janet Towers (Food Quality Assurance), Goldsboro – 25 years
- Carol Middleton (Resource Conservation), Denton – 10 years

Carroll County

- Noah Schaeffer (Resource Conservation), Westminster – 10 years

Cecil County

- Scott Rowe (Pesticide Regulation), Elkton – 10 years

Dorchester County

- Ellis Tinsley, Jr. (Pesticide Regulation), Cambridge – 20 years

Frederick County

- Edward Crow (Pesticide Regulation), Thurmont – 30 years
- Thomas Lupp (Forest Pest Management), Frederick – 30 years
- Moana Himes (Resource Conservation), Frederick – 25 years
- Dwight Dotterer (Resource Conservation), Woodsboro – 10 years

Garrett County

- Shaun Sanders (Resource Conservation), Oakland – 35 years

Harford County

- Margaret (Peggy) Jagelski (Resource Conservation), Edgewood – 10 years

Howard County

- Edward Payne, Jr. (Weights and Measures), Laurel – 30 years

Prince George's County

- Jeannine Dorothy (Mosquito Control), New Carrollton – 30 years
- Micheal Webster (Nutrient Management), Springdale – 15 years

Queen Anne's County

- Janet Crutchley (Resource Conservation), Stevensville – 40 years
- James Drews (Turf and Seed), Centreville – 10 years

St. Mary's County

- Eileen Beard (Resource Conservation), Leonardtown – 10 years
- James Conrad (MD Agricultural Land Preservation Foundation), Leonardtown – 10 years

Somerset County

- George Barnes, III (Mosquito Control), Princess Anne – 10 years
- Charles (Larry) Fykes (Resource Conservation), Pocomoke City – 25 years

Talbot County

- Carrie Jennings (Resource Conservation), Cordova – 10 years

Washington County

- Ginger Noble (Resource Conservation), Williamsport – 10 years

Wicomico County

- Betty Baine (Food Quality Assurance), Salisbury – 25 years
- Jacquelyn Kimball (Mosquito Control), Salisbury – 25 years

Worcester County

- Douglas Jones (Resource Conservation), Berlin – 20 years

Other

- Christopher Firme (Forest Pest Management) Blue Ridge Summit, Penn. – 25 years
- Craig Kuhn (Forest Pest Management) Airville, Penn. – 25 years
- Carleeta Carter (Turf and Seed) Washington, D.C. – 25 years

For a complete directory of MDA staff, see: http://www.mda.maryland.gov/about_mda/staff_dir/index.php

Ten Years of Service



(Left to right): Joanna Kille, Mary Ellen Setting (Deputy Secretary), James Drew, Dwight Dotterer, Mark Anderson, Scott Rowe

Not shown: George Barnes, III, Eileen Beard, James Conrad, Margaret Jagelski, Carrie Jennings, Carol Middleton, Ginger Noble, Noah Schaeffer, Mark Smith

Fifteen Years of Service

(Left to right):
Mary Ellen Setting (Deputy Secretary)
Diane Chasse
Micheal Webster



Twenty Years of Service

(Left to right):
Dennis Howard (Pesticide Regulation Supervisor)
Mary Ellen Setting (Deputy Secretary)
Ellis Tinsley, Jr.
Carol Holko (Assistant Secretary, Plant Protection)

Not Shown: Douglas Jones



Twenty-five Years of Service



Mary Ellen Setting (Deputy Secretary)

First row:
Regina Dorsey
Wilfredo Marte
Janet Towers

Second row:
S. Patrick McMillan
Betty Baine
Carleeta Carter
Christopher Firme
Charles Fykes

Not Shown:
Barbara Butler
Moanna Himes
Jacquelyn Kimball
Craig Kuhn
Pamela Randall
Conrad Zimmermann

Thirty Years of Service



Mary Ellen Setting (Deputy Secretary)
Jeannine Dorothy
George Williams, Jr.
Thomas Lupp
Edward Crow

Not Shown:
Edward Payne Jr.
Judith Plymyer

Forty Years of Service



Mary Ellen Setting (Deputy Secretary)
Bettie McCaffrey
Janet Crutchley



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Front and back cover photos by Edwin Remsberg.



Maryland
Department of Agriculture

