



MARYLAND
PESTICIDE DATA REPORT
FOR 2013

MARYLAND
DEPARTMENT OF AGRICULTURE



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MARYLAND PESTICIDE DATA REPORT FOR 2013

I. INTRODUCTION

The Maryland Pesticide Registration and Labeling Law (Title 5, Subtitle I, Agriculture Article 1, Agriculture Article, Ann. Code Md.), Section 5-102(D), requires the Secretary of Agriculture to develop a comprehensive pesticide data program and to provide the General Assembly, in accordance with Section 2-1246 of the State Government Article, a report on pesticide data. The annual data program is to include the number and types of enforcement actions taken and figures for the number, types, and use of pesticides in Maryland.

A pesticide as defined generally by state and federal law, is any substance, or mixture of substances intended to prevent, destroy, repel, or mitigate any pest. There are at least 21 different classes (types of pesticides based on their target pests, including algaecides = target pest is algae; avicide = birds; bactericides = bacteria; fungicide = fungi; growth regulator = insect or plant growth; herbicide = weeds; insecticide = insects; rodenticides = rodents; and slimicide = slime molds.

II. BACKGROUND

The Maryland Department of Agriculture (MDA) is the State agency responsible for regulating the distribution, sale, storage, use and disposal of pesticides in Maryland. The Department cooperates with other State agencies, institutions and federal agencies to conduct pesticide education, regulatory and enforcement programs. Departmental activities and responsibilities are described briefly, as follows:

A. Pesticide Regulation Section

1. Enforcement Program

The Pesticide Regulation Section of the Maryland Department of Agriculture enforces the Federal (Federal Insecticide, Fungicide, and Rodenticide Act FIFRA) and state (Pesticide Applicators Law) pesticide use laws and regulation. Under the enforcement program, MDA conducts routine inspections of licensed pesticide businesses, public agencies and restricted use pesticide dealers. Inspection include review of pesticide application records, restricted use pesticide sales records, safety equipment, storage areas, application equipment, vehicles and anti-siphon devices. Use observations are conducted to observe actual pesticide applications to field crops, structures, lawns and ornamental plants to ensure compliance with label directions and state and federal regulations.

Pesticide misuse, incidents, and consumer complaints are investigated. In the event of a violation, the Department has the authority to suspend, revoke or deny a license or certificate and to assess a civil penalty. As part of a Cooperative Agreement with the U.S. Environmental Protection Agency (EPA), the Pesticide Regulation Section conducts producer establishment, marketplace, worker protection, container-containment and

pesticide import inspections. EPA also refers various complaint investigations and special initiative inspections to MDA for action.

2. Applicator Certification and Training Program

The Pesticide Regulation Section certifies private and commercial pesticide applicators to verify the competence of the applicator. Private applicators (farmers) are given closed-book written exams to become certified for a three year period. Certification authorizes them to purchase and apply restricted use pesticides on their own property for the purpose of producing agricultural commodities. Certificates are renewed by MDA after submission of proof of update training. MDA certifies commercial applicators (employees of pest control businesses and public agencies) who meet minimum standards of experience or education requirements and who have passed written exams in specific pest control categories. Commercial applicator certificates are renewed annually, after requirement training has been obtained in order to maintain their level of competency. MDA approve and monitors applicator recertification training courses and sets minimum standards for approval of courses for recertification purposes. Private and commercial applicator training sessions are coordinated with county extension agents, who are provided training materials such as slide sets, videos and educational brochures by MDA. In addition, MDA registers employees who work under the supervision of certified commercial applicators. Prior to registration with the Department, and within 30 days of employment, the employee must be trained according to standards developed by MDA.

MDA issues licenses and permits to pesticide businesses or public agencies that apply general or restricted use pesticides. Dealers who sell restricted use pesticides must obtain a permit issued by MDA to do so. MDA issues licenses to pest control consultants who either identify pests or recommend pesticides or other techniques for the purpose of controlling pests.

3. Technical Information Collection and Dissemination Program

The Pesticide Regulation Section provides information to pesticide applicators, dealers, federal, state and local agencies and the general public on issues concerning pesticide use and pesticide regulations. Training materials, informational brochures and fact sheets are developed for pesticide applicators in order to provide compliance assistance when new guidelines or regulations are implemented. A series of "Pesticide Information Sheets" was developed to provide information on pesticide issues and regulation to consumers and pesticide applicators. The Pesticide Regulation Section developed a Consumer Information Bulletin for use by licensed lawn and landscape firms for distribution to their customers. In addition, the Section has compile pesticide product label information that must be given to all pest control customers to inform them of any safety, precautions or environmental hazards associated with each pesticide used. A listing of pesticide sensitive individuals is available so that these listed individuals can receive advanced notification prior to lawn and ornamental pesticide applications being made to adjacent properties by licensed pest control businesses or public agencies. Maryland is one

of twelve (12) states that have a mandated pesticide sensitive individual notification program.

The Department provides information to applicants on where and how to obtain study material for certification and conducts certification examination session every other month in three regional locations. Private applicators (farmers applying restricted use pesticides) receive exam study material provided by the "Department and are offered certification examinations in county extension offices on an as-needed basis.

Homeowners are given information on licensing requirements for pest control firms, as well as, information on termite inspections and control, proper pesticide handling and alternatives to chemical pest control. Table top displays, brochures and "Pesticide Information Sheets" have been developed for use at various trade shows, grower meetings, and State and county fairs.

During 2013, MDA continued to expand the Pesticide Regulation Section's Homepage so that information on pesticide business licensing requirements, certification exam dates, recertification training sessions, pesticide container recycling dates, Pesticide Information Sheets, and Integrated Pest Management in Schools is available on the Internet. Consumers can now electronically file complaints, report pesticide incidents, download application forms to apply for certification, request employee I.D. cards and request additional information about pesticide regulations and management programs. The Section's website contains searchable databases of registered pesticide products, licensed pesticide businesses, certified pesticide applicators and restricted use pesticide dealers. These searchable databases allow pesticide dealers to verify a pesticide applicator's certification. In addition, pesticide applicators and homeowners can search for pesticide products by brand name, active ingredient, use site or pest controlled. In 2013, the Pesticide Regulation Section launched an online mapping application, on its website, that shows where commercial crops that are sensitive to pesticide damage are so the pesticide applicator can take extra precautions to prevent pesticide spray drift, especially from herbicides, when spraying on nearby properties. Information in the statewide map is voluntarily provided by growers of sensitive crops.

4. Water Quality Protection, Endangered Species Protection and Worker Protection Programs

MDA is involved in four Federal (EPA) regulatory programs that are being implemented through the states. The Department has developed a State water quality management plan for managing the use of pesticides to protect water resources as part of its Water Quality Protection Program. The Department monitors EPA's "Pesticides of Interest" list annually to maintain a list of "Pesticides of Concern" within Maryland. Under the Endangered Species Protection Program, the Department is responsible for programs to protect federally listed endangered species that may be harmed by the use of certain pesticides. The Department has implemented and conducts the federal Worker Protection Standard Program to protect certain pesticide users, handlers and farmworkers from exposure to pesticides. The Department also inspects agricultural facilities to ensure

bulk pesticide storage tanks, containment structures and mixing/loading pads meet state and federal requirements.

5. Special Programs

The Pesticide Regulation Section conducts special programs relating to pesticide management, when funding is available. These special programs address specific pesticide issues, environmental concerns or regional situations that require additional focus and attention beyond routine programs. Special programs many include development of informational materials and pesticide educations programs, participation in pesticide monitoring programs, and coordination of pesticide container and unusable pesticide disposal programs.

6. Chesapeake Bay Programs

MDA is an active participant in efforts to restore the Chesapeake Bay. Pesticide management commitments were incorporated in the Toxics 2000 Strategy as part of the Chesapeake 2000 Agreement and include commitments for adoption of integrated pest management, development of programs for pesticide container recycling, unusable pesticide disposal and implementation of agricultural best management practices. These pesticide management programs conducted by the Pesticide Regulation Section have placed Maryland in a leadership role and have given MDA recognition as one of the key Bay agencies in toxics reduction. Future toxics programs will be shaped by MDA and implemented through the Section's regulatory and educational programs.

7. Integrated Pest Management in Schools

The Pesticide Regulation Section has been conducting an Integrated Pest Management in Public School Building and School Grounds since 1995, in cooperation with the Maryland State Department of Education, Maryland Association of Boards of Education, county school systems, University of Maryland, Maryland State Pest Control Association, and EPA. The purpose of the program is to review each school system's pest management practices and to provide technical assistance to Maryland public school systems to facilitate the implementation of IPM programs in order to reduce the risk of exposing students and staff members to pesticides. Mandatory IPM programs have been required in Maryland public schools and on schools ground since 2000.

B. State Chemist Section

1. Registration

The State Chemist Section (SCS) is responsible for registration of all pesticide products distributed, sold, or transported in Maryland. The purpose of pesticide product registration is to ensure the sale and distribution of commodities that are effective and safe for humans and the environment. In 2013 the Section registered 13,521 (pesticides-

12,782; fertilizer-pesticide mixtures-739) products for sale and distribution within the State as compared to 13,467 products registered in 2012.

2. Inspection

Product quality and safety are determined by chemical analysis of pesticide products sampled by the Section's inspection staff which, on a regular schedule, inspects pesticide warehouses and retail outlets. During 2013, the inspection staff collected 107 pesticide formulation products for chemical analysis. The section also collected 682 samples of fruit juice, produce, fruit and processed food for analysis by USDA/EPA in order to obtain pesticide residue data for establishing appropriate pesticide tolerances for foods consumed by children and babies.

3. Chemical Analyses

In 2013, the Section analyzed 59 MDA/EPA pesticide investigation samples and 15 EPA/MDA formulations for MDA's Pesticide Regulation Section.

4. Pesticide Data Program

The Section continued to generate pesticide data relative to determining the safeness of Maryland-grown vegetables/fruit sold at roadside stands and farmer markets. In 2013, State Chemist inspectors collected from Maryland roadside vegetable and fruit stands 80 samples. No residues above EPA tolerances were detected. The data will be sent to EPA and U. S. Department of Agriculture (USDA) for incorporation in national data banks. This project will continue and probably expand in response to monitoring Maryland grown agricultural produce for toxic materials relative to potential chemical terrorist attacks on the food supply. This project continues to indicate that produce and fruit grown in Maryland do not contain toxic levels of pesticides.

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III. PESTICIDE REGISTRATION DATA AND ENFORCEMENT

The Pesticide Registration and Labeling Law requires a distributor of pesticide products to annually register the products with MDA's State Chemist Section (SCS) before distribution in the State. The State Chemist Section utilizes a computerized registration process, which has expedited and improved the accuracy of the registration process and has enabled the Section to compile more information about registered products.

During 2013, pesticide product registration data include:

1. Number of registrants	=	1,099
2. Number of pesticide products registered	=	13,521

As a result of the State Chemist Section's enforcement and registration program (pesticide dealer inspections, product sample collection, chemical analysis and label review), the following regulatory actions were taken against pesticide products violating the State Pesticide Registration and Labeling Law:

* Market place samples collected and analyzed	=	108
* Total chemical analyses	=	271
* Non-registered product (products offered for sale but not registered with the Department) stop sale orders	=	5

In support of the Pesticide Regulation Section's enforcement activities, and for other State agencies, the SCS laboratory analyzed samples (soil, water, tissue, swabs, product, etc.) for pesticide residues. The following is a summary of the analyses:

Investigational Samples (pesticide misuse, accidents):

Samples analyzed	=	59
Total number of analyses	=	493 (for 427 different pesticides)

Food Safety Program: Monitoring of Maryland produce offered for sale from June – September (1997-2013)

Number of samples containing pesticides:

1997 - 51 samples collected	=	25 positive
1998 - 50 samples collected	=	19 positive
1999 - 51 samples collected	=	15 positive
2000 - 75 samples collected	=	19 positive
2001 - 75 samples collected	=	52 positive
2003 - 60 samples collected	=	1 positive
2004 - 72 samples collected	=	none detected above EPA tolerances

2005 - 89 samples collected	= none detected above EPA tolerances
2006 - 56 samples collected	= 24 positive
2007 - 48 samples collected	= none detected above EPA tolerances
2008 - 645 samples collected	= none detected above EPA tolerances
2009 - 64 samples collected	= none detected above EPA tolerances
2010 - 70 samples collected, discarded 8	= none detected above EPA tolerances
2011 - 92 samples collected, discarded 8	= none detected above EPA tolerances
2012 - 94 samples collected	= none detected above EPA tolerances
2013 - 80 samples collected	= to be completed in 2014

*It would appear that samples of produce grown in Maryland are free of pesticides, e.g., none detected at levels equal to or greater than the tolerance levels established by the U. S. Environmental Protection Agency.

IV. PESTICIDE USE ENFORCEMENT INSPECTION AND ACTIONS

During 2013, inspection of licensed pest control businesses and public agencies were conducted as follows:

1.	Routine business inspections	=	
847			
2.	Routine public agency inspection	=	101
3.	Pesticide Dealer Inspections	=	
71			
4.	Pesticide Use Observations	=	
45			
5.	Pesticide Samples collected for analysis	=	81
6.	Application records reviewed	=	
	1,099		

Violations detected during pest control business inspection are summarized in Table 1 and include:

1.	Number of businesses and public Agencies with violations	=	257
2.	Unregistered employee violations	=	13
3.	Records incomplete or inaccurate	=	98
4.	Vehicles not properly identified	=	30
5.	No anti-siphon device	=	
14			
6.	No customer information	=	
13			

During 2013, regulatory or enforcement actions were taken against individuals or firms violating the Maryland Pesticide Applicators Law. The actions taken or penalties assessed for specific violations of the law or regulations are summarized, as follows:

1. Consumer Complaints Investigation = 53 (Investigations initiated as a result of written complaints from consumers regarding pest inspection or pesticide misuse.) See attached Table 2).
2. Investigational Conferences = ? (Informal meeting held with licensee and/or complainant to gather additional information about an ongoing investigation or to alert licensee to a situation requiring immediate action.
3. Administrative Hearing = 0 (Formal Hearing before an Administrative Law Judge, because of magnitude of violation warrants it or because of repeat violations by firm or individual).
4. Penalties Assessed:
 - a. Notices of Warning = 310 (Certified Letter notifying licensee, permittee, or individual that they have committed a violation or that a situation needs to be corrected).
 - b. Field Notices = 22 (Violations noted by a field inspector during routine inspection. Licensee, permittee or individual is informed of an infraction and given a compliance period to correct the infraction).
 - c. Criminal Action = 0 (Action taken against an individual or company that is operating without a pesticide business license or who has repeatedly violated pesticide laws. Individual is prosecuted through county court system; violation is a misdemeanor and subject to a fine of up to \$1,000, 60 days in jail, or both).
 - d. Civil Penalties = 6 (A civil penalty may be assessed in lieu of or in addition to a suspension or revocation of a license, permit, certificate, or employee registration card. The Secretary may impose up to a \$2,500 penalty per violation). Licensees were assessed a total of \$6,090 in civil penalties.

Under the federal pesticide enforcement cooperative agreement, the following inspections were conducted by the Pesticide Regulation Section Inspector staff:

1.	Pesticide producer establishment inspections	=	
	30		
2.	Pesticide marketplace inspections	=	31
3.	Pesticide import inspections	=	N/A
4.	EPA referrals for inspection/investigation	=	4

V. PESTICIDE APPLICATOR CERTIFICATION AND TRAINING PROGRAM

During 2013, the following licensing and certification activities were conducted, and are summarized in attached Table 3:

1. Pesticide businesses licensed = 1,728

2. Public agencies permitted	=	323
3. Pesticide dealer permits	=	152
4. Pest control applicators certified	=	6,100
5. Private applicators certified	=	3,275
6. Commercial applicators examined	=	1,922
7. Total examinations administered	=	2,156

In order to maintain applicator certification, private applicators must participate in Departmental approved training once every three years. Commercial applicators of pesticides must attend an annual recertification training session. The following data indicate training held in 2013:

1. Commercial applicator training sessions held	=	468
2. Private applicator training sessions held	=	118
3. Commercial applicators recertified	=	3,634
4. Private applicators recertified	=	1,594

VI. PESTICIDE USE DATA

The Pesticide Regulation Section regulates the use of pesticide in Maryland (See Section II). An essential factor in conducting effective regulatory or education programs on pesticides is data relating to the quantity and distribution of pesticide product usage in the State. It is a costly and complicated process to collect pesticide usage data. Therefore, the Department conducted use surveys on a 3 – year cycle, beginning in 1982 and followed by annual surveys for 1985, 1988, 1991, 1994, 1997 and for 2000. Due to limited resources (funds and personnel), pesticide usage data, the Department was limited to conducting additional pesticide usage surveys in 2004 and 2011. The use data was compiled by the National Agricultural Statistics Service (NASS), an agency of the U.S. Department of Agriculture, in cooperation with MDA. The Department contracts with NASS to conduct the surveys and to provide final data, but MDA has no access to the raw data in order to protect the confidentiality of the data and privacy of the respondents.

Maryland is unique in having such extensive pesticide use data, as no neighboring state has similar data. These data meet the commitment made by Maryland as part of the Chesapeake Bay Agreement. In addition, the data has been used in a variety of ways, including as a basis for conducting surface water surveys or ground water surveys, and as a basis for developing state pesticide management plans to deal with pesticides with a potential to be a problem in water sources. MDA is planning on contracting with NASS to conduct pesticide usage surveys in 2015 for 2014 pesticide usage data and in 2016 to for 2015 pesticide usage data.

VII. WATER QUALITY PROTECTION, ENDANGERED SPECIES PROTECTION AND WORKER PROTECTIONS PROGRAMS

MDA, as lead agency for pesticide management, is responsible for developing a Pesticide Management Plan (PMP) to protect water quality resources. The Pesticide

Regulation Section has participated in EPA sponsored ground water protection training courses on pesticide monitoring and wellhead protection in order to obtain information and guidance on developing Maryland's PMP. The PMP is one facet of an overall Comprehensive State Ground Water Protection Program (CSGWPP) which includes all state programs affecting ground water resources of the State.

MDA coordinated efforts with the Maryland Department of the Environment (MDE) and the Maryland Department of Natural Resources (DNR) to initiate development of Maryland's CSGWPP and PMP. Data collected from pesticide monitoring programs have been used to develop the generic Pesticide Management Plan. Ground water protection educational materials were developed for farmers, commercial applicators and pesticide dealers and incorporated into applicator recertification training programs. MDA has also contracted with the United States Geological Survey (USGS) in a number of monitoring projects located in the Chesapeake Bay.

MDA continues to support the endangered species protection program, initiated in 1992, to protect the Maryland darter from adverse effects due to pesticide use. Informational brochures were distributed to growers, commercial and private applicators, as well as, pesticide dealers that outlined the program and listed measures recommended for the protection of this federally listed endangered species, located in Harford County.

The federal worker protection standards (WPS) became effective in August, 1992. MDA continues to disseminate information on the federal program in pesticide applicator training sessions. Several WPS Compliance Review presentations were conducted for more than 1,000 growers throughout Maryland. MDA has conducted on-farm compliance assistance inspections to help farmers and producers comply with the WPS requirements. MDA continues to contract with Telamon Corporation, an AmeriCorps project participant, to provide pesticide safety training to farmers, farmworkers, children of farmworkers and health care providers.

VII. SPECIAL PROGRAMS

MDA continues to conduct an empty pesticide container recycling program in Maryland. During 2013, MDA Pesticide Container Recycling Program collected and recycled 42,242 empty pesticide containers weighing 36,500 pounds from growers and commercial pesticide applicators at 22 locations in seven counties and at 13 pesticide dealer/custom applicators sites.

IX. INTEGRATED PEST MANAGEMENT IN SCHOOLS

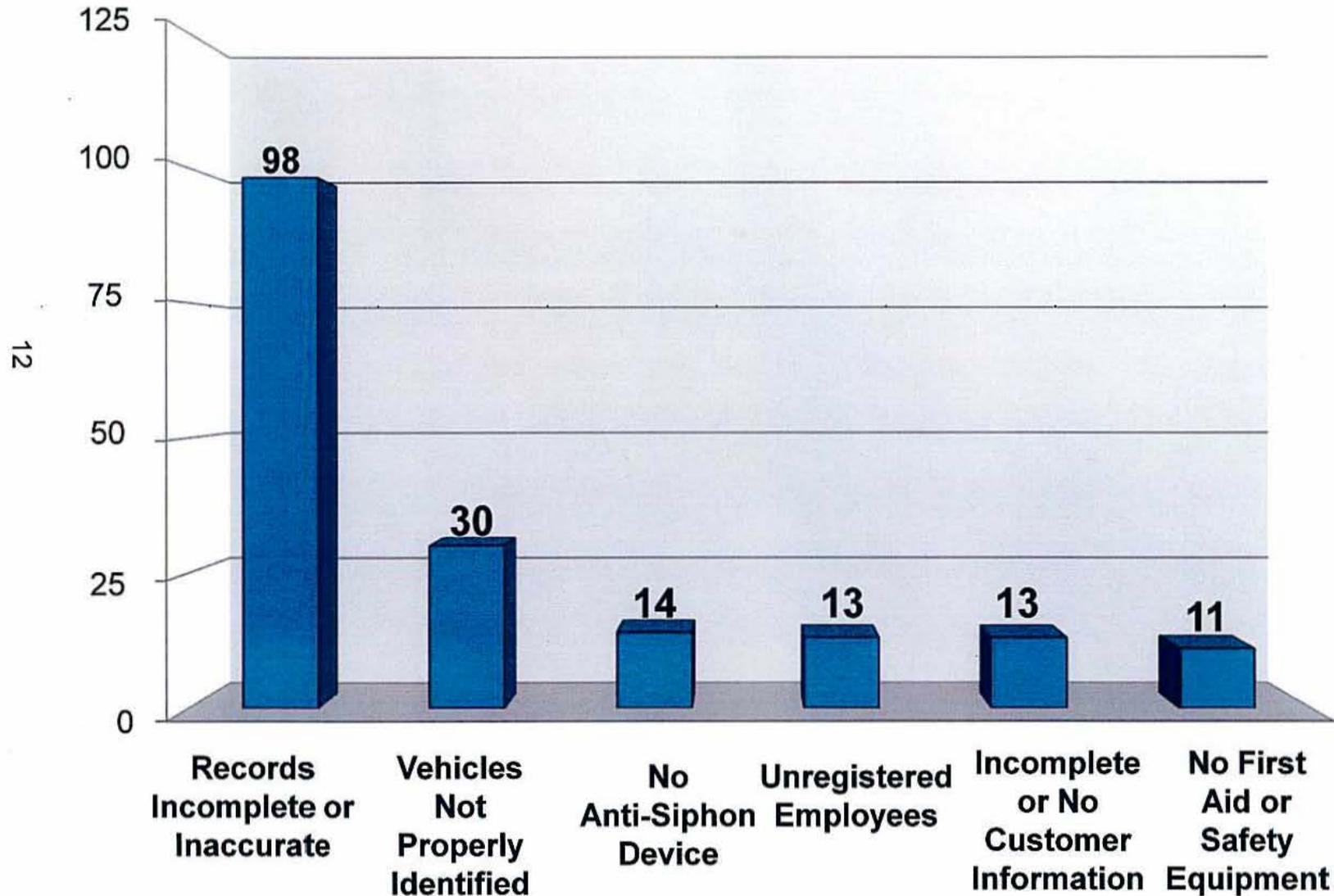
MDA continues to promote and implement the Integrated Pest Management (IPM) Program in Maryland Public Schools. Legislation was passed in 1999 that expanded the 1998 law to include pesticide use on school grounds. Schools are required to provide notification to parents, students, and staff of pesticide applications to school buildings and

on school grounds. Regulations to implement the law became effective January of 2002 and require schools to develop and implement IPM plans for school building and school grounds. MDA Pesticide Regulation Section staff reviewed and approved revised IPM plans that incorporated programs for managing pest problems on school grounds, and

provided technical assistance in the development of the plans. All of Maryland's public schools have fully implemented their IPM programs. MDA staff ensures continued compliance with these IPM regulations. A total of 60 public schools were inspected in 2013.

- X. A summary and comparison of program activities conducted by the Pesticide regulation Section are provided in Appendix A

2013 Inspection Violations

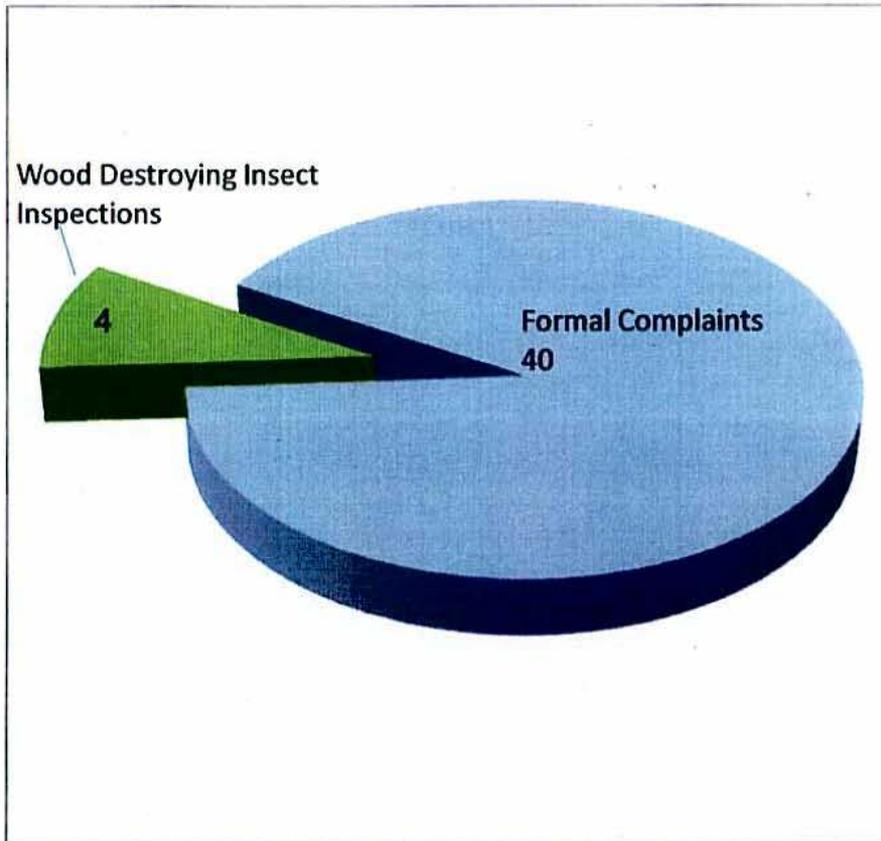


911 Businesses and Public Agencies Inspected

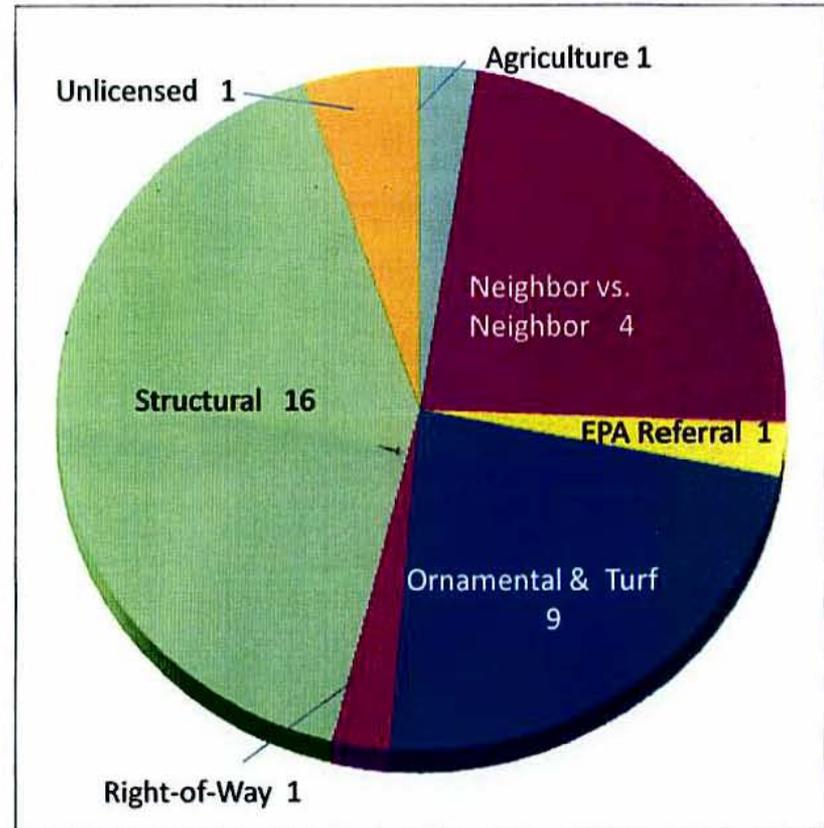
Table 1

2013 Complaint Investigations By Pest Control Category

COMPLAINTS



COMPLAINTS BY CATEGORY



July 1, 2012 thru June 30, 2013

Appendix A

PESTICIDE REGULATION SECTION ACTIVITIES 2011 – 2013

	<u>2011</u>	<u>2012</u>	<u>2013</u>
Pesticide Business Licensed	1,458	1,522	1,728
Not-For-Hire Businesses License	173	171	173
Commercial Pest Control Applicators certified in one or more Category	3,280	3,481	3,634
Registered Personnel Employed by Licensed Businesses and Public Agencies	11,372	10,266	7,533
Public Agency Permits Issued	319	325	323
Public Agency Applicators Certified in one or more category	1,051	1,102	1,042
Private Applicators Certified to Date	3,328	3,354	3,275
Dealer Permits Issued	120	141	152
Applicator Certification Examinations Sessions Held	18	18	18
Individuals Taking Certification Examinations	825	824	850
Examinations Administered in All Categories	2,130	2,158	1,922
Number of Businesses Inspected	1,050	1,099	911
Number of Businesses with Violations	276	324	344
Unregistered Employee Violations	16	24	13
Records Incomplete or Inaccurate Violations	184	110	98
Vehicles Not Properly Identified Violations	32	14	30
No Anti-siphon Device Violations	18	14	14
No First Aid/Safety Equipment Violations	8	14	11
Incomplete or No Customer Information Violations	24	49	13
Pesticide Dealer Inspections	98	89	78
Pesticide Application Records Reviewed	1,050	990	911
Hearings and Investigational Conferences	4	6	2
Consumer Complaint Investigations	37	53	
Pesticide Use Observations	65	75	71
Pesticide Samples Collected for Analysis	35	81	50
Market Place Inspections	29	61	31
Pesticide Producer Establishment Inspections	26	30	30
Container/Containment Inspections	8	8	9