

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS



Department of Agricultural Resources

225 Turnpike Road, 3rd Floor, Southborough, MA 01772
www.mass.gov/agr



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GOVERNOR

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TO: Senate and House Clerks
Joint Committee on the Environment and Natural Resources
Joint Committee on Agriculture
FROM: Taryn LaScola, Director of Crop and Pest Services
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REGARDING: End of Year Report for Federal Fiscal Years 2024 and 2025

INTRODUCTION

The Massachusetts Department Agricultural Resources (“MDAR”) is the lead state agency for pesticide oversight and regulation in the Commonwealth under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as well as the Massachusetts Pesticide Control Act ([M.G.L. c. 132B](#)) (“Act”) and its regulations promulgated at [333 CMR \(“Regulations”\)](#). Pursuant to M.G.L. c. 132B, Section 5A, MDAR is required to submit an annual report to Clerks of the Senate and the House of Representatives, the Joint Committee on Environment and Natural Resources and the Joint Committee on Agriculture describing the efforts taken and the progress made toward reducing pesticide use. This document serves as that report for the federal fiscal years 2024 and 2025. The reason that this is reported using the federal fiscal year is because MDAR must report out its activities to the U.S. Environmental Protection Agency (“EPA”) at the end of the federal fiscal year as a condition of receiving EPA funds to conduct work.

The Pesticide Program, which falls under the Division of Crop and Pest Services within MDAR, carries out the day-to-day responsibilities of regulating pesticides in the Commonwealth, including the licensing of pesticide applicators, the registration of pesticide products, and the enforcement of the Act and Regulations. In addition, the Pesticide Program carries out other pesticide related activities in support of the regulatory mandate, such as education, outreach, and water monitoring. The Pesticide Program also acts as support staff for the Pesticide Board, Pesticide Board Subcommittee, Pesticide Applicator Advisory Council, and Conservationist Advisory Council.

While MDAR enforces the Act and Regulations, the following bodies are established in statute and regulation to support its work:

- **Pesticide Board (“Board”):** A 13-member board made up of state agencies and members of the public. The Board’s role is to advise MDAR on the implementation of the Act and Regulations. It is also the authority on approving any regulatory change. See, M.G.L. c. 132B, Section 3.
- **Pesticide Board Subcommittee (“Subcommittee”):** A five-member board that is made up of state agencies and members of the public. The Subcommittee registers products for use in the state. See, M.G.L. c. 132B, Section 3A.
- **Pesticide Applicator Advisory Council:** A six-member body established by the Board and comprised of individuals in the pesticide industry. Its role is to advise the Board relative to the development of policy or the adoption, amendment, or repeal of regulation. See, 333 CMR 4.00.

- **Conservationist Advisory Council:** A five-member body established by the Board and comprised of individuals who are experienced in the conservation and protection of the environment. Its role is to advise the Board relative to the development of policy or the adoption, amendment, or repeal of regulation. See, 333 CMR 4.00.

Each year, MDAR staff must prioritize where MDAR's efforts should be focused. Considerations taken when prioritizing include, but are not limited to, the following:

- Resources (staff and funds);
- Federal responsibilities;
- Legislative mandates (state and federal);
- Changes in regulation;
- Enforcement trends;
- Complaints (which take precedent over routine inspections); and
- Stakeholder/public requests and needs.

INTEGRATED PEST MANAGEMENT AND THE REDUCTION OF PESTICIDE USE

Integrated Pest Management

Integrated Pest Management ("IPM") is defined at 333 CMR 14.02 as "*A comprehensive strategy of pest control whose major objective is to achieve desired levels of pest control in an environmentally responsible manner by combining multiple pest control measures to reduce the need for reliance on chemical pesticides; more specifically, a combination of pest controls which addresses conditions that support pests and may include, but not be limited to, the use of monitoring techniques to determine immediate and ongoing need for pest control, increased sanitation, physical barrier methods, the use of natural pest enemies and a judicious use of lowest risk pesticides when necessary.*" IPM is a "common sense" approach to pest management and is implemented through the following steps:

1. Identifying the pest;
2. Determining the threshold for the pest, which will be dependent on a number of variables;
3. Identifying the reason/cause for the pest;
4. Controlling the pest using the best tools available for the situation such as mechanical, cultural, chemical controls; and
5. Eliminating or reducing the reason/cause for the pest.

IPM is a strategy that pesticide applicators are familiar with and are constantly trained on. In order for an individual to maintain a license, they must receive continuing education units ("credits"). While trainings may not be specific to IPM as a whole, it is important to note that most trainings include IPM elements as listed above. For examples, trainings approved for credits include but are not limited to:

- Pest Identification and history;
- Pest management strategies (which include mechanical, cultural, chemical controls);
- Laws and regulations;
- Best management practices; and
- Pesticide safety.

Reduction in Pesticide Use

MDAR requires that all licensed applicators submit an [Annual Pesticide Use](#) report. This report is an overall summary of what products a company uses. While it could be used to examine pesticide use in the state, it is important to remember that it does not capture homeowner use or any applications that do not require a license and therefore it is difficult to determine how much pesticide is being used in the state from year to year.

Referencing the steps of IPM, there are many elements that factor into whether or not someone chooses to use a pesticide.

It is important to understand that pest pressures and environments constantly change and therefore the reaction to the pest pressure will also change. Climate, individual habits, historical management practices, requirements from other regulatory agencies, and infrastructure changes are just a few things that may affect pest pressure.

Additionally, pests and their pressure differ from county to county, town to town and address to address. For example:

- Mosquito populations and the threat of arbovirus change from year to year and therefore the management practices will change. In a year where there are high levels of arbovirus more pesticides may be used to manage them versus in years when the threat of arbovirus is low. Additionally, the mosquitoes that carry arbovirus are typically found in one part of the state. If arbovirus is found in a different part of the state, that area may now have increased their pesticide use versus an area that does not harbor mosquitoes that carry arbovirus.
- There are often town by-laws that put a zero-tolerance or extremely low threshold on pest pressure (ie: low rodent/cockroaches threshold) and then require specific types of pest management for a restaurant to stay in business, for example.
- New establishments opening or being built may affect the amount of pesticides used in that town/area/property based on the number of establishments that have these requirements.
- A pest that was not previously “established” may become established in an area. Pesticides may be used to control that pest to attempt to contain or control the pest, which may lead to an increase in pesticide use. If the pest is eradicated, then the use is reduced.

IPM poses many challenges that must be overcome to be successful and have the desired results of a reduction in pesticide use. This includes, but is not limited to, the following:

- Multiple parties having to participate: A pest control company can make recommendations, but the property owner/customer must either agree to what they are recommending for services or perform work on their own. (i.e., close holes in a foundation, reduce clutter, remove food sources).
- Cost: Many mitigation measures can be costly, such as frequent trash removal services, structural repairs, comprehensive site evaluations, etc.
- Consistency: Utilizing IPM is something that must be consistently performed and monitored so that the pest pressure does not get out of control.
- Existing laws related to pest control: There are federal, state, and municipal laws that may result in a need for pest control but may not require that IPM be used. For example, when new construction requires that there be rodent control but does not require that the site be kept free of food. In addition, some that do require IPM may not be very specific in the type of IPM practices that need to be conducted.
- Individual preferences: Some people do not want to use mechanical controls such as traps because they do not want to see a dead rodent in a trap and/or they want quicker results. Others may decide to use rodenticide to avoid costs with checking constantly checking and resetting traps.
- Human behaviors/habits: Increased cleaning, reducing clutter, trash removal/containment etc.
- Thresholds: Some people may be more used to presence of a rodent population versus others who do not often see rodents. This may drive what people may or may not be willing to do to address the pest issue in an area under their control.

In order for MDAR to accurately determine if pesticide use has increased or decreased from year to year, it would require statute/regulatory change to allow for additional tracking of sales and use. Significant additional resources, research, and analysis would be required to gather such data.

COMPLIANCE AND ENFORCEMENT

Enforcement Program

The enforcement program is charged with ensuring that the use, which includes but is not limited to, the application of pesticides, is performed within the confines of the Act and regulations as well as FIFRA. In the federal Fiscal Year of 2024 and 2025, MDAR had the following staff in the enforcement program:

- Pesticide Inspector (4)
- Rights of Way Inspector (1)
- Chief Inspector (1)

Inspectors conduct inspections that include, but are not limited to:

- Record inspections;
- Worker Protection Standard inspections;
- Marketplace inspections;
- Producer Establishment inspections;
- School inspections;
- Use observations;
- Rights of Way inspections;
- Investigations;
- License checks; and
- Dealer inspections.

If violations are found, enforcement actions are issued. Enforcement actions include, but are not limited to:

- Letter of Warning;
- Administrative Order;
- Notice of Assessments (fine);
- License Revocation; and
- License Suspension.

Inspections Completed

MDAR continued to monitor pesticide use, storage, sales, and labeling throughout the Commonwealth. Overall, a total of 237 pesticide inspections/investigations were completed in FY24 and 219 in FY25, covering a wide range of pesticide use in the Commonwealth (See Tables 1 through 4).

Table 1. FY24 Inspections Completed

Inspection Type	Inspections Completed	Physical Samples Collected
Agricultural Use	10	
*WPS Tier I	10	
*WPS Tier II	0	

Agricultural Use Follow-up	12	64
Non-Ag Use	80	37
Non-Ag Use Follow-up	33	30
Experimental Use		
Producer Establishment	1	
Marketplace	57	
Import		
Export		
Applicator Records	26	
Restricted Use	8	
Pesticide Dealer		
Total	237	131

Table 2. FY25 Inspections/Investigations Completed

Inspection Type	Inspections Completed	Physical Samples Collected
Agricultural Use	3	
*WPS Tier I	6	
*WPS Tier II	2	
Agricultural Use Follow-up	18	55
Non-Ag Use	48	14
Non-Ag Use Follow-up	48	16
Experimental Use		
Producer Establishment	5	1
Marketplace	64	
Import		
Export		
Applicator Records	22	
Restricted Use	3	
Pesticide Dealer		
Total	219	86

* Worker Protection Standard (“WPS”) inspections are reported as a subset of Agricultural Use Inspections.

Table 3. FY24 Enforcement Actions

Inspection Type	Warning Letter	Fine	Licensing Action	Other
Agricultural Use				
Agricultural Use Follow-up	3			6*
Non-Ag Use	1			

Non-Ag Use Follow-up	16			
Experimental Use				
Producer Establishment				
Marketplace				
Import				
Export				
Applicator Records	3			
Restricted Use Pesticide Dealer				
Total	23	0	0	6*

*Denotes an Administrative Order

Table 4. FY25 Enforcement Actions

Inspection Type	Warning Letter	Fine	Referrals to EPA	Other
Agricultural Use	0			
Agricultural Use Follow-up	1			8*
Non-Ag Use	2			
Non-Ag Use Follow-up	13		2	1*
Experimental Use				
Producer Establishment				
Marketplace				
Import				
Export				
Applicator Records	3			
Restricted Use Pesticide Dealer				
Total	19	0	2	9*

*Denotes an Administrative Order

Rights of Way (ROW) Program

333 CMR 11.00 provides requirements related to applications of herbicides to manage Rights of Way (ROW). It requires that Vegetation Management Plans (“VMP”) and Yearly Operational Plans (“YOP”) be developed and submitted to MDAR for review and approval. The ROW Program received 41 Yearly Operational Plans (“YOP”) in

FY24 and 42 in FY25. YOPs consist of the product name(s), rates and use amounts of pesticides to be applied along a specific Right of Way. It also identifies the individual areas to be applied to, and as applicable, the identification of “sensitive areas” (as defined in 333 CMR 11.00) where limits or prohibitions in application practices are warranted. The plans are reviewed and if needed, comments and/or edits are made by the ROW Coordinator. This process closed with the acceptance of 41 finalized YOPs.

Vegetation Management Plans (“VMP”) provide a comprehensive overview of vegetation control for a given Right of Way. VMPs describe potential methods of vegetation control which may include the following: herbicides; mechanical and biological methods; or a combination of the three. Integrated Pest Management (“IPM”) and—in the case of ROWs—IVM (Integrated Vegetation Management) play a prominent role in the MDAR ROW Program. As such, the IPM-IVM approach for the specific ROW is outlined in the VMP and the YOP. The VMPs are valid for five years, and then the plan process must start over again. A proposed VMP is part of the public record for the Commonwealth, and comments are sought in written format as well as at public hearings held in areas traversed by the Right of Way.

Five VMPs and FY24 and 13 in FY25 were reviewed by the ROW Advisory Panel in and MDAR staff and approved by the Commissioner in accordance with 333 CMR 11.00.

Pesticides and Bees/Pollinators

The Pesticide Inspectors work closely with State Apiary Inspectors when following up on allegations of pesticide related bee kills. The Apiary program will assess the call first to determine if a pesticide may be the cause of the issue. If they believe it is, then they will reach out to the Pesticide Inspectors and begin following up on the complaint together.

In FY24 the Apiary Program received 12 alleged pesticide complaints. After initial vetting, one case was considered a potential “Bee Kill” event. Samples taken of adult bees were non-detect for pesticides and observed death was suspected to be due to a parasitic mite (tracheal mites) found in high levels in the sample.

In FY25 the Apiary Program received 11 complaints suspected to involve pesticide misuse. After evaluation through the Program’s vetting process, two cases were considered potential “Bee Kill” events and investigated in collaboration with the MDAR Pesticide Enforcement Team. Hive inspections and sample collections were conducted at the affected apiaries. Laboratory analyses detected no pesticide residues, and the observed colony losses were attributed to high levels of tracheal mites (*Acarapis woodi*) and infections with pathogens, including *Lotmaria passim*, Lake Sinai Virus 1 (LSV1), and Deformed Wing Virus-B (DWV-B).

PRODUCT REGISTRATION AND PESTICIDE LICENSING

Pesticide Product Registration

Any person who has obtained a pesticide product registration from the EPA must then apply for registration with MDAR. The registrant, or an agent acting on behalf of the registrant, is required to submit an “Application for New Pesticide Registration,” a Material Safety Data Sheet (“MSDS”), and a product label. New products are usually registered by the Subcommittee monthly. Every product label is thoroughly reviewed for compliance with state and federal laws and then brought to the Subcommittee for consideration. Accepted products are categorized in three ways:

- State Restricted Use Pesticide (“SRUP”) classification: A Federal General Use pesticide product registered by the Commonwealth may be classified as either general use or reclassified as State Restricted Use

based upon its use pattern or the potential to become a groundwater contaminant.

- Special Local Needs (“SLN”) registration: When a particular agricultural problem exists that can only be mitigated through the use of a pesticide that is not federally registered for that specific purpose, a Special Local Need registration may be issued by the state under Section 24c of FIFRA.
- Experimental Use Permits (“EUP”): EUPs are required to control potential hazards of pesticide experimentation under outdoor, greenhouse, and domestic animal trial conditions. To obtain such a permit, a state application must be filed with the Subcommittee along with a product label, and a copy of the EPA EUP.

In FY24 525 new products were registered and in FY25 509 new products were registered.

Groundwater

As part of its pesticide registration process MDAR has an ongoing program to assess the potential of pesticides to impact groundwater. Pesticides, which are considered to potentially impact water resources, are restricted. The use of these chemicals in recharge areas to public water supplies is greatly limited.

During FY24, MDAR staff conducted groundwater exposure assessments for six new active ingredients (NAIs) that were registered by the MA Pesticide Board Subcommittee. The was only one new chemical active ingredient registered between October 1, 2023 and September 30, 2024 and therefore assessed for groundwater exposure was fluazainadolizine. The five new biochemical pesticide active ingredients registered in FY24 were homobrassinolide, saponins of *Quillaja saponaria*, *Cydia pomonella* granulovirus isolate GV-0017, nerolidol and farnesol (considered together). and ledprona.

During FY25, MDAR conducted evaluations of potential groundwater exposure for 11 new active ingredients (NAIs) in products registered by the MA Pesticide Board Subcommittee. Five new chemical active ingredients were registered between October 1, 2024 and September 30, 2025 and therefore assessed for groundwater exposure: pethoxamid, transfluthrin, trifloxysulfuron-sodium, ipflufenquin, and glufosinate-P-ammonium. The six biological/biochemical pesticide active ingredients registered in FY25 were Flg22-Bt Peptide, xanthan gum, Bacteriophage active against *Xanthomonas campestris* pv. *vesicatoria*, Bacteriophage active against *Pseudomonas syringae* pv. *tomato*, Bacteriophage active against *Erwinia amylovora*, Bacteriophage active against *Xanthomonas arboricola* pv. *pruni*, Bacteriophage active against *Xanthomonas arboricola* pv. *juglandis*, Bacteriophage active against *Xanthomonas arboricola* pv. *corylina*, Bacteriophage active against *Pseudomonas syringae* pv. *syringae*, and *Methylocrumbum populi* strain NLS0089.

The evaluation of new active ingredients and re-evaluation of registered active ingredients includes the assessment of their potential to cause groundwater contamination based on criteria for “Toxicological Concern” and “Leaching Potential” as defined in MA regulations 333 CMR 12.02.¹ None of these new active ingredients were classified as a “potential groundwater contaminant.”

¹ 333 CMR Ch. 12.00 Protection of Groundwater Sources of Public Drinking Water from Non-Point Source Pesticide Contamination. 12.02 Definitions: **Leaching Potential** refers to a pesticide which meets or exceeds the following criteria based upon the most conservative data and information published in the US EPA Environmental Fate and Groundwater Branch Pesticide Fate One-Line Summaries:

- (a) Water solubility greater than or equal to 3 ppm, or;
- (b) K_{OC} less than or equal to 1900, or;
- (c) K_D less than or equal to 20 in the absence of a reported K_{OC} value, and;
- (d) Soil half-life greater than or equal to seven days.

An absent or missing reported criterion will be considered as meeting or exceeding the criteria value.

In FY24 and FY25 MDAR also conducted targeted monitoring for select pesticides in two cranberry bog systems based on notifications of approved pesticide applications in Zone II areas as described above. Target pesticides were methoxyfenozide, chlorothalonil and its degradate 4-hydroxy-chlorothalonil. Samples from bog ditches and canals in FY 24' showed Methoxyfenozide concentrations of 0.013 – 2.99 ppb (µg/L), Chlorothalonil at concentrations of non-detect (ND) – 0.025 ppb, and 4-Hydroxy-Chlorothalonil concentrations of 0.104 – 0.266 ppb. In FY 25', samples showed: showed methoxyfenozide concentrations of 0.39 – 0.44 ppb (µg/L), non-detect (ND) chlorothalonil, and 4-hydroxy-chlorothalonil concentrations of 0.10 – 0.27 ppb. The measured levels of these pesticides were well below human health benchmarks for drinking water.

In FY24, two public water supply wells located in the Zone II area of one of the sampled bog systems showed Methoxyfenozide concentrations of 0.006 – 0.016 ppb (ug/L), and ND for Chlorothalonil and its degradate 4-Hydroxy-Chlorothalonil concentrations. All detected levels of these pesticides were well below human health benchmarks for drinking water. In FY25 one public water supply well located in the Zone II area of the sampled bog system was sampled but did not show detections of the target analytes.

Pesticide Licensing

If an individual is going to use a pesticide on property that is not their own, a Massachusetts Pesticide License is required. MDAR offers the following applicator licenses:

- Commercial Applicator License allows the holder to:
 - Apply a general use pesticide.
 - Apply a restricted use pesticide under the direct supervision of an individual with the appropriate Commercial Certification.
- Commercial Certification License allows the holder to:
 - Apply general and restricted use pesticides.
 - Supervise the use of a SRUP.

In order to obtain a pesticide license from MDAR, an individual must take and pass an exam, provide proof of insurance, renew every year, and obtain Continuing Education Units ("CEUs") within each subsequent three-year period to maintain their license.

Federal Fiscal Years 2024 and 2025 saw approximately 2,700 individuals sign up for and complete the Department's online pesticide examinations. This total includes Pesticide (core) Applicator, Pesticide Dealer, and both Commercial and Private Certification exams. Out of the all the exams taken, the passing rate was around 70%.

MDAR continues to update the licensing regulations in 333 CMR 10.00 in order to comply with the Federal Certification and Training Rule set forth in FIFRA. The Dealer regulation at 333 CMR 9.00 and the Protection of Children and Families (i.e., school) regulation at 333 CMR 14.00) were finalized and promulgated in FY25.

EDUCATION AND OUTREACH

Potential Groundwater Contaminant refers to a pesticide which meets the definitions of "Toxicological Concern" and "Leaching Potential".

Toxicological Concern refers to a pesticide which meets or exceeds of the following criteria:

- (a) Lifetime Maximum Contaminant Level (MCL), Proposed Maximum Contaminant Level (pMCL), MassDEP Office of Research and Standards (ORS) Guidelines, or Health Advisory Level (HAL) less than or equal to 20 ppb; or
- (b) US EPA classification as a known or probable human carcinogen, categories A, B1 or B2.

While continuing education is part of the requirement for an individual to hold and maintain their pesticide license, MDAR does not provide education. Outside entities such as educational institutions and industry stakeholders provide trainings that offer the Continuing Education Units (“CEU”). For training to qualify for a CEU, the training provider must fill out a form and request approval. The training is reviewed by MDAR staff to ensure that it meets the requirements set forth in 333 CMR 10. These training courses are audited by staff to ensure that the training information that was submitted was the training that is provided.

For FY24 and FY25 there were approximately 650 programs approved for Massachusetts Pesticide Applicator Continuing Education (PACE) Credit Hours.

Many times, the entities providing the training will engage MDAR staff to present on various items such as laws/regulation, pollinator concerns, and chemistry/toxicology etc. When this occurs, MDAR takes every measure to ensure that an individual from our team is able to present. During FY24 MDAR conducted thirty-four (34) presentations for the pesticide industry, and 21 in FY25. Topics include but were not limited to:

- Toxicity/Risk Information;
- Laws and Regulations (Structural Pest Control, Turf, Golf Course);
- Pollinator Protection;
- Worker Protection Standard;
- Respirator Certification;
- Integrated Pest Management; and
- Rights of Way Requirements.

ITEMS OF NOTE

Anti-Coagulant Rodenticides: In May 2024, the Harvard Law School Animal Law and Policy Clinic sent a request to the Subcommittee requesting that it conduct an individual review of anti-coagulant rodenticides and suspend their registration while doing so. The Subcommittee determined that an individual review should be conducted and allowed MDAR to hire a third party to conduct a scientific review of anti-coagulants to use as part of the individual review. The Phase 2 draft was completed and posted for public comment.

During FY24 and FY25 MDAR received lab results from wildlife rehabilitators showing wildlife had been exposed to rodenticides. MDAR collected those lab results and forwarded them to the Environmental Protection Agency as a High Level Incident report as outlined in the Cooperative Agreement Guidance.

Compliance with the Federal Certification and Training Rule: Through FY24 and FY25 MDAR worked with two entities to update 13 of its exams to ensure that they comply with the federal changes made. The following exams have been updated:

- Aerial, Commercial
- Aerial, Private
- Cranberry
- General Pest Control
- Greenhouse
- Nursery
- ROW
- Shade Tree
- Small Fruit
- Termite
- Tree Fruit
- Turf

- Vegetable

Additionally, 333 CMR 9.00 (Dealer Regulations) were promulgated on October 11, 2024.

CONCLUSION

MDAR has made every effort to meet its charge with ensuring compliance with the Act and Regulations and will continue to prioritize its efforts and focuses given available resources, the mandates it must enforce through state authority, and the direction from EPA. At times, funding availability, staff capacity, and other challenges are limiting factors for the program, given its broad responsibility for both state and federal law oversight and enforcement throughout the Commonwealth. Regardless of any such limitations, the program continues to be effective in protecting public health and the environment while enhancing agricultural sustainability.