



## MARYLAND NUTRIENT MANAGEMENT PROGRAM



**2022 Annual Report**

# HARVESTING

the Financial and  
Water Quality Benefits of  
Nutrient Management





“Helping farmers harvest the financial and water quality benefits of nutrient management is a top priority at MDA.”



In Fiscal Year 2022 (FY22), nutrient management planning proved its worth for many farmers as soaring fertilizer costs made worldwide headlines. Sound nutrient management planning that accounts for all available nutrient sources helps farmers save on unnecessary fertilizer costs while achieving yield goals. The associated water quality and climate benefits of reduced nitrogen losses to the air and water speak volumes about the importance of this conservation practice.

High fertilizer prices have prompted farmers to use alternative nutrient sources for crops, including poultry processing, milk, and potato chip waste. Earlier this year, we introduced regulations affecting how these food processing residuals (FPRs) are managed on farms. The new rules will take effect in January 2023. The aim is to reduce odors and ensure that the materials are applied to fields based on their nutrient content.

Following the completion of a multi-year implementation schedule, I am pleased to report that Maryland’s Phosphorus Management Tool (PMT) regulations were fully implemented on July 1, 2021. Farmers with elevated soil phosphorus levels are now using enhanced practices to protect local waterways from phosphorus runoff and improve the health of the Chesapeake Bay.

On-farm inspections provide insight into how well farmers follow their nutrient management plans. In FY22, MDA’s nutrient management specialists performed 936 on-farm inspections. Approximately 74% of audited farms were in full compliance following their initial reviews. Staff is working to bring the remaining farmers into full compliance.

Creating job opportunities for high school students in underserved communities benefits everyone. I am excited to report that in FY22, we launched a pilot project that supports Baltimore City high school students who want to pursue a career in turfgrass management. The program provides educational support and eliminates financial barriers to certification. We are working with the University of Maryland Extension to fine-tune this pilot program. Our goal is to expand it to other underserved communities in Maryland.

In all areas, the Nutrient Management Program is harvesting outstanding achievements, on and off the farm. Please read on to learn more about our accomplishments this year.

*Joseph Bartenfelder*

# HARVEST 2022

## The Year in Numbers

### MARYLAND NUTRIENT MANAGEMENT PROGRAM

#### Agricultural

**96%** of regulated farmers submitted required annual implementation reports.

**74%** of audited farms passed their initial farm audits.

**18** new private nutrient management consultants were certified.

**21** additional farmers were certified to write their own nutrient management plans.

**511** nutrient management vouchers issued/renewed.

**2,031** farmers and consultants attended 118 continuing education events.

#### Turfgrass

**98%** of licensed businesses submitted required annual reports.

**80%** of audited firms passed their reviews.

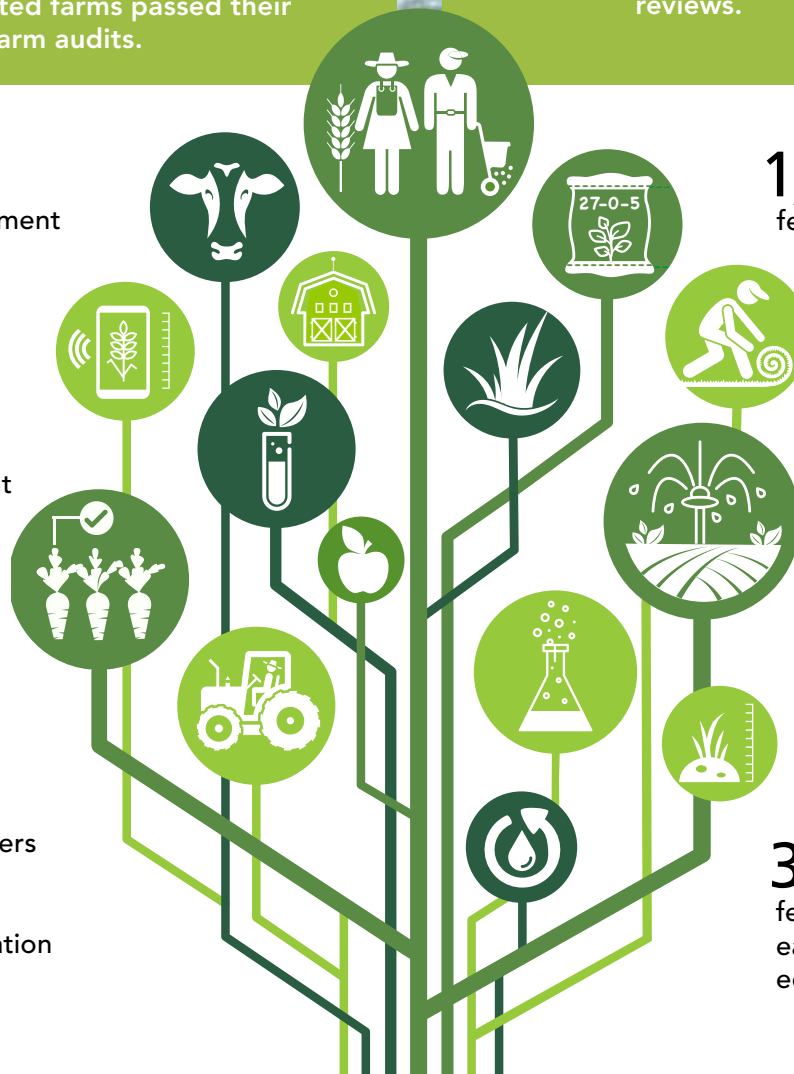
**1,383** professional fertilizer applicator certificates issued.

**173** lawn care professionals took the professional fertilizer applicator exam.

**1,501** lawn care company employees trained.

**829** business licenses issued.

**324** professional fertilizer applicators earned continuing education credits.







# Maryland's Nutrient Management Program

## Protecting THE CHESAPEAKE BAY.

## Combating CLIMATE CHANGE.

The Nutrient Management Program protects water quality in local streams and the Chesapeake Bay and helps reduce nitrogen losses to the atmosphere that contribute to climate change. **It does this by regulating the amount, timing, rate, and placement of commercial fertilizer products and organic nutrient sources used by Maryland farmers to grow crops, and by lawn care professionals to fertilize lawns.** The staff works closely with poultry, dairy, and other livestock producers to ensure that animal manure is managed to protect water quality while minimizing nitrogen losses to the atmosphere. Guidance is provided by the Nutrient Management Advisory Committee.

## Agricultural Nutrient Management Program

Farms that generate \$2,500 or more in gross income or have 8,000 pounds or more of live animal weight must follow nutrient management plans when fertilizing crops and managing animal manure. The plans specify how much fertilizer, manure, or other nutrient sources may be safely applied to crops to achieve yields and prevent excess nutrients from impacting waterways. The program ensures that plans are developed, updated, and implemented according to state regulations. The following rules apply:

- Setbacks and livestock exclusion measures must be in place to protect local streams.
- Farmers who till their soil are required to incorporate manure and other nutrient sources into fields within 48 hours of application and follow timing requirements for fall nutrient applications.
- All regulated operations are banned from spreading manure on fields in winter.
- Fields with high soil phosphorus levels must be managed using Maryland's Phosphorus Management Tool.

*Authorization: Water Quality Improvement Act of 1998*

## Compliance and Enforcement

Maryland farmers are required to follow nutrient management plans that specify the amount, timing, and placement of nutrients for each crop. These plans are prepared by University of Maryland Extension advisors, certified private consultants, or farmers who are certified to develop plans for their own operations.

Farmers are required to update their nutrient management plans before they expire, submit Annual Implementation Reports summarizing nutrient applications for the previous year, and most importantly, follow their nutrient management plans. The program's eight nutrient management specialists analyze Annual Implementation Reports and conduct site visits to verify that farmers follow their plans.

- ### Nutrient Management Plan Submissions

New farming operations must submit copies of their initial nutrient management plans to the Department. The program works to locate new farming operations and pursues enforcement actions against operators who have not met this initial requirement.

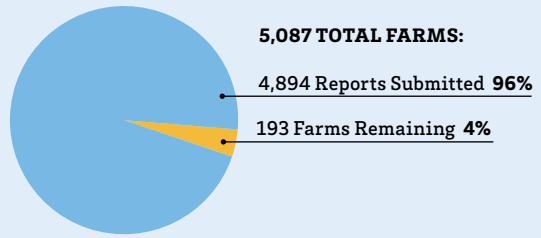
- ### Annual Implementation Reports (AIRs)

AIRs are due to the department by March 1. These reports summarize nutrient applications for the previous calendar year. By the end of FY22, 96% of regulated farmers managing 1.25 million acres of land had submitted these reports. Fines were issued to 193 operators for late or missing reports. The program is working to bring these farms into compliance.

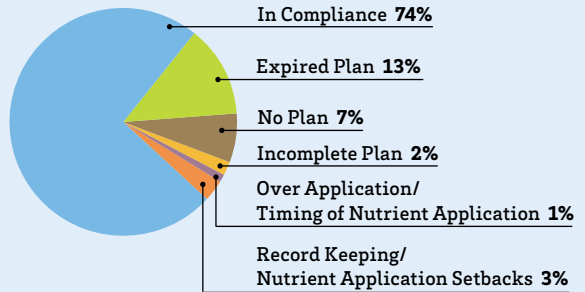
- ### On-Farm Audits and Inspections

MDA nutrient management specialists conducted 936 on-farm audits in FY22 representing 18.4% of regulated farms. Approximately 74% of audited farms were in full compliance at the time of inspection. Follow-up inspections determined that 78 farmers cited had corrected their violations, raising the compliance rate to 79% by the end of the fiscal year. The program is actively pursuing full compliance for all audited operations. In FY22, \$3,100 in fines were issued against seven operators for violations.

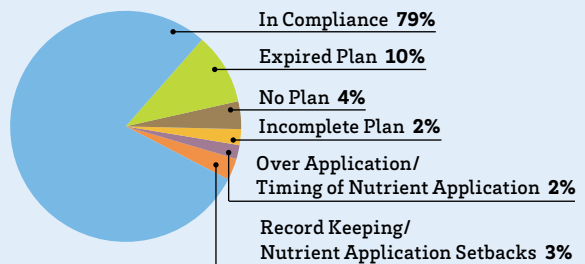
**FIGURE 1: Annual Implementation Reports Submitted (As of June 30, 2022)**



**FIGURE 2: Results of 936 Initial On-Farm Audits (Fiscal Year 2022)**



**FIGURE 3: Results of Follow-Up Audits (Fiscal Year 2022)**



**FIGURE 4: Farm Audit and Follow-Up Inspections/ Percentage of Farms Receiving Inspections (Fiscal Years 2018-2022)**



### COMPLIANCE IS UP

74% of audited farms were in full compliance with NM requirements following initial inspections.



## Phosphorus Management Tool (PMT)

Maryland's Chesapeake Bay cleanup plan calls for significant reductions in the amount of phosphorus entering local waterways from agricultural sources. The PMT uses the latest science to identify the risk of phosphorus losses from farm fields and prevent the additional buildup of phosphorus in soils that are already saturated.

### FY22 PMT Status Summary:

Farmers with fields containing elevated soil phosphorus levels completed a multi-year transition to the PMT in July 2021.

- The majority of farmers with elevated soil phosphorus levels have fully complied with the regulations.
- The PMT Transition Committee will remain active until at least July 1, 2023, to address any unforeseen problems.
- State law requires soil phosphorus data to be collected every 6 years beginning in 2015.
- In September 2021, the program conducted a second round of soil data collection from nutrient management consultants as required by state regulations.
- Soil data was collected for 1,035,211 acres of regulated farmland. Approximately 20% of farm fields tested have soil phosphorus levels that require using the PMT.
- The program continues to target farms that have not submitted soil data for inspections.

## Phosphorus Management Research

The Nutrient Management Program supports research on new technologies and risk assessment tools to manage phosphorus losses on farmland.

- **Risk Assessment Tools Study**—Work continued on a 5-year University of Maryland study of phosphorus loss risk assessment tools.
- **Soil Additives Study**—Research moved forward on an MDA-funded study to help determine the value of soil additives in preventing soil phosphorus losses. The University of Maryland Center for Environmental Sciences is conducting this study.

## Certification, Licensing, and Education

The Nutrient Management Program manages a training, certification, and licensing program for:

- consultants who prepare nutrient management plans for farmers
- farmers who want to become certified to prepare their own nutrient management plans.

### THE FOLLOWING ACTIVITIES TOOK PLACE IN FY22:

#### Certified Nutrient Management Consultant Program

The program certified 18 new consultants to write nutrient management plans for farmers and renewed 73 certifications.

#### University of Maryland Consultant Program

The program funded 20 University of Maryland Extension advisors in FY22. These advisors provide farmers with nutrient management plans free of charge.

#### Farmer Training and Certification

The program trains farmers to become certified to write nutrient management plans for their own operations. Farmers are required to learn the basics of nutrient management planning, pass a specialized nutrient management exam, and work with a nutrient management specialist or Extension advisor to develop their plans. During the year, 21 farmers were trained to write nutrient management plans for their own operations and 90 certifications were renewed.

#### Nutrient Applicator Voucher Training

Farmers who apply nutrients to 10 or more acres of cropland are required to attend an applicator training course once every 3 years. The program partners with University of Maryland Extension to conduct a series of statewide voucher training sessions. In FY22, 511 vouchers were issued or renewed.

#### Continuing Education

Certified consultants are required to earn 12 hours of continuing education credits every 3 years. During the year, 118 continuing education events were attended by 2,031 individuals.



## ELECTRONIC REPORTING TAKES ROOT

Electronic reporting provided through Maryland OneStop continued to take root with farmers and lawn care professionals alike. In FY22:

- 30% of regulated farmers took advantage of electronic reporting
- 69% of licensed lawn care companies filed their annual reports electronically



# Turfgrass Nutrient Management Program

This program trains, certifies, and licenses individuals and companies hired to apply lawn fertilizer to nonagricultural land. The training and certification program—developed in partnership with the University of Maryland Extension—focuses on fertilizer application techniques, soil science, and best management practices to be used when applying fertilizer to lawns. A compliance program ensures that fertilizer applications are made following University of Maryland application and timing recommendations. Homeowner outreach is conducted jointly with the University of Maryland Extension.

*Authorization: Maryland's Fertilizer Use Act of 2011*

## Protecting the Bay from Excess Lawn Fertilizer

Maryland's Lawn Fertilizer Law limits the amount of nutrients that can be applied to turfgrass and restricts phosphorus content in lawn fertilizer. The goal is to help homeowners and lawn care professionals maintain healthy lawns without applying unnecessary amounts of nitrogen and phosphorus that can easily wash into the storm drains and streams that feed the Chesapeake Bay.

The law requires lawn care professionals to be trained and certified in proper fertilizer techniques for turfgrass or work under the direct supervision of an individual who is certified. It applies to professionals hired to fertilize home lawns, as well as individuals responsible for turf management at golf courses, public parks, airports, athletic fields, businesses, cemeteries, and other nonagricultural properties.

In addition, lawn care professionals and do-it-yourselfers are required to obey fertilizer application restrictions, use best management practices when applying fertilizer to lawns, observe fertilizer blackout dates, and follow University of Maryland fertilizer recommendations.

### THE FOLLOWING ACTIVITIES TOOK PLACE IN FY22:

#### Professional Certification and Licensing

- Nine professional fertilizer applicator exams were offered regionally and attended by 173 lawn care professionals.
- The program issued 829 business licenses and 1,383 Professional Fertilizer Applicator Certificates.
- An additional 1,501 lawn care company employees have been trained to apply fertilizer under the supervision of a certified professional.

#### Recertification Training

- During the year, the program switched the renewal cycle for Professional Fertilizer Applicators (PFAs) and licensed businesses from July-June to January-December. The move was made to help lawn care professionals and businesses keep their renewals up to date by changing the deadline from peak season to off-season.
- Five virtual recertification classes were attended by 324 certified professionals in FY22. Additional training opportunities were approved for private industry and trade groups.



#### Annual Activity Reports

License holders are required to file an annual activity report with the program by March 1, covering the previous year. In FY22:

- The program received 814 activity reports representing a 98% compliance rate.
- 69% of licensed companies filed their annual reports electronically through the Maryland OneStop portal during its second year of operation.

#### Enforcement Activities

During the year, the program conducted 220 record reviews.

- Both electronic and on-site reviews were conducted.
- 80% of the firms were in compliance. Violations were resolved through follow up visits and education.

#### Homeowner Outreach

The program continued to educate citizens about Maryland's Lawn Fertilizer Law through a partnership with the University of Maryland Master Gardeners.

#### Job Opportunities for Underserved Youth

During the year, the program partnered with the University of Maryland Extension to launch a pilot PFA certification program for high school students in Baltimore City. The project aims to help underserved students pursue a career in turfgrass management by providing educational support and eliminating financial barriers to certification. Feedback from the pilot program is being evaluated. Once finalized, the program hopes to expand the opportunity to students in underserved communities across the state, especially those who may find the cost of PFA certification restrictive until they can secure employment in the field. PFAs perform work for many types of employers, including lawn care firms, golf courses, public parks, and colleges and universities.



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*Office of Resource Conservation*



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Joseph Bartenfelder, *Secretary*  
Steven A. Connelly, *Deputy Secretary*

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