



**Fiscal Year 2021  
Annual Report**  
Maryland Nutrient  
Management Program



Helping  
farmers  
**grow**  
smarter.





## LETTER FROM SECRETARY BARTENFELDER

**Helping farmers grow smarter** drives our work at the Nutrient Management Program. Our aim is to assist farmers in protecting local water quality while improving farm efficiency and profitability. For many farmers, better farm management is the untold story of nutrient management planning. We remain committed to helping farmers protect local water quality while providing solutions to keep their farms strong and viable.

Improving customer service is a top priority. I am pleased to report that electronic reporting was introduced in January 2021 for both the agricultural and turfgrass nutrient management programs. More than 20% of regulated farmers and 50% of licensed fertilizer companies took advantage of e-filing through the Maryland OneStop portal. We are confident these numbers will continue to grow as we fine-tune this time-saving electronic reporting tool.

Following seven years of hard work and perseverance, Maryland's Phosphorus Management Tool (PMT) regulations will be fully implemented on July 1, 2021. The regulations help farmers improve water quality in local streams and the Chesapeake Bay by limiting the use of manure in areas with high soil phosphorus levels. Approximately 20% of Maryland farms are required to use the PMT to evaluate the risk for phosphorus losses from their fields. During the year, we worked closely with these farmers to reduce impacts to their operations, build a customer base for manure, and safely redistribute the product to fields that need additional phosphorus.

To ensure the program's continued success, I asked the PMT Transition Advisory Committee to stay on board for an additional year to address any unforeseen problems during the PMT's first year of full implementation. Our ultimate goal is to keep agriculture strong and profitable while helping Maryland meet its 2025 water quality commitments for the Chesapeake Bay.

The challenges of the past year have magnified the importance of our local farmers, as agriculture continues to drive our state's economy during these difficult times.

Looking ahead, we will continue to take advantage of new technologies that improve customer service, safeguard local water quality, and improve farm efficiency and profitability. Please read on to learn more about our accomplishments in Fiscal Year 2021.



Joe Bartenfelder

*How Maryland's*



# Nutrient Management Program

## PROTECTS THE CHESAPEAKE BAY

Authorized by the Water Quality Improvement Act of 1998, the Nutrient Management Program protects water quality in streams, rivers, and the Chesapeake Bay 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 program works to ensure that nutrients applied to crops and lawns do not impact waterways. Staff work closely with poultry, dairy, and other livestock producers to make certain that animal manure is managed to protect water quality. Guidance is provided by the Nutrient Management Advisory Committee, which includes representatives from agricultural interests, environmental groups, the turfgrass industry, University of Maryland, and government agencies.

### **AGRICULTURAL NUTRIENT MANAGEMENT PROGRAM**

Farming operations that generate \$2,500 or more in gross income or have 8,000 pounds or more of live animal weight are required to 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:

- To protect the health of local streams, farmers must have stream setbacks and livestock exclusion measures in place.
- Farmers who till their soil are required to incorporate manure and other organic nutrient sources into fields within 48 hours of application and follow specific timing requirements for fall nutrient applications.
- All farm operations—regardless of size—are banned from spreading manure on fields in winter.
- Fields with high soil phosphorus levels must be managed using Maryland's Phosphorus Management Tool (PMT).

### **TURFGRASS NUTRIENT MANAGEMENT PROGRAM**

Authorized by the Fertilizer Use Act of 2011, Maryland's Lawn Fertilizer Law authorizes the program to train, certify, and license individuals and companies hired to apply lawn fertilizer to non-agricultural 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.



# Agricultural

## NUTRIENT MANAGEMENT PROGRAM



### Phosphorus Management Tool Update

The Phosphorus Management Tool or PMT uses the latest science to identify the risk of phosphorus loss from farm fields and prevent the additional buildup of phosphorus in soils that are already saturated. Farms with soils that are over certain thresholds are limited in how much phosphorus can be applied to their fields. High soil phosphorus levels are typically found on farms that have used manure or poultry litter as a crop nutrient for many years. Future applications of manure will be limited in these areas. Maryland is in the final stages of a multi-year transition to the PMT. This transition will be completed by July 1, 2021.

### PMT Transition Advisory Committee

This committee provides guidance for the program. It was established in 2015 and is chaired by the Maryland Secretary of Agriculture. During the year, the committee received numerous PMT progress updates, including a final PMT economic analysis conducted by Dr. Memo Diriker of Salisbury University's Business Economic and Community Outreach Network (BEACON). In December 2020, the committee voted for a second time not to delay implementation of the PMT and the Secretary agreed with this recommendation. The PMT Transition Committee will remain active until at least July 1, 2022, to ensure a smooth transition during the PMT's first year of full implementation.

### PMT Highlights as of June 30, 2021:

- Soil phosphorus data was compiled for 1,120,668 acres of regulated farmland. Approximately 20% of farm fields tested have soil phosphorus levels that require use of the PMT.
- State law requires soil phosphorus data to be collected every six years beginning in 2015. Plans are underway for the next round of soil data collection in September 2021.
- The program continues to target farms that have not submitted soil data for audits and inspections.
- Research moved forward on a 5-year study of phosphorus loss risk assessment tools. The research is being conducted by the University of Maryland (UMD) with funding provided by the Nutrient Management Program. The study will provide important information gathered through field tests. UMD also received a small federal grant to supplement the research.
- Funded a two-year research study to help determine the value of soil additives in preventing soil phosphorus losses. The study is being conducted by the University of Maryland Center for Environmental Science.
- New legislation requires more detailed reporting of poultry litter, manures, bio-solids, and other organic nutrient sources transported. Sending and receiving farms or alternative users of transported organic products must now provide a detailed accounting of the organics transported. This will allow improved tracking of organic nutrient sources transported throughout the state and region.



“We used to have cows on pasture right next to the stream and they had access to the stream, behind the tracks. Now we have probably 20 acres of CREP (Conservation Reserve Enhancement Program) ground and I'll say that I can't believe how the stream has changed. The stream is clear now. When I was growing up, it didn't look that way.”



—Brent Horst, Washington County Dairy Farmer

## 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 team of eight nutrient management specialists analyzes Annual Implementation Reports and conducts site visits to verify that operators are following their plans.



### Nutrient Management Plan Submissions

New farming operations are required to submit copies of their initial nutrient management plans to the department. This is the first step in the compliance process. The program actively works to locate new farming operations and pursues enforcement actions against operators who have not met this initial requirement.

### Annual Implementation Reports

Farmers are required to update their nutrient management plans before they expire and submit Annual Implementation Reports to the department by March 1. These reports summarize nutrient applications for the previous calendar year.

- By the end of the FY21, approximately 97% of regulated farmers managing about 1.3 million acres of land had submitted these reports.
- The program granted numerous exceptions due to ongoing postal delays.

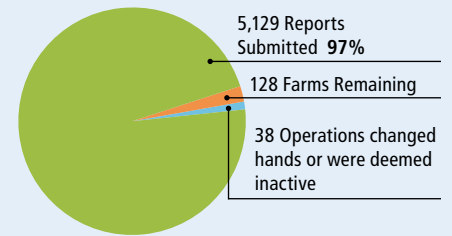
- Approximately \$32,000 in fines were levied against 128 operators for late or missing submissions.
- Most of these operators were non-responsive or failed to cooperate with compliance warnings.

### On-Farm Audits and Inspections

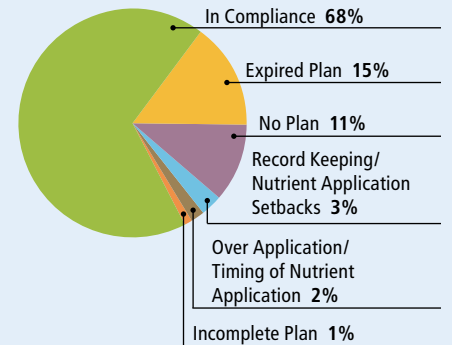
Enforcement specialists conducted 783 on-farm audits. This figure represents a rebound from 2020 inspections which were highly impacted due to COVID-19 restrictions. Most of the 2021 audits were conducted in person; however, virtual reviews were offered as an option.

- Approximately 68% of audited farms were in full compliance at the time of inspection.
- Follow-up inspections determined that 66 of the farms cited had corrected the violations. This raised the compliance rate to 77% by the end of the fiscal year.
- The program is actively pursuing full compliance for all audited operations.
- In FY21, \$7,400 in fines were issued against 7 operators for violations.

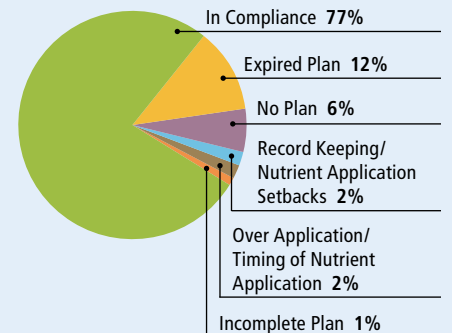
**FIGURE 1: ANNUAL IMPLEMENTATION REPORTS SUBMITTED (As of June 30, 2021)**  
5,295 Total Farms



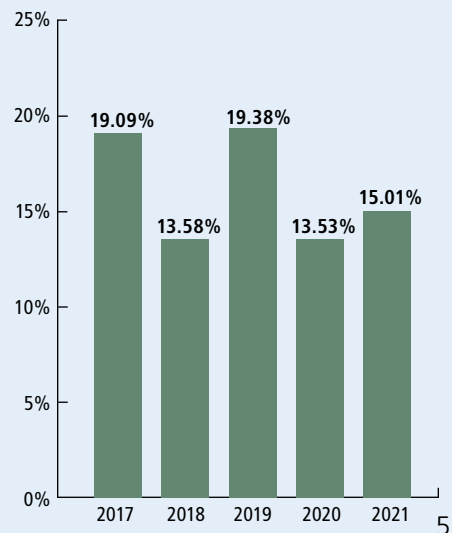
**FIGURE 2: RESULTS OF 783 INITIAL ON FARM AUDITS (Fiscal Year 2021)**



**FIGURE 3: RESULTS OF FOLLOW UP AUDITS (Fiscal Year 2021)**



**FIGURE 4: FARM AUDIT AND FOLLOW-UP INSPECTIONS/Percentage of Farms Receiving Inspections (Fiscal Years 2017-2021)**





## ELECTRONIC REPORTING INTRODUCED

Following two years of planning and development, electronic reporting was introduced in FY21 for both the agricultural and urban programs through the Maryland OneStop portal.

- More than 20% of regulated farmers used Maryland OneStop to e-file their annual implementation reports (AIRs).
- More than 500 businesses regulated by the Turfgrass program submitted their annual fertilizer reports electronically.
- The majority of the electronic users had high praise for the new reporting tool.
- Developed in 2018, Maryland OneStop serves as a central hub for permits, licenses, certifications, and registrations from across state government. The portal continues to add services as additional departments and agencies come online.

## Certification, Licensing, and Education

The Nutrient Management Program manages a training, certification, and licensing program for consultants who prepare nutrient management plans for farmers and farmers who want to become certified to prepare their own nutrient management plans. The following activities took place in FY21:

### *Certified Nutrient Management Consultant Program*

The program certified 11 new consultants to write nutrient management plans for farmers and renewed 118 certifications.

### *University of Maryland Consultant Program*

The program funded 20 University of Maryland Extension advisors in FY21. These advisors provide farmers with nutrient management plans free of charge.

### *Farmer Training and Certification*

The program trains farmers who want 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, five farmers were trained and certified to write nutrient management plans for their own operations and 35 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 three years. During the year, the department partnered with the University of Maryland Extension to conduct a series of statewide voucher training sessions; 684 vouchers were issued or renewed.

### *Continuing Education*

Certified consultants are required to take 12 hours of continuing education credits every three years. In FY21, 65 virtual and in-person continuing education events were attended by 2,380 individuals.



# Turfgrass

## NUTRIENT MANAGEMENT PROGRAM



Maryland's Lawn Fertilizer Law helps protect the Chesapeake Bay from excess nutrients entering its waters from non-agricultural sources including golf courses, athletic fields, public parks, businesses, schools, universities, cemeteries, airports, and hundreds of thousands of urban and suburban lawns.

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. Professionals hired to fertilize home lawns, as well as individuals responsible for turf management at businesses and government institutions are regulated by the program. Additionally, the law requires both do-it-yourselfers and lawn care professionals 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 FY21:

### *Electronic Reporting Introduced*

Licensed businesses had the option to submit their annual fertilizer reports electronically through the Maryland OneStop portal. Approximately 500 businesses took advantage of e-filing in FY21.

### *Fertilizer Applicator Exams*

Ten professional fertilizer applicator exams were offered across the state and attended by 109 lawn care professionals. The program issued 862 business licenses and 1,435 Professional Fertilizer Applicator Certificates. An additional 1,463 lawn care company employees have been trained to apply fertilizer under the supervision of a certified professional.

### *Training, Certification, and Licensing*

To renew their certificates, professional fertilizer applicators must complete two hours of continuing education each year. Six virtual recertification classes were attended by 705 certified professionals. Additional training opportunities were offered by private industry and trade groups. Most of these training sessions were offered virtually.

### *Annual Activity Reports*

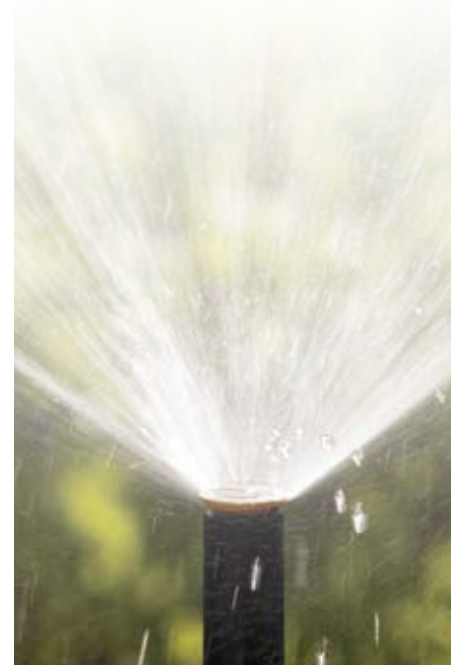
License holders are required to file an annual activity report with the program by March 1, covering the previous year. In FY21, the program received 795 activity reports representing an 88% compliance rate.

### *Enforcement Activities*

During the year, 202 record reviews were conducted, with 77% of the firms in compliance. Both electronic and on-site reviews were conducted.

### *Homeowner Outreach*

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



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Joseph Bartenfelder, *Secretary*  
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