

AGNR Agricultural Nutrient Management Program

SERVING MARYLAND AGRICULTURAL PRODUCERS SINCE 1989

UNIVERSITY OF
MARYLAND
EXTENSION



2020 ANNUAL REPORT

In 2020, the University of Maryland Agricultural Nutrient Management Program developed nutrient management plans for over

272,000

Maryland acres, serving more than

1,400

Maryland farmers, and provided in-person nutrient management assistance through

1,970

meetings or farm visits.



COLLEGE OF
AGRICULTURE &
NATURAL RESOURCES

DEPARTMENT OF ENVIRONMENTAL SCIENCE
AND TECHNOLOGY

extension.umd.edu/anmp

The **University of Maryland Agricultural Nutrient Management Program (UM-ANMP)**, part of the **College of Agriculture and Natural Resources' (AGNR)** Department of Environmental Science and Technology and funded by the **Maryland Department of Agriculture (MDA)**, serves farmers, consultants, and the Maryland public. Duties include the development of nutrient management plans for farmers via advisors located in **University of Maryland Extension (UME)** county offices, the presentation and development of continuing education programming via UM-ANMP nutrient management specialists, and maintenance and support for nutrient management software, *NuManPro 5.0*.

The guiding principle of the **Maryland Water Quality Improvement Act of 1998** is that nutrient supply should balance crop nutrient requirements. Nutrient management plans provided by the UM-ANMP contain crop-needs-balanced recommendations that can increase farm profitability and improve the health of the Chesapeake Bay and its tributaries.



Training Sessions and Continuing Education Opportunities

The UM-ANMP is responsible for providing high quality continuing education, training, and help sessions for farmers, consultants, and others with an interest in Maryland agricultural nutrient management. Featured here are some of the many ways our program accomplished this outreach in FY 2020.

Practical Experiences in Nutrient Management

Western Maryland Research and Education Center: Topics included perennial fruit tissue sampling and testing, pasture yield estimation, and manure spreader calibration.

Baltimore City: Topics included how to determine management units, how to measure organic nutrient sources to meet nutrient management requirements, taking representative soil and organic samples, and how to read (and do conversions) with fertilizer labels and organic analyses.

Farmer Training and Certification

Farmers learned how to write NMPs for their operation that meet MDA regulations. Participants received a course binder, took an exam to become certified to write their own plan, and obtained nutrient applicator voucher credits.

Offered: Wye Research and Education Center, UME Frederick, and UME Baltimore City

Plan Writing Help Sessions

Certified farmers received assistance developing an updated NMP from UM-ANMP nutrient management specialists.

25 certified farmer attended at five locations across Maryland and virtually in FY 2020

Fundamentals of Nutrient Management

Four-day online training course designed to prepare attendees for MDA's nutrient management certification exam.

How to Write a Nutrient Management Plan

Participants learned how to write a NMP from beginning to end and how to use *NuManPro 5.0* nutrient management planning software.

Offered: Montgomery County and Wye Research and Education Center

Webinars

- Manure Injection for Nutrient Management, Forage Production & Profit
- Hydrology, Layering, and Nutrient Retention of Soils on the Eastern Shore of Maryland
- How to Calculate the Phosphorus Management Tool Using *NuManPro 5.0* Software
- AIR Preparation

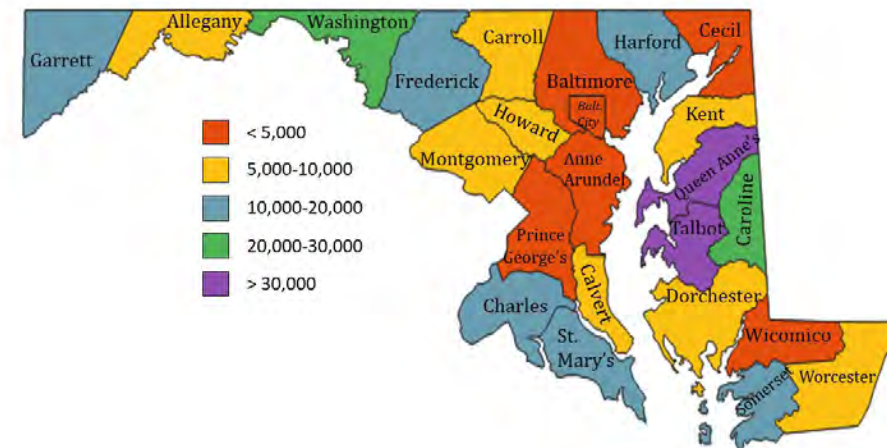


Participants at a Baltimore City workshop gather in a high tunnel to discuss determination of management units.

Other In-person Workshops, Presentations, and Field Days

- Field Days: Mid-Atlantic Association of Professional Soil Scientists (MAPSS)/UM-ANMP Mid-Shore soils tour
- Presentations: How to Calculate the Phosphorus Management Tool Using *NuManPro 5.0* Software
- Workshops: How to Calculate the Phosphorus Management Tool: A Workshop for Certified Consultants
- AIR Preparation: UME Washington County Office
- Other presentations to the general public, technical audiences, and/or youth groups at 6 field days or agricultural events
- Attended 11 agricultural events showing the Nutrient Management display

Nutrient Management Plan (NMP) Development Statistics



FY 2020 Highlights

- 272,030 total acres planned (243,514 updated and 28,516 new)
- 1,478 clients
- 475 clients received multiple-year NMPs, covering 19,516 acres
- 109 clients received NMPs who were under MDA enforcement for non-compliance
- 1,064 animal operations (Alpaca: 2, Beef: 366, Dairy: 114, Horse: 210, Goat: 2, Poultry: 177, Sheep: 35, Swine: 7, Mixed: 151)
- 134 CAFO and MAFO clients
- 143 new and updated "no land" NMPs
- 280 management units of tree fruits or small fruits
- 38 management units of grapes
- 836 fields managed by 168 clients analyzed for risk of phosphorus loss
- 23 clients received manure with the Maryland Manure Transport Program; 71 clients transported manure outside of this program



Services to the Agricultural Sector

Services by County-Level Nutrient Management Consultants

- Planning services at UME county offices, providing cost-free way for producers to maintain compliance with nutrient management planning requirements of the Water Quality Improvement Act
- On-site consulting on soil and manure testing, manure spreader calibration, and soil nitrate testing

Services by ANMP Nutrient Management Specialists in Partnership with MDA

- Private sector nutrient management consultant trainings
- Training producers to write NMPs for their operations and independently maintain their compliance
- Continuing education programs
- Development and refinement of nutrient recommendations in partnership with UMD researchers
- Maintenance and support for nutrient management software, *NuManPro 5.0*

Paul Shipley, an ANMP nutrient management specialist, talks about manure spreader calibration methods at a workshop in Western Maryland.



Photography: Edwin Resmsburg, Emileigh Lucas

FY 2020 Nitrogen Highlights

29,733

pounds of nitrogen were saved across

3,669

acres using the FSNT (Fall 2019).

6,442

pounds of nitrogen were saved across

943

acres using the PSNT (Spring 2020).

Additional Services and Software Updates

UM-ANMP advisors assist and instruct farmers with soil and manure tests, manure spreader calibrations, and yield checks. Advisors also conduct Pre-sidedress Nitrate Tests (PSNT) for corn and Fall Soil Nitrate Tests (FSNT) for fall-planted wheat and barley in-house, free of charge. PSNTs and FSNTs conducted during the growing season measure soil nitrate availability to the crop and whether nitrogen

fertilizer is needed at planned rates. This testing can save farmers money and prevent excess nitrogen from entering surface water.

Software Updates

- Updated all *NuManPro 5.0* Help Guides
- Updated download links on the ANMP website
- Improved manure scenario interface
- Prepared version 5.1 to provide further efficiencies for planning with manure



Participants in a workshop in Western Maryland learn how to conduct forage quality checks and forage yield estimation.

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