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.
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 personal soil issue 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; how to determine 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 farmers 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
• 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.

FY 2020 Highlights

• 727,030 total acres planned (242,514 updated and 28,516 new)
• 1,478 clients
• 47% 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, Goats: 2, Poultry: 177, Sheep: 35, Beef: 366, Dairy: 114, Horse: 210, covering 19,516 acres
• 475 clients received multiple-year NMPs, 109 clients received NMPs who were under MDA enforcement for non-compliance
• 280 management units of tree fruits for small fruit
• 38 management units of grapes
• 836 fields managed by 168 clients analyzed for risk of phosphorus loss
• 71 clients transported manure outside of management units
• 43 new and updated "no land" NMPs
• 386 fields managed by 168 clients analyzed for risk of phosphorus loss
• 71 clients transported manure outside of management units
• 43 new and updated "no land" NMPs

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.

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

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

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).

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