



Nutrient Management Fact Sheet: Maryland

Updated MAY 2021

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Nutrient Management Plans

Topic	Summary
Coverage	<p>Maryland's Agricultural Nutrient Management Program requires Nutrient Management Plans for nitrogen and phosphorus for any farm that uses animal manure (and chemical fertilizer) that grosses \$2500 a year or more or for livestock producers with 8,000 pounds or more of live animal weight.¹</p> <p>CAFOs and Maryland Animal Feeding Operations (MAFOs) required to apply for coverage under a General Discharge/NPDES permit must have a Comprehensive Nutrient Management Plan (CNMP).</p> <p>Additional information can be found here and here.</p>
Content	<p>The Nutrient Management Plan (NMP) must address the following factors:</p> <ul style="list-style-type: none"> - All aspects of the agricultural operation, including tillage, cropping, pasture, or production of an agricultural product. - Identification, management, and disposition of all primary nutrients produced on, imported to, and exported from the operation. - Manure management conditions that protect water quality and improve manure utilization. - Recommendations for the management of nutrient sources. <p>Additional details on the NMP requirements can be found here.</p> <p>Comprehensive Nutrient Management Plans (CNMPs) must be consistent with NRCS and must:²</p> <ul style="list-style-type: none"> - Ensure adequate storage of manure and process wastewater, including proper operation and maintenance of the storage facilities. - Ensure clean water is diverted from the production area. - Identify site-specific conservation practices. - Identify protocols for testing of manure, process wastewater and soil. - Establish protocols to land apply manure or process wastewater with application rates expressed consistent with the linear approach or the narrative rate approach. - Include the elements of the NMP outlined above.
Frequency of Updates	<p>NMPs must be updated at least every 3 years and more frequently if there are changes to the operation.³</p> <p>CNMPs can be updated to reflect changes in the operation.</p>



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Paperwork	<p>A summary of the NMP must be filed with the MD Department of Agriculture. Annual reports must be filed.⁴</p> <p>CNMPs must be included in the Permit application and will be available for public review, and annual reports must be filed.</p>
Planner Qualifications	NMPs and CNMPs must be developed by state-certified nutrient management planners.

Manure Storage and Application

Topic	Summary
Overview	<p>Farmers who apply nutrients to 10 or more acres a year are required to attend a 2-hour nutrient applicator course once every three years. Additional details can be found here.</p> <p>Information on Dairy Facility operation requirements can be found here and here.</p>
Storage	<p>Facility Siting/Setback</p> <p>CAFOs and MAFOs must be setback at least 100 feet from:</p> <ul style="list-style-type: none"> - Waters of the state, field ditches, other conduits, intermittent streams, and drinking water wells. - Property lines. <p>Approved alternatives may be substituted. Additional information on alternatives can be found here.</p> <p>Structure</p> <p>Under the permit, storage of manure and the need for additional storage must be designed in accordance with appropriate NRCS practice standards or an approved equivalent and certified by a professional engineer.</p> <p>Storage Length</p> <p>Under the permit, liquid manure management systems must have a visible measuring device to indicate the maximum depth at which the 25-year 24-hour storm can be contained, with the level of animal waste in the storage area at least 12 inches lower than the maximum depth.⁵</p>
Application	<p>Spreading</p> <p>Producers are required to use the Phosphorus Management Tool as of July 1, 2021.</p>



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Maryland has detailed setback and timing requirements for land application of manure based on the type of application and the type of field. Details can be found on page two of [Maryland’s Nutrient Application Requirements document](#).

Timing of nutrient application must be consistent with the guidelines in the [Maryland Nutrient Management Manual](#). Producers cannot land apply manure and fertilizer between December 18 and February 28.⁶

Under the permit, animal waste shall not take place on frozen or snow-covered ground without written permission.⁷

Incorporation

Manure does not need to be incorporated if it is applied on land under a no-till system.⁸

Testing

Under the NMP, soil samples once every three years. Manure analysis at least every other year.

Under the permit, for land application sites, manure must be sampled annually and soil sampled once every three years.⁹

Technical Assistance

Topic	Summary
Software Tools	<p>The Organic Nutrient Value Calculator (ONVC) is designed to utilize current fertilizer prices to determine the value of the nutrients in manure or other organic sources.</p> <p>University of Maryland (UMD) Extension provides a free download of RUSLE2 that can be used to estimate soil loss from a field. Nutrient Management Advisors can use Downloadable QGIS Files to find the necessary county-specific information to import into RUSLE2 and generate maps required in Nutrient Management Plans.</p> <p>The Phosphorus Management Tool (PMT) can evaluate the relative risk of P transport from agricultural fields, including vegetable and row crop production and pasture-based systems where P may be applied either as inorganic or organic fertilizer.</p> <p>“Nutrient Management for Maryland - Professional Edition” (NuMan Pro 5.0) is a software program that provides field-specific recommendations for environmentally sound utilization of commercial fertilizer, animal manure, and other organic materials such as biosolids.</p>



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	Manure Management Planner (MMP) is a software tool created by Purdue University that includes state-specific information Maryland to create manure management plans for crop and animal feeding operations.
Guides / Handbooks	UMD Extension provides guidance publications for manure spreader calibrations and yield goal checks . MD NRCS nutrient management 590 standard .
Classes / Trainings	Farmer Training & Certification (FTC) workshops are designed for producers interested in becoming certified to write nutrient management plans for their operations.
Tailored Expert Assistance	MD Department of Agriculture updates their Nutrient Management Program Directory of For-Hire Certified Nutrient Management Consultants .

Financial Assistance

Summary

The [Manure Transport Program](#) helps cover the cost of transporting manure to farms with low phosphorus fields or to alternative use facilities. Payments of up to \$22.50 per ton are available to eligible farmers and manure brokers.

The [Maryland Agricultural Water Quality Cost-Share \(MACS\) Program](#) provides farmers with grants to cover up to 87.5% of the cost to install BMPs on their farms to prevent soil erosion, manage nutrients and safeguard water quality in streams, rivers, and the Chesapeake Bay.

To help farmers comply with Maryland's nutrient management regulations, cost-share grants for [Manure Injection](#) are offered in the spring and fall.

[Low-Interest Loans for Agricultural Conservation \(LILAC\)](#) are offered to help supplement federal and state cost-share payments. Eligible BMPs and equipment include animal waste storage or management systems and manure spreaders, loaders, pumps, agitators and related hardware.

The [Maryland Income Tax Subtraction Modification for Conservation Equipment](#) helps farmers offset costs associated with buying certain types of conservation equipment to control soil erosion, manage nutrients and protect water quality in streams, rivers and the Chesapeake Bay. Eligible equipment includes liquid manure injection equipment and livestock manure spreading equipment.

MD NRCS provides assistance through:

- Environmental Quality Incentives Program ([EQIP](#)) - offers financial cost-share assistance to farmers for the adoption of conservation practices and development of nutrient management plans.
- Conservation Stewardship Program ([CSP](#)), which gives producers financial assistance to implement new conservation management practices and enhancements.



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[Maryland's Animal Waste Technology Fund](#) provides grants to vendors, businesses, and individuals offering technologies that demonstrate innovative, economically feasible animal waste projects should apply. Innovative technology proposals that treat animal waste streams in addition to animal manure will be accepted.

¹ https://mda.maryland.gov/resource_conservation/Documents/NM_Law.pdf

² https://mde.maryland.gov/programs/LAND/RecyclingandOperationsprogram/Documents/Final_GD_Permit19AF_FactSheet_6.26.20.pdf

³ [15.20.07 \(maryland.gov\)](#)

⁴ [15.20.07 \(maryland.gov\)](#)

⁵ https://mde.maryland.gov/programs/LAND/RecyclingandOperationsprogram/Documents/Final_19AFPERMIT_6.26.20%20signed.pdf

⁶ [Nutrient Application Requirements \(maryland.gov\)](#)

⁷ https://mde.maryland.gov/programs/LAND/RecyclingandOperationsprogram/Documents/Final_19AFPERMIT_6.26.20%20signed.pdf

⁸ [Nutrient Application Requirements \(maryland.gov\)](#)

⁹ https://mda.maryland.gov/resource_conservation/Pages/farmer_information.aspx