Nutrient Management Fact Sheet: **Ohio**

Updated FEBRUARY 2021

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Nutrient Management Plans

Topic	Summary
Coverage	Nutrient Management Plans must be developed and used by dairy operations located in watersheds in distress that produce, apply, or receive in excess of 350 tons and/or 100,000 gallons of manure on an annual basis.[1] [2] CAFOs must have an NPDES permit with a Manure Management Plan. An Ohio EPA overview of the CAFO NPDES permit can be found here. Manure Management Plans are also required as a part of an Ohio Permit to Operate.
Content	NMPs must be in the form of the Ohio nutrient management workbook, USDA NRCS CNMP or an equivalent document containing:[3] - Soil tests from the land application area. - Annual manure analysis. - Information on the operation including manure produced and planned application rates and records of nutrients applied. - Type of manure and storage capacity. - Emergency contact information. Manure Management Plan requirements under a Permit to Operate and an NPDES permit include:[4] - Inspections, Maintenance, and Monitoring. - Nutrient Budget. - Manure Characterization. - Methods to Minimize Odors. - Soil tests. - Land Application Methods.
Frequency of Updates	Nutrient Management Plans should be updated as needed and must be approved by the conservation district every three years.
Paperwork	Nutrient Management Plans must be submitted and approved by the Division of Soil and Water Conservation.
Planner Qualifications	Conservation districts provide assistance to producers to develop plans.

Manure Storage and Application

Topic	Summary
Overview	Dairy operations should install Best Management Practices (BMPs) to operate and maintain animal manure collection, storage, or treatment facilities so that overflow or discharge into waters of the state is prevented and operations face penalties if found in violation. [5] Soil and Water Conservation Districts can help producers develop and approve an Operation and Management Plan that describes the implementation schedule and BMPs.[6] Ohio Department of Agriculture's Fertilizer & Manure Guide can be found here.
Storage	*Storage* Animal feeding operations must implement best management practices including, as appropriate:[7] - Constructing, operating and maintaining settling, grass filtration or soil infiltration systems in accordance with the Field Office Technical Guide and the Ohio Livestock Manure Management Guide, or - Diverting surface water and roof water away for manure management facilities. - Constructing roof coverings. - Appropriate manure storage. - Maintaining vegetative cover. Manure collection, storage or treatment facilities should take into consideration:[8] - Number of animals. - Weather patterns. - Method and timing of manure application. - Soil types. - Cropping systems. Facilities must not be constructed where it would be inundated by the 25-year frequency flood.[9] A Permit to Install may be required before starting new construction or modification of a Concentrated Animal Feeding Facility (CAFF). - Siting Criteria for manure storage or treatment facilities under the Permit to Install can be found here. A Permit to Operate may be required for large or major CAFF that reaches design capacity or for a new farm where a Permit to Install has been submitted. A NPDES permit Manure Management Plan requires adequate storage to protect water quality.

Application	*Spreading* Land application of manure [10] [11] shall minimize pollution and follow standards in the Ohio NRCS Nutrient Management Practice Standard 590. Requirements for manure application in the Western Basin[12] restrict the application of fertilizer in the basin including: - On snow covered or frozen ground. - When the top two includes of soil are saturated from precipitation. These fertilizer application restrictions in the basin do not apply if: - Fertilizer is injected into the ground. - Fertilizer is incorporated within 24 hours of application. - Fertilizer is applied to a growing crop. Additional restrictions pertain to winter application in watersheds in distress. NPDES permit requirements on land application can be found here and on page 7 pf the permit.

Technical Assistance

Topic	Summary
Software Tools	The Fertilizer Application Resource Monitor (FARM) is a web-based tool to retrieve both current and historical weather forecasts for Ohio to aid in the application of fertilizer, manure, and/or pesticides. The Ohio Nutrient Management Record Keeper (OnMRK) is a record-keeping tool to track fertilizer and manure applications on a smartphone or tablet. Ohio (OH) NRCS supplies a link to the following software tools: - Manure Management Planner (MMP) is a software tool created by Purdue University that includes state-specific information for Ohio producers to create manure management plans for crop and animal feeding operations. - Animal Waste Management Software (AWM Version 2.4) is developed and supported by the USDA-NRCS and is a tool to assist in analyzing and designing animal waste storage facilities.
Guides / Handbooks	Ohio NRCS 590 nutrient management practice standard. Ohio State University (OSU) provides dairy industry assistance resources including the OCAMM program to research, develop and communicate sustainable strategies for manure and nutrient management with a variety of articles, guides, and other resources.

	The Ohio Agricultural Research and Development Center (OARDC) Ohio Composting and Manure Management (OCAMM) provides a list of tools for nutrient management, manure processing technology, and manure application calculations. The Ohio Livestock Coalition (OLC) developed the Livestock Environmental Assurance Program (LEAP), a voluntary and confidential environmental assurance program for all major livestock species in Ohio. LEAP provides water quality, manure and nutrient management tools and resources.
Classes / Trainings	OSU Extension supplies educational resources to farmers through Agricultural Fertilizer Applicator Certification Training.
Tailored Expert Assistance	ODA provides a list of Engineers & Consultants for producers needing Livestock Environmental Permitting assistance, including help on MMPs and permit applications.

Financial Assistance

Summary

In partnership with many collaborative partners, local Ohio soil and water conservation districts administer the H2Ohio program, where producers are reimbursed for implementing Voluntary Nutrient Management Plans (VNMPs).

- Amongst other identified practices, a VNMP is required for all farmers enrolled in the program.
- For an example of H2Ohio Incentive payouts, click here for the latest updates as of February 2021.

OH 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.

[1] Lawriter - OAC - 1501:15-5-19 Nutrient management planning requirements for watersheds in distress. (ohio.gov)
[2] Lawriter - OAC - 901:13-1-19 Nutrient management planning requirements for watersheds in distress. (ohio.gov)
[3] Lawriter - OAC - 1501:15-5-19 Nutrient management planning requirements for watersheds in distress. (ohio.gov)
[4] Lawriter - OAC - 901:10-2-08 Contents of the manure management plan; inspections, maintenance and monitoring. (ohio.gov)
[5] Lawriter - OAC - 901:13-1-17 Director's orders. (ohio.gov)
[6] Lawriter - ORC - 939.03 Operation and management plan; nuisances; complaint. (ohio.gov)
[7] Lawriter - OAC - 1501:15-5-04 Manure contaminated runoff from feedlots and manure management facilities. (ohio.gov)
[8] Lawriter - OAC - 901:13-1-02 Overflow and discharge from animal manure collection, storage or treatment facilities. (ohio.gov)
[9] Lawriter - OAC - 901:13-1-06 Flooding of animal feeding operations. (ohio.gov)
[10] Lawriter - OAC - 1501:15-5-05 Land application of animal manure. (ohio.gov)
[11] Lawriter - OAC - 901:13-1-11 Land application of animal manure. (ohio.gov)
[12] Lawriter - ORC - 905.326 Application of fertilizer in western basin. (ohio.gov)