

State Legal Approaches to Reducing Water Quality Impacts from the Use of Agricultural Nutrients on Farmland

A National Agricultural Law Center Research Project

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Research Methods

- 50 state review of laws, regulations, policies, programs, incentives that require or encourage **reduction of non-point water quality impacts from the application of agricultural nutrients.**
- Searching for state-based approaches that result from **state government action.**

What we found

Mandatory vs. Voluntary Approaches

- **Mandatory:** require specific actions or inactions by persons who use nutrients on agricultural lands.
- **Voluntary:** allow a user of agricultural nutrients to decide whether to engage in programs and practices that relate to water quality, with or without incentives for doing so.

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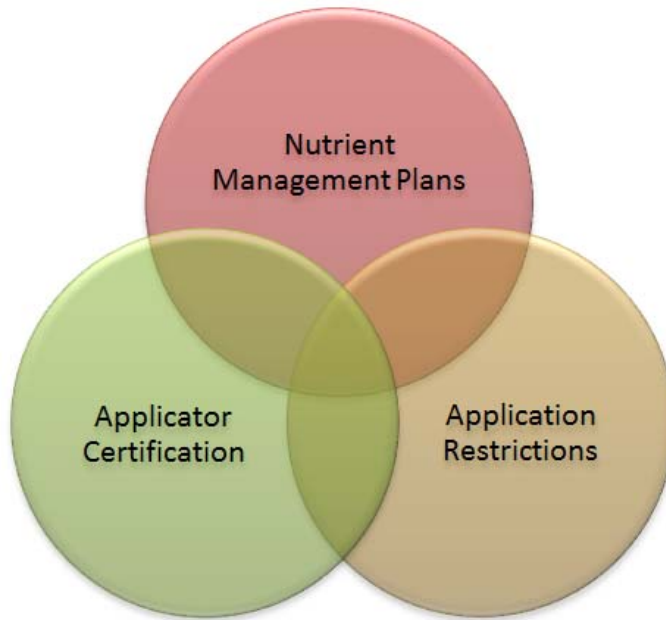
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See our State Compilation of "Mandatory Legal Approaches to Agricultural Nutrient Management" on the National Agricultural Law Center website at <https://nationalaglawcenter.org/state-compilations/>.

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Types of Mandatory Approaches



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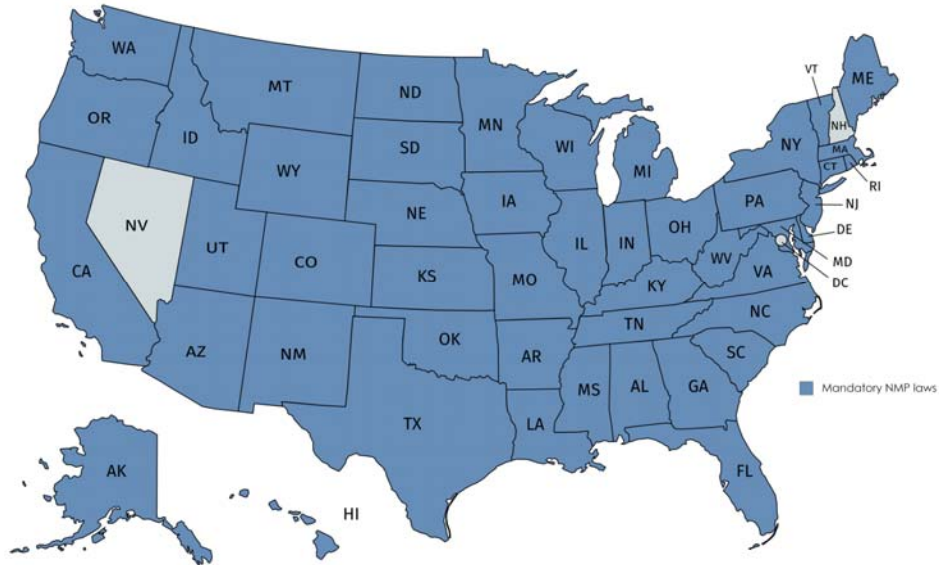
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Nutrient Management Plans

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States that Require Nutrient Management Plans



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Types of NMP Laws

1. Animal feeding operations
2. Other agricultural practices
3. Targeted areas
4. Development of NMPs

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1. NMPs for Animal feeding operations: Virginia Pollution Abatement Permit Program

- Applicable to animal operations under the state NPDES thresholds.
- NMP must include:
 - Site map with location of application
 - Site valuation and assessment of soil types
 - Nutrient management sampling and monitoring
 - Land area requirements
 - Calculation of application rates
 - Waste application schedules
 - Application rates for nutrients
 - Specific timing of land application

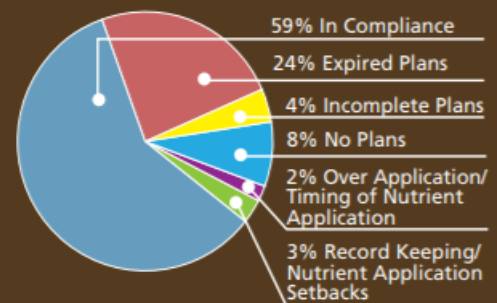
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2. NMPs for other agricultural practices: Maryland Agricultural Nutrient Management Program

- Required for agricultural operations with gross income of \$2,500 or 8,000 lbs. of live animal weight
- Must be prepared by a certified preparer
- Must be updated every three years
 - If use only commercial fertilizer with no significant changes, may use NMP for more than 3 years if comply with soil testing requirements and maintain P fertility index value of 100 or less
- Operator must file annual report

Results of 725 On-Farm Audits
(Fiscal Year 2018)



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3. NMPs for Targeted Areas

Ohio Watershed in distress	Areas determined by rule to have aquatic life impaired by nutrients or sediment from agricultural land uses and a threat to public health, drinking water supplies, recreation, or public safety and welfare threatened by nutrients.
North Carolina Nutrient sensitive waters and special watershed	Areas determined by rule to need additional nutrient reduction strategies due to excessive growth of microscopic or macroscopic vegetation or nutrient loading.
Arkansas Nutrient surplus area	Areas designated by the legislature as having such high nutrient concentrations that continued unrestricted applications could negatively impact soil fertility and waters of the state.
Connecticut Aquifer protection area	Area consisting of well fields, areas of contribution and recharge areas surrounding public drinking water supplies, as identified on maps approved by Commissioner of Energy and Environmental Protection.

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4. Certification Programs for NMP Development

Arkansas	Certified Nutrient Planner (only for Nutrient Surplus Areas or if NMP paid with federal or state funds)	Ark. Code. Ann. § 15-20-1004
Delaware	Nutrient Management Certification	Del. Code Ann. Title 3 § 2241
Idaho	Certified Nutrient Management Planner	Idaho Admin. Code r. 2.04.30.150
Maine	Certified Nutrient Management Planning Specialist	Maine Rev. Stat. Title 7 § 4204; Maine Code R. 565 § 7
Maryland	Certified Nutrient Management Consultant	Maryland Code Agric. § 8-802
Pennsylvania	Nutrient Management Specialist	3 Pa. Code § 508
Vermont	Nutrient Management Technical Service Provider (beginning 7/1/2019)	6 Vermont Stat. Ann. § 4989
Wisconsin	Nutrient Management Planner	Wisc. Stat. ATCP 50.48

Application Restrictions

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Types of Nutrient Application Restrictions



Weather conditions

Restrictions on time of year or under weather and soil conditions that affect the risk of nutrient runoff.



Setbacks and buffers

Required minimum distances or buffers between nutrient application areas and sensitive areas such as waterways



Application methods

Requirements to use or not to use specific methods for applying nutrients in certain situations.



Targeted areas

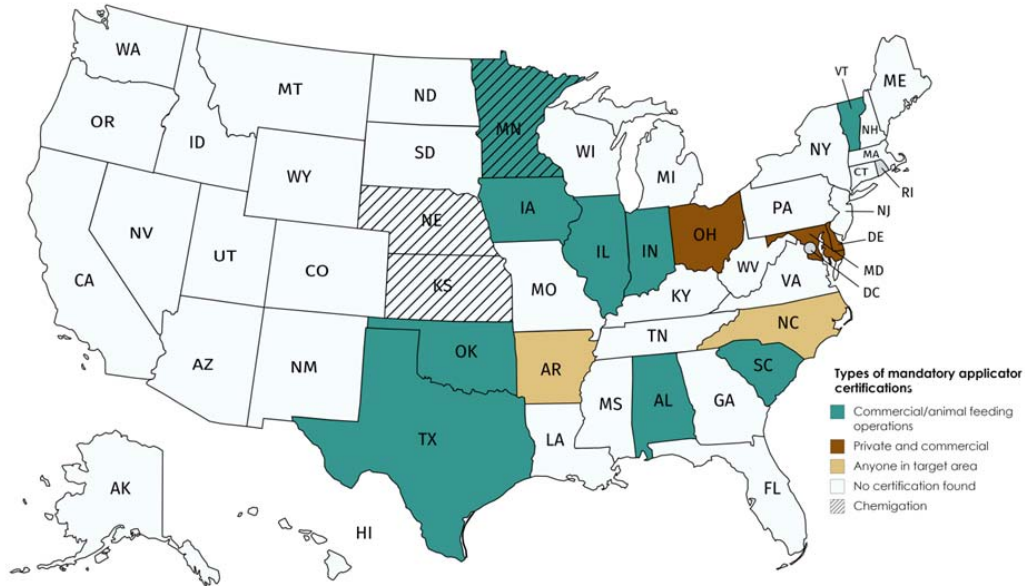
Restrictions or requirements for applications in identified sensitive areas.

State Application Restrictions

Weather conditions	IN	No application of unmanipulated organic fertilizer on frozen or snow covered ground if 200 feet or closer to surface water or in a floodway.
Setbacks/ buffers	MN	Must install and maintain continuous buffers of perennial vegetation on property next to public waters or drainage systems within mapped protection areas
Application method	PA	May not mechanically land apply manure from CAFOs within 100 feet of surface water.
Targeted area	OH	In “watersheds in distress,” no application of manure between Dec. 15 and March 1 without prior agency approval or on frozen/snow covered ground at other times of year <u>unless</u> incorporating or injecting within 24 hours or if local weather forecast contains a more than 50% chance of one-half inch of precipitation within 24 hours of application.

Applicator Certification

Mandatory Applicator Certification Laws



Applicator Certification: Who must be certified?

1. Commercial and animal feeding operations
2. Private applicators
3. Applicators in targeted areas
4. Chemigation applicators

Applicator Certification Components

1. Education
2. Testing
3. Record keeping
4. Employee supervision and training
5. Continuing education
6. Renewal

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Voluntary Approaches

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Types of Voluntary Approaches



Technical Assistance

1. Technical expertise
2. Informational tools

PA An Official Pennsylvania Government Website
 Department of Environmental Protection
2018-2019 Agricultural Plan Reimbursement Program
 Register for reimbursement by April 1!

Runoff Risk Advisory Forecast
 Wisconsin Manure Management Advisory System

Economic Incentives

1. Water quality trading programs
 - Ohio River Basin Water Quality Trading Project
 - Maryland Water Quality Trading Program
 - North Carolina Nutrient Offsets and Trading
2. Tax credits
 - Virginia Precision Agricultural Equipment Tax Credit
 - Wisconsin Farmland Preservation Tax Credit
3. Cost share programs



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Legal Protections

Minnesota Agricultural Water Quality Certification Program

- 10 year regulatory certainty
- If implement and maintain approved farm management practices

Stoney Brook Farms is 600th Water Quality Certified farm



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Insights

More activity in states with significant water resources and/or higher rainfall.

- Great Lakes
- Chesapeake Bay
- Mississippi River

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Insights

National landscape is outwardly disjointed.

- Scattered among different agencies.
- Patchwork approach.
- But some states have comprehensive, integrated programs.

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Insights

Few solutions include monitoring and assessment components.

- Need for data.
- Monitoring and assessment occurring independent of laws, regulations, programs.

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The screenshot displays the website for The National Agricultural Law Center. At the top left is the center's logo, which features a green circular emblem with a scale of justice and a plant. To the right of the logo, the text reads "The National Agricultural Law Center" and "The Nation's Leading Source of Agricultural and Food Law Research and Information". A link to "Check out...The Ag & Food Law Blog >" is visible on the right. Below this is a navigation menu with a "NAVIGATION" label on the left and a grid of links: "ABOUT THE CENTER", "RESEARCH BY TOPIC", "CENTER PUBLICATIONS", "STATE COMPILATIONS", "AG & FOOD LAW CONSORTIUM", "CENTER OUTREACH", "CONGRESSIONAL RESEARCH", "REPORTS", "FARM BILL RESOURCES", "AG LAW BIBLIOGRAPHY", "AG LAW GLOSSARY", "AG LAW REPORTER", and "GENERAL RESOURCES". The main content area features a large white box with the title "Mandatory Legal Approaches to Agricultural Nutrient Management" in a large, dark font. Below the title, the authors are listed: "Ellen Essman, Senior Research Associate, Ohio State University Agricultural & Resource Law Program" and "Micah Brown, Research Fellow, National Agricultural Law Center". At the bottom left of the screenshot is the "CFAES" logo, and at the bottom right is the logo for The Ohio State University College of Food, Agricultural, and Environmental Sciences.