

Maryland Department of Agriculture



***NEW* Nutrient Management Regulations**

New Regulations will help Maryland meet WIP Goals

Setback Requirements

Incorporation of Manure

Winter Spreading Restrictions

2016 Winter Spreading Prohibition

Phosphorous Management Tool (PMT)

Update on the Winter Spreading Prohibition

Effective January 1, 2014

- Nutrient Setback Requirements
 - Organic Nutrient Applications
 - Manure deposited by animals
 - 10' Setback for directed applications
 - 35' Setback for broadcast applications
 - Fencing is not a requirement of the regulation
 - The regulation applies to pasture and cropland

Nutrient Application Setbacks

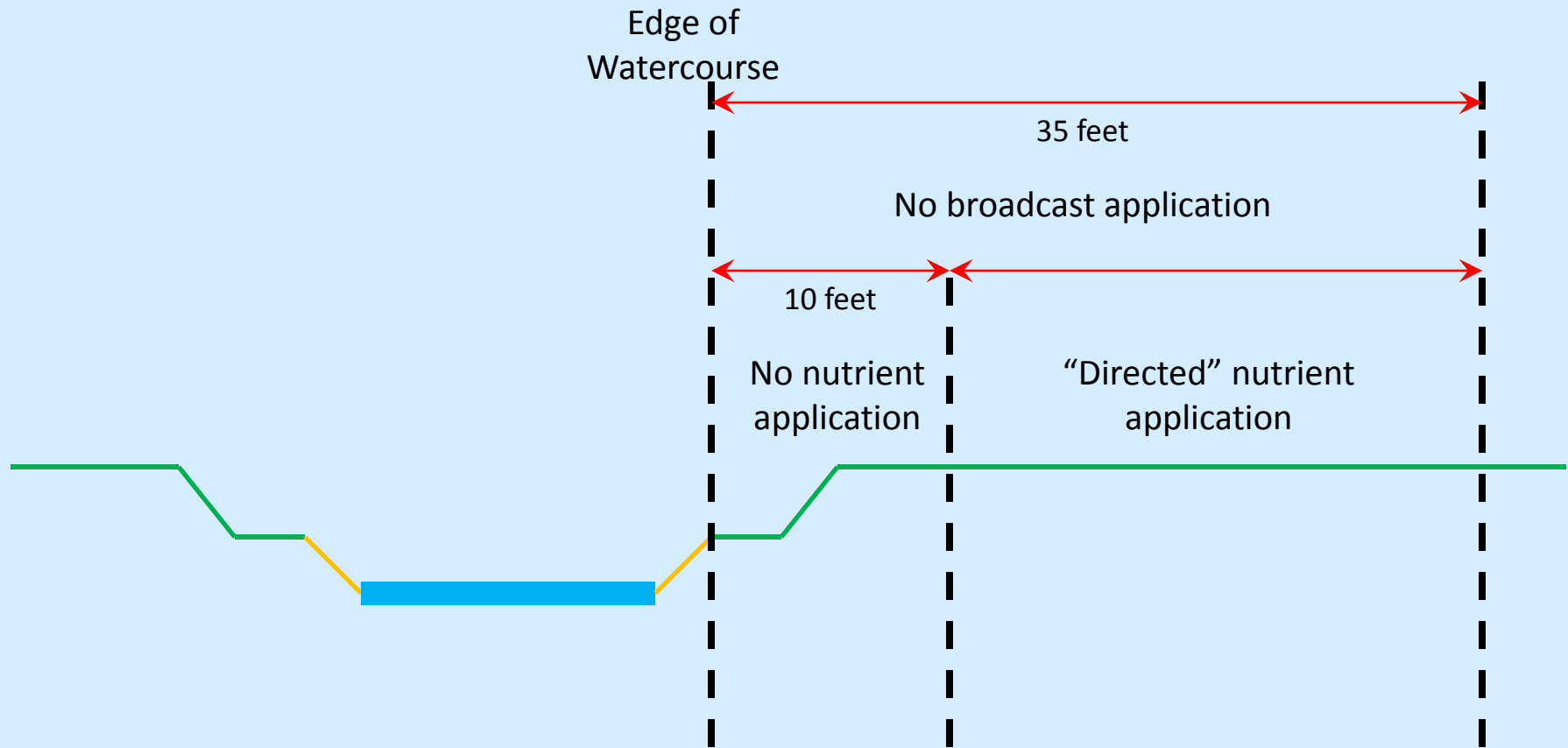
Setback applies:

- Natural and perennial or intermittent
- Channelized and perennial and;
 - Floodplain soil map unit, or
 - Hydric soil map unit, or
 - “B” slope or greater soil

Setback does not apply:

- Ditches
 - Channelized and intermittent
 - Ephemeral

Nutrient Application Setbacks



Manure Incorporation

All spread manure must be incorporated

HEL, pasture and hay exempted

If spreading in winter, no exceptions

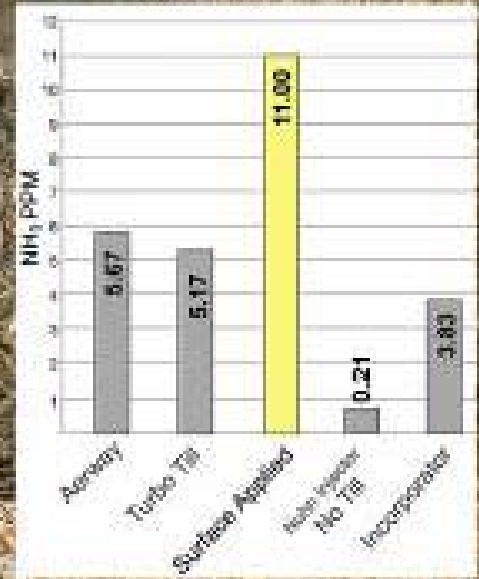
Minimum disturbance injection or vertical
tillage preferred

We are hoping to offer incentives for
direct injection as encouragement

Minimum Disturbance Manure Injection and Incorporation

- No-Till Injectors
- Turbo-Till or equivalent equipment
- AerWay or equivalent equipment
- There are many different manufacturers making vertical tillage equipment today and we do not endorse any specific brand of equipment, but we have not found a good way to refer to the equipment but by brand

















Financial Benefit

Average Dairy Farm Manure

Total nitrogen 28 lbs. per 1,000 gallons

Organic nitrogen 17 lbs. per 1,000 gallons

Ammonia nitrogen 11 lbs. per 1,000 gallons

Ammonia nitrogen is available first year if not lost to volatilization. $11 \times \$0.76/\text{lb.} = \$8.36/1,000 \text{ gals.}$ A typical 6,000 gallon application could supply 66 lbs. of ammonia nitrogen at a value of \$50.16.

Can you afford to lose \$40+ per acre into the air?





Organics WINTER - APPLICATION TIMING

Organic Fertilizer

A person may make a winter application of an organic nutrient source to cropland only if:

- (i) The operation has inadequate storage (*i.e.*, the storage capacity will be exceeded before the March 1 winter application restriction);
- (ii) The nutrient source is non-stackable; and
- (ii) There is no other reasonable option to manage it.

Any such application shall be made in accordance with Section 1-B of the *Maryland Nutrient Management Manual*.

WINTER - APPLICATION TIMING (con't)

The following restrictions apply to any such winter application:

- (i) Nutrient application is prohibited during the winter if the organic nutrient source is stackable (equal to or less than 60 percent moisture content, such as poultry litter) or adequate storage is available.**
- (ii) Nutrient application is prohibited when the soil is saturated, when the ground is covered with snow, or when the ground is hard-frozen.**
- (iii) Nutrient application is prohibited to land with a slope greater than 7 percent.**
- (iv) Rates of application shall be minimized and available acreage used to the greatest extent practical. In no case shall the application rate per acre exceed the one-year phosphorus removal rate for the next harvested crop.**
- (v) Winter applications shall be by injection only and made into existing vegetative cover, small grain crops, or established hay fields and pastures. Injection into existing cover may be effected, for example, using vertical tillage equipment such as a Turbo-Till® or with a knifed injection system which minimizes soil disturbance and maximizes vegetative cover. Vegetative cover shall be maintained as such until March 1.**
- (vi) Applications required in emergency situations such as imminent overflow of a storage facility shall be managed in consultation with the Maryland Department of Agriculture. Operators in such situations shall contact the MDA regional nutrient management representative for guidance.**

PROHIBITION AGAINST WINTER APPLICATION

- 1. After July 1 , 2016, a person may not make a winter application of a nutrient source to agricultural land.**

- 2. a. The prohibition against making a winter application after July 1, 2016 does not apply to a nutrient source that originates from:**
 - (i) A dairy or livestock operation with less than 50 animal units; or**
 - (ii) A municipal wastewater treatment plan with a design flow capacity of less than 0.5 million gallons per day.**
b. This exception to the general prohibition expires after the winter application that ends on February 28, 2020.

- 3. The prohibition against making a winter application does not apply to potash, liming materials, or manure deposited directly by livestock. A person may make a winter application of certain nutrients for greenhouse production and for certain vegetable crops, small fruit crops, small grain crops, and cool season grass sod production listed in the *Maryland Nutrient Management Manual* Section I-B.**

TEMPORARY FIELD STOCKPILING FOR ORGANIC NUTRIENT SOURCES

General Provisions (Abbreviated Version)

- 1. When other immediate use options and alternatives are not available, temporary field stockpiling (staging) of organic nutrient sources is allowed.**
 - Temporary field stockpiling (staging) provides greater environmental protection than a fall or winter application of nutrients or applying nutrients too far ahead of normal planting time and crop uptake.**
- 2. Existing storage shall be fully used prior to stockpiling material in the field.**
- 3. Any material staged in field stockpile shall be land applied in the first spring season following the placement of the stockpile.**
- 4. Materials shall be field stockpiled (staged) temporarily in a manner that prevents nutrient runoff.**

Emergency Winter Applications for Animal Operations w/ > 50 Animal Units

- Document / State what the regulations are and inform the operator of the need for additional storage.
- Refer them to the SCD for Technical Assistance
- Provide the operator with Emergency Winter Recommendations
- Operator has to Notify MDA, Each case will be handled on a case by case basis in terms of enforcement
- More information will follow as we move closer to November

The Phosphorous Management Tool (PMT)

PMT is the latest version of PSI

PMT combines all sources of P loss

Distance to water is a major factor

High concentrations of poultry litter

Lower Eastern Shore hardest hit

On-Farm Economic Analysis

- 2 year commitment to allow crop rotations
- Fields must be over P FIV 150, under P FIV 500
- Must complete both PSI and PMT
- 8 farms totaling approximately 750 acres
- Crops, nutrient sources, yields for 3 years
- All information submitted by end of year
- Observations and issues will be recorded
- Farms will be treated confidentially

PMT Economic Study

4 farms in the study using poultry litter

One farm imports litter

Three farms are poultry/crop farm

4 farms in the study are dairy farms

2 year study (2015 and 2016)

Reimbursement for the first year has been made

Data analysis is now underway

Technology

One Size Does Not Fit All

You are not being required by the State of Maryland to install expensive new technology, but it is available.

We will be making an effort this year and next to work with all producers- the key will be communication.

MACS

(State Cost-Share Program)

Waste Storage Structures	\$200,000 limit
Heavy Use Area Protection	\$ 50,000 limit
Stream Crossing	\$ 50,000 limit
Watering Facility	\$ 50,000 limit
Fencing	\$ 50,000 limit
Spring Development	\$ 50,000 limit

Farm Limit-With Waste Storage \$300,000

Farm Limit- Without WSS \$150,000





12/01/2009



04/22/2008











Cost-Share Funding

- The Maryland Agricultural Cost-Share Program provides funding that can cover up to 87.5% of the cost to install certain agricultural BMPs including stream fencing, stream crossings, watering troughs, spring developments and water wells to exclude animals from streams.
- Beginning 7/1/13 a newly funded practice was announced that provides up to 87.5% of the cost to establish a pasture to be used within a management intensive grazing system or to convert or renovate a pasture previously used for continuous grazing. The maximum allowed for this practice is \$50,000/farm.

State Cost-Share Funding (MACS)

Ag. Waste Storage Structures- \$200,000

Ag. BMPs- \$50,000 per project limit

Total Farm Limit- \$300,000

Many projects, especially Waste Storage are co-cost shared with EQIP to maximize funding.

Manure Transport Program

- Cost- Share Grants up to \$20 per ton
- No farm limits for poultry growers
- All others, \$15,000 limit per season, \$30,000 limit per fiscal year
- Maryland has a goal to transport 20% of litter from Lower Eastern Shore
- Funds provided for transport do not count against the farm limit for MACS

The Maryland Income Tax Subtraction Modification for Conservation Equip.

- Subtraction on MD Tax Return equal to 100% of the cost of the equipment (see tax advisor)
- ***New-*** Vertical Tillage equipment used to incorporate manure eligible at a 50% rate
- ***New-*** Global Positioning Devices and Optical Sensing and Nutrient Application Systems
- Liquid Manure Injection Equipment
- New or Used Manure Spreading Equipment

Income Tax Subtraction Cont.

- Conservation Tillage Equipment
- No-Till Planters and No-Till Drills

- Must have a useful life of at least four years
- Equipment must be certified by the Soil Conservation District
- All equipment must be retained for three years and the tax return must be adjusted if the equipment is sold or traded within three years.

Winter Spreading Prohibition Effective July 1, 2016

Nov. 1st- Winter Spreading for the Eastern Shore

Nov. 15th- Winter Spreading west of the Bay

No Emergency Spreading Provisions included

Affects farmers, biosolids, food processing

A special meeting of the NM Advisory Committee was held at MDA on July 5, 2016 to address this issue. Public comments were accepted.

The Department is considering the following recommendations

- Remove the incorporation requirement for Spring and Fall manure spreading.
- Extend the Fall spreading dates to reflect Sept. 10th- Dec. 15th and eliminate the east and west of the Bay distinction. Winter date will be Dec. 16th- March 1.
- Add an Emergency Spreading provision under Winter application.

Remove Incorporation Spring/Fall

Since 2012 there has been much discussion that requiring incorporation is in conflict with statewide efforts to promote no-till farming.

Also since 2012 NRCS has concentrated on soil health and has presented many studies showing soil health is improved with little or no soil disturbance other than planting.

Extend the Fall Spreading Date

The Department believes the Fall spreading date should be the same on both sides of the Bay.

Extending the date to Dec. 15th statewide is more consistent with average weather conditions and with Winter spreading in Wisconsin and Ontario.

Added- no spreading on frozen or snow covered ground to the Spring and Fall requirements.

Added- must be 100' from surface water in Winter

Emergency Spreading Provision

The current spreading ban included an emergency provision which was effective. To prevent an overflow from a storage structure, farmers called MDA and followed procedures.

Since 2012 dairy farmers constructed 58 waste storage structures and 14 are underway, but an emergency provision is still needed.

Applies to farms/facilities with some storage.

What Happens Now

MDA is considering the recommendations

There are groups asking for information

If we move forward it will take time

The NM staff is willing to meet to discuss your operation and your needs. We will work with you, but we need to hear from you.

Maryland Department of Agriculture



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