

# Plant Nutrient Regulations in Massachusetts

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Massachusetts Department of  
Agricultural Resources



Society

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## Plant Nutrient Regulations

Green Industry

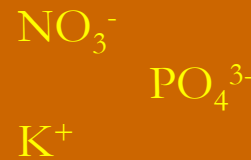
Municipalities

NPK

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Environment



# Background

- Act on Regulation of Plant Nutrients (2012)



- Result of two efforts:

- Address fertilizer runoff from lawns and turf, and limiting the use of phosphorus-containing fertilizer
- Address the regulation of plant nutrient applications on agricultural land (state-wide regulations)



- The Act authorizes MDAR to develop, implement and enforce the regulations

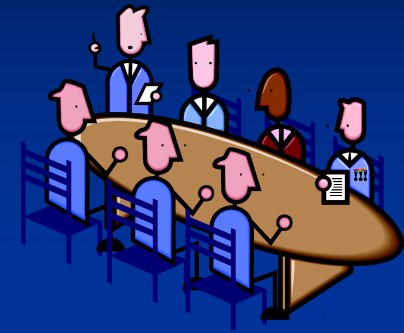
# Directions from the Act



- Specify WHEN plant nutrients may be applied and LOCATIONS in which plant nutrients shall not be applied
- Develop regulations regarding the use of plant nutrients designed to mitigate significant risks to human health and environment
- Work in conjunction with UMass Extension to ensure consistency with educational and outreach programs

# Directions from the Act

- Consult with MassDEP
- Regulations enhance the ability of municipalities to maximize the credits relative to storm water discharge or similar permits issued by the EPA.



# Development of Regulations

- 2013: Draft regulations were developed
  - Act required implementation by January, 2014
- 2014: Public hearing process during spring
  - Received comments/feedback from stakeholders
- 2014, Summer/Fall:
  - Developed Revised and Final Regulations
  - Consideration of comments received
  - Received technical assistance from UMass to develop consistency with BMPs/educational materials
  - Consulted with MassDEP and EPA



# Promulgation of Regulations

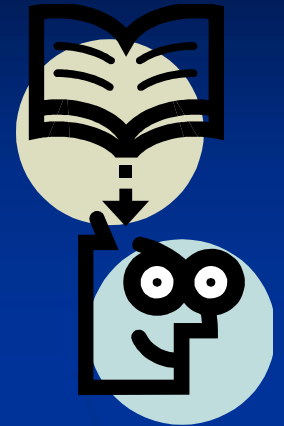
Spring 2015:

- Executive order for review of all regulations
- Nutrient Regulations scheduled to be promulgated



- June 5, 2015: Regulations were promulgated and became effective for turf
- December 5, 2015: effective date for those sections applying to Agricultural Land

# Implementation of Regulations



- Summer/Fall 2015:
  - Development of an implementation plan
  - Focus on outreach and education
  - Meetings and workshops with stakeholders
- MDAR's goal:
  - Provide education and outreach to help plant nutrient applicators understand the requirements so they can make plans to best integrate them in their operations
  - Identify problematic issues and seek the best solutions to them



# Purpose of the Regulations

- Ensure that plant nutrients are applied in an effective manner to provide sufficient nutrients for maintaining healthy agricultural land
- Minimize impacts of plant nutrients on surface and ground water resources to protect human health and the environment.

# Note on Regulatory Review and Amendments

- As a result of the Executive Order for Regulatory Review, the current version of the regulations is in the process of being amended.
- The requirements described in this document reflect the version that was published on June 5, 2015
  - Potential changes will be pointed out in this presentation

# Some Definitions

- Organic Compost - the biologically stable humus-like material derived from composting or the aerobic, thermophilic decomposition of organic matter.
- Phosphorus Containing Fertilizer - fertilizer labeled for use on lawn or non-agricultural turf in which the available phosphate content is greater than 0.67% by weight, excluding Organic Compost and Natural Organic Fertilizer.

# Some Definitions

- Plant Nutrient - a substance that contains one or more of the Primary Nutrients of nitrogen, phosphorus, or potassium, {or any recognized Plant Nutrient}, including but not limited to: animal manures, fertilizer, organic compost, natural organic fertilizer, agricultural byproducts, digestate, biosolids or combinations thereof; and  
which is intended to be used as a source of nutrients for agricultural land and non-agricultural turf, and lawns.

# What do the Regulations Require?

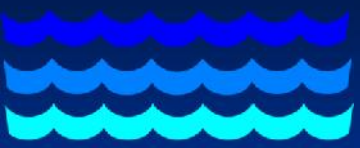
- Many requirements are based on UMass Guidelines for Nutrient Management Practices

UMass Extension Nutrient Management

- General requirements include:
  - Follow UMass guidelines for nutrient management
  - Not to apply plant nutrients to surface water
  - Not to apply to saturated soils or soils that are frequently flooded
  - Not to apply to frozen or snow-covered soils
  - Application setbacks from sensitive areas
  - Seasonal application restrictions



# Setbacks from Sensitive Areas

- No application of plant nutrients within: 
  - 100 feet from surface waters used for public water supplies,
  - in a Zone I area of a public water supply well,
  - 50 feet from surface water (25 feet if a vegetated buffer is present),
  - 10 feet from surface waters for applications by directed spray or injection, and
  - on pastures and hayfields within 10 feet from surface waters.
- Setbacks shall not apply to crop growing systems that operationally require proximity to surface water

# Seasonal Application Restrictions for Manure and Ag Byproducts



- { Fall (September 15 – December 15): applications to fields with an adequate vegetation cover (greater than 30%) unless: }
  - the application is made by to pasture or hayfield
  - the application is of compost, or
  - the application is of agricultural process water to a growing crop.
- Proposed amendments include restrictions based on conditions, not dates.
  - Conditions focus on restrictions to frozen and snow-covered soils (definitions provided/modified)

# Seasonal Application Restrictions for Manure and Ag Byproducts

- { Winter (December 16 – March 1): }
- Proposed revision: Applications to Frozen/Snow-covered soils.....



Applications may be made only if:

- Inadequate storage and available storage capacity limit **has been reached** (proposed: exceedance is anticipated)
- Manure/byproduct is non-stackable
- There is no other reasonable option to manage it; and
- Applications are made according to additional restrictions specified in the regulations.

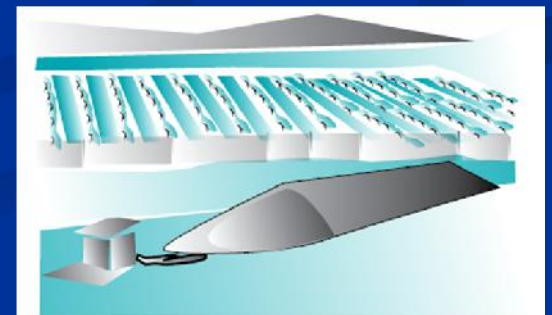


# Seasonal Application Restrictions for Manure and Ag Byproducts

- Winter restrictions do not apply to:
  - Livestock manure deposited directly by animals
  - Small livestock operations (criteria are specified in the regulations)

# Field Stacking of Ag Byproducts

- Temporary stacking of stackable ag byproducts as part of a land application plan is permissible
  - Stacked material shall be applied in first growing season following the placement of the stack
  - Stacks shall be constructed following UMass guidelines or criteria specified in the regulations



# Nutrient Management Plan Requirements

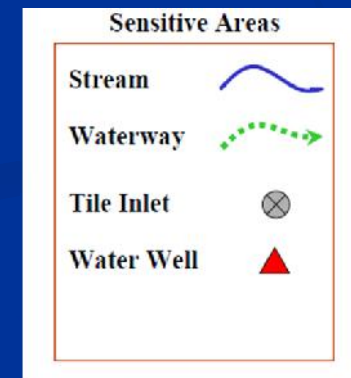
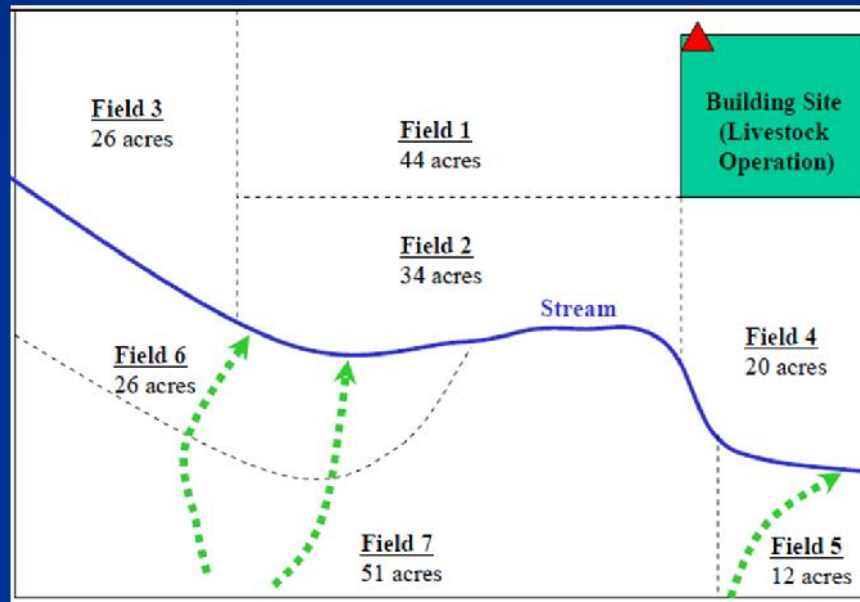
- NMP is required for operations involving applications to 10 acres or more agricultural land
- UMass guidelines for specific types of agricultural operations can be followed
  - Commodity-specific guidelines and templates are being developed
- Regulations specify general requirements for a basic nutrient management plan
- Can be developed by farmer/grower or nutrient management professional



# Elements of a basic NMP

- Maps, identifiers, and crop plan for fields

Farm Map  
Example



- Inventory of on-farm agricultural byproducts and assessment of available plant nutrients from these sources, if applicable

# Elements of a basic NMP

## Field based assessments:



- Nutrient budget for planned crop based on:
  - Planned crop and yield goal
  - Soil test or Plant Tissue test information
  - Crop needs for primary nutrients N,P and K based on recommended application rates (Tables, Manuals)
  - Nutrient credits from manure, previous crops, or cover crops, if applicable
  - Evaluation of limiting factors, such as excessive soil phosphorus levels (guidelines for Phosphorus mitigation measures)

# NMP elements

## Field Based Assessments:

- Planned applications for fertilizers, manure and other plant nutrient materials (such as compost and biosolids)
- Records of actual applications, including rates, dates, estimated crop yield, application methods
- Annual review, evaluation, and update



# Soil, Manure and Plant Tissue Testing



- Soil tests are valid for three years
- Manure testing is recommended, but use of book values for nutrient content is allowed
- Plant tissue testing as recommended in UMass Guidelines
- Testing shall be done according to methods and procedures recommended in UMass Guidelines

# Regulations for Turf & Lawns

*Note: The regulations do not cover plant nutrient applications to vegetable gardens, trees, and ornamentals!*

- Specific restrictions for Phosphorus-containing fertilizer: may only be applied when:
  - a soil test indicates that it is needed; or
  - when a lawn is being established, patched or renovated.





# Regulations for Turf & Lawns

- No Applications of plant nutrients shall be made:
  - { between December 1 and March 1 }
  - to frozen and/or snow covered soil;
  - to saturated soil, or soils that are frequently flooded;
  - to sidewalks or other impervious surfaces; remove any applied material from these areas
  - Setbacks from surface water and drinking water supplies



# Regulations for Turf and Lawns

- Requirements for organic plant nutrient materials:
  - Account for P and N applied with organic sources
  - Proposed: The requirement shall not apply a single application made within a 12-month period at an application rate not to exceed 0.25 lbs of Phosphate per 1000 square feet.
- Record keeping requirements for professionals

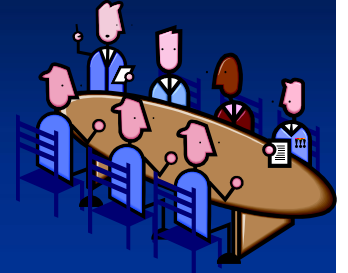


# Process of Regulatory Review and Amendments

- A draft with proposed amendments has been submitted to the Secretary's Office (April, 2016)
- Public comment period and public hearing expected later this year
- Amended regulations to be promulgated



# Interactions with Stakeholders



- Meetings with various stakeholder groups
- Provide updates of regulatory requirements
- Work with Partners, including UMass, to implement the regulations
- Focus will be on Outreach & Education



# Information on Plant Nutrient Regulations

- MDAR website: [Plant Nutrient Management](#)
  - Statute and Regulations
  - Factsheets
  - Resources, including UMass Extension resources
  - Updates
- [www.mass.gov/eea/agencies/agr](http://www.mass.gov/eea/agencies/agr)
- Under “For Your Information”, click on “Plant Nutrient Management”



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### Plant Nutrient Management

In 2012, the Massachusetts Legislature passed An Act Relative to the Regulation of Plant Nutrients (Act). The Act directed the Department of Agricultural Resources (MDAR) to develop regulations to ensure that plant nutrients are applied in an effective manner to provide sufficient nutrients for maintaining healthy agricultural and non-agricultural land, including turf and lawns, while minimizing the impacts of the nutrients on surface and ground water resources to protect human health and the environment.

The Act and regulations (330 CMR 31.00) establish standards for the applications of plant nutrients to agricultural land and non-agricultural turf and lawns. The regulations for non-agricultural turf and lawns became effective on June 5, 2015. The regulations for agricultural land became effective on December 5, 2015.

#### Non-Agricultural Turf and Lawns

The requirements for applications to non-agricultural turf and lawns include limitations on phosphorus-containing fertilizer. Lawn care professionals and homeowners are required to obey plant nutrient application restrictions and follow University of Massachusetts Amherst Extension's Guidelines for nutrient management on lawns and turf. For more info see [factsheet for Turf and Lawns](#)

The regulations also enhance the ability of municipalities to maximize the credits relative to storm water discharge or

#### Contact

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617-626-1771

#### Additional Resources

[Department of Agricultural Resources](#)[Division of Crop and Pest Services](#)[Pesticide Program](#)

## **Agricultural Land**

The regulations that address the plant nutrient applications to agricultural land became effective on December 5, 2015. The Department is developing factsheets and other outreach and educational materials to assist farmers and land managers with the implementation and compliance with these regulations. For more information see [factsheet for Ag Land](#). 

Please check back regularly for updates on information related to the implementation of these regulations.

### **Law and Regulations:**

- [An Act Relative to the Regulation of Plant Nutrients](#)
- [Plant Nutrient Regulations \(330 CMR 31.00\)](#) 

### **Additional Resources**

[Factsheet for Turf and Lawns](#) 

[Retail Sign for Phosphorus Containing Fertilizers](#) 

[UMass Information and Guidelines](#)

[UMass Soil and Plant Tissue Testing Laboratory](#)

[UMass Soil Test Methods](#)

### **Water Supply Protection Areas:**

The location of water supply protection areas, including Zone A areas, can be found on the [MassDEP Water Supply Protection Map](#) (Online Map Viewer):

Currently, the Map Viewer does not show the Zone 1 areas. Contact the local public water supplier for a Zone 1 map.



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