

Delaware Nutrient Management  
Program

DELAWARE TECHNICAL  
STANDARD

FIELD APPLICATION  
SETBACKS

(Reported by Feet)

**CRITERIA**

**Criteria Applicable to All Purposes**

CAFO owners or operators are prohibited from applying manure, litter or process wastewater within 100 feet of any down gradient surface water or conduit to surface water.

However, CAFO owners or operators are permitted to implement one of the following setback options and include information regarding the setbacks in the Nutrient Management or Animal Waste Management Plan.

Setbacks will be measured from the top of the bank of the water body that is being buffered.

1. 100 feet setback; or
2. 35 feet vegetated buffer setback, planted in accordance with the Vegetated Buffer Strip Technical Standard; or
3. Alternative Compliance Practices
  - a. 10 feet setback adjacent to a field with a winter cover crop planted on soils without high phosphorus soils; or
  - b. 10 feet vegetated buffer setback adjacent to a field with a winter cover crop planted on soils with high phosphorus soils
  - c. Any additional alternative compliance practices must be approved by the Secretary of Agriculture and the Delaware Nutrient Management Commission.

**DEFINITION**

Setbacks are defined as a specified distance from surface waters or potential conduits to surface waters where manure, litter, and process wastewater may not be land applied. Examples of conduits to surface waters include but are not limited to: Open tile line intake structures, sinkholes, and agricultural well heads.

**PURPOSES**

Limit the application of nutrients from manure, litter, and process wastewater directly adjacent to surface waters such that runoff directly into surface waters is reduced and resultant degradation is minimized.

**CONDITIONS WHERE PRACTICE  
APPLIES**

This practice applies to permitted CAFOs in Delaware where manure, litter, or process wastewater is land applied.

**CONSIDERATIONS**

The majority of Delaware's surface waters are impaired by excess nutrients, therefore the following factors should be considered.

1. Cover crops are also a valuable cost effective BMP. Water quality benefits are higher when cover crops are planted early, which is any time prior to two weeks before average frost date – roughly October 1<sup>st</sup>. Owners or operators should consider planting cover crops as early as possible.

**Additional Criteria for Vegetated Buffer  
Setbacks**

Vegetated buffers must be a permanent strip of dense perennial vegetation naturally occurring or established parallel to the contours of and perpendicular to the dominant slope field for purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters.

**Additional Criteria for Setbacks and Vegetated Setbacks Adjacent to Cover Crops**

- The cover crop will be applied to the entire field.
- There will be a manure, litter, and process wastewater application setback of 10 feet.

**Additional Criteria for Additional Alternative Compliance Practices**

Additional alternative compliance practices may be used if approved by the Secretary of Agriculture and the Nutrient Management Commission.

Practices must be proven and avoid discharge of nutrients from manure, litter or process wastewater into surface waters or conduits to surface waters. Evidence of the alternative methodology, efficiency and costs must be submitted and approved by the Secretary of Agriculture and Nutrient Management Commission before the practice may be implemented to meet the requirements of the CAFO regulations and Delaware Nutrient Management Law.

**PLANS AND SPECIFICATIONS**

Plans and specifications for this practice shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail to ensure successful implementation of this practice.

Documentation shall be in accordance with the section "Supporting Data and Documentation" in this standard.

**OPERATION AND MAINTENANCE**

An Operation and Management (O&M) plan shall be prepared and is the responsibility of the CAFO owner or operator to implement.

**SUPPORTING DATA AND DOCUMENTATION**

The following is a list of the minimum data and documentation to be included in the Nutrient Management or Animal Waste Management Plan:

1. Identify the location of the setbacks and/or buffered areas for each field on the

topographical or aerial map included in the Nutrient Management Plan or Animal Waste Management Plan.

**REFERENCES**

1. Hansen, D, J. Volk, and J. Nelson. 2009. Setback Standards and Alternative Compliance Practices to Satisfy CAFO Requirements: An Assessment for the DEF-AG Group. Presented to the Delaware Nutrient Management Commission.
2. Delaware Department of Natural Resources. 2010. Proposed Regulations Governing the Control of Water Pollution, Section 9.5 Concentrated Animal Feeding Operations.