

Water Quality Enhancement Activity – WQL09 – Apply Phosphorus Fertilizer Below the Soil Surface



Enhancement Name

Apply all phosphorus fertilizer at least 3 inches deep, including manure, or as a 2X2 row starter

Land Use Applicability

This enhancement is applicable on cropland.

Benefits

Nutrient Management

Nutrient management encompasses managing the amount, source, placement, form, and timing of the application of plant nutrients and soil amendments. Nutrient management effectively utilizes available

nutrient resources to supply crops with nutrients required to efficiently produce food, forage, fiber, and cover while minimizing environmental degradation.

Nutrient management enhancement activities help agricultural production and the environment. Increased management activities will protect and enhance water quality and the biotic community that depends upon clean lakes and rivers.

Nutrient application placement is critical in order for nutrients to be available during critical crop growth stages and to meet crop yield goals. By applying phosphorus either 3 inches deep or as a 2x2 row starter, it is less vulnerable to loss in surface runoff, both in solution and attached to soil particles, therefore reducing the potential loss of nutrients to the environment

Criteria for Applying all Phosphorus fertilizer at least 3 inches deep and/or as a 2x2 row starter

Implementation of this enhancement requires:

- 1) All phosphorus fertilizer, regardless of form, will be injected at least 3 inches deep below the soil surface, and/or phosphorus applied as a starter fertilizer during the planting operation will be placed in a band 2 inches to the side and 2 inches below the crop seed (commonly referred to as "2x2" placement).
- 2) Producer must have a current soil test (no more than 3 years old)
- 3) The amount of phosphorus fertilizer applied as a starter in the 2x2 placement shall not exceed the rate recommended by the Land Grant University (LGU).



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- 4) The total amount of phosphorus applied shall not exceed the rate recommended by the “Land Grant University” (LGU) based on soil testing and established yield goals.
- 5) Soil surface disturbance must be minimized during phosphorous injection.

Documentation Requirements

- 1) Documentation for each Treatment area (field) and year of this enhancement describing these items:
 - Treatment acres
 - Target (planned) crop
 - Soil test results
 - Crop yields (both yield goals and measured yield)
 - Phosphorus application rates/amounts and application dates for each treatment area
- 2) A map showing where the activities are applied.



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State Criteria

- All phosphorus fertilizer, regardless of form, will be injected at least 3 inches deep below the soil surface, and/or phosphorus applied as a starter fertilizer during the planting operation will be placed in a band 2 inches to the side and 2 inches below the crop seed (commonly referred to as “2x2” placement).
- Soils shall be sampled and analyzed in accordance with Practice Specification for Nutrient Management (S-590) or NebGuide “Guidelines for Soil Sampling” (G1740).
- All soil samples must be taken prior to applying fertilizer or manure.
- If applicable, manure shall be sampled and analyzed annually in accordance with Practice Standard 633 – Waste Utilization and Nebfact “Manure Testing: What to Request” (NF02-507).
- Nutrient application rates are within University of Nebraska recommendations based on soil tests and established yield goals considering all nutrient sources (refer to Practice Standard 590 and Practice Specification (S-590) for Nutrient Management).
- Minimize soil surface disturbance.

Documentation Requirements

1. Provide a map indicating where the activities were applied.
2. Provide a copy of the soil test results.
3. Provide copies of manure analysis, if applicable.
4. Complete the nutrient and fertilizer application table on the following page.

I certify that the following information meets specifications and has been provided to NRCS:

1. Written documentation of the activity performed per documentation requirements.
2. Copies of dated receipts for equipment or services purchased.

I understand that it is my responsibility to obtain all necessary permits and to comply with all laws, regulations and ordinances pertaining to the application of these activities.

Certified by: _____ **Date:** _____



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Field Information		Commercial Fertilizer and Manure Application Information									
Tract & Field	Acres	Crop & Yield	Date Applied (m/d/yr)	Form	Rate (lb/a)	Method	If Manure, Days to Incorp.	N Avail. (lb/a)	P Avail. (lb/a)	Total N Avail. (lb/a)	Total P Avail. (lb/a)
T1234 & F1	78.9	Crop	11/3/08	Swine Slurry	3000 gal/ac	Knife - inject	immediately	127	112	183	112
		Corn	4/30/09	32-0-0 liquid	16 gal/a liquid	Broadcast	na	56			
		Yield									
		Crop									
		Yield									
		Crop									
		Yield									
		Crop									
		Yield									