

Water Quality Enhancement Activity – WQL09 – Apply phosphorus fertilizer below the soil surface



Enhancement Name

This enhancement is for the application of all phosphorus fertilizer at least 3 inches deep, including manure, or as a 2X2 row starter.

Land Use Applicability

Cropland.

Benefits

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

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).
- 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.



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- 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
 - Method used to apply phosphorous
- 2) A map showing where the activities are applied.

References

Sims, J.T. (ed.) 2005. Phosphorus: Agriculture and the Environment. Agronomy Monograph 46. ASA, CSSA, and SSSA, Madison, WI.

**ALABAMA SUPPLEMENT TO ENHANCEMENT WQL09 APPLY PHOSPHORUS
FERTILIZER BELOW THE SOIL SURFACE**

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. This enhancement is for the application of all phosphorus fertilizer, regardless of form, at least 3 inches deep, including manure, or as a 2X2 row starter. This enhancement can only be applied on cropland. All applications of fertilizer, manure or compost must be applied in accordance with the Conservation Practice Standard, Nutrient management (590). Refer to the national enhancement for more information.

Criteria:

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).
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.
6. If a manure application is being planned a nutrient management plan must be created. A nutrient management plan contains the following for each application site: a) aerial photographs (with buffers); b) soils map; c) crop rotation; d) soil test (no older than 3 years); e) yield goals; f) Alabama Phosphorus Index; g) nutrient budget; h) planned rates, methods, and timing; and i) guidance for implementation/operation and maintenance/record keeping.

Documentation Requirements:

1. Documentation for each year of the enhancement by field; a) treatment acres, b) crop planted, c) soil test date, d) phosphorous application method, e) phosphorus application rate and application date, and f) crop yield (yield goals and measured yield).
2. Map of the fields where the enhancement was applied.
3. Nutrient management plan if a manure application is planned.

ALABAMA SUPPLEMENTAL INFORMATION FOR THIS ENHANCEMENT

WQL09 – Apply phosphorus fertilizer below the soil surface

Documentation Form

Producer Name:		Date:	
Tract Number(s):		County:	
Field Number(s):			
Acres:			
Year:			
Crop(s) Planted:			
Type of Phosphorus Applied:			
Phosphorus Application Method:			
Phosphorus Application Rate:			
Phosphorus Application Date:			
Crop Yield Goal:			
Measured Yield:			
Soil Test Year:			
Producer has self certified the application of manure was within the 590 standard *			

Attach map showing fields and acreage where enhancement applied and copies of current soil test. If a manure application is planned attach copies of the manure analysis, and nutrient management plan.

* Producer must self certify that no manure application was made on any buffered portion of the field, manure application were not made within 3 days of a storm event and all other requirements for manure application contained within the 590 standard were satisfied.

The supplied documentation accurately reflects the implementation of this enhancement.

SIGNATURE:
