

**Water Quality Enhancement Activity – WQL32 – Apply enhanced efficiency fertilizer products**



**Enhancement Description**

At least 50% of the pre-emergent and early post emergent nitrogen fertilizers, phosphorus fertilizers or manure used for production must include enhanced efficiency formulations.

**Land Use Applicability**

Cropland, Pastureland

**Benefits**

Nutrient management encompasses managing the amount, source, placement, 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.

The use of enhanced efficiency fertilizer products can make nitrogen or phosphorus available to plants over a longer portion of the growing season to match the plant uptake needs. This limits the loss of nitrogen to leaching and denitrification, and can help control soil emissions of the greenhouse gas nitrous oxide. Furthermore, enhanced efficiency fertilizer products can increase phosphorus availability which improves phosphorus use efficiency.

**Conditions Where Enhancement Applies**

This enhancement applies to all crop or pasture land use acres.

**Criteria**

Implementation of this enhancement requires:

1. Enhanced efficiency fertilizers, used in the State must be defined by the Association of American Plant Food Control Officials (AAPFCO) and be accepted for use by the State fertilizer control official, or similar authority, with responsibility for verification of product guarantees, ingredients (by AAPFCO definition) and label claims.
2. The use of one or more nitrogen or phosphorus fertilizer products defined as enhanced efficiency fertilizers that are recommended by a state Land Grant University (LGU) and concurred with by NRCS on all treatment acres to supply at least 50% of the pre-emergent and early post emergent LGU recommended nitrogen or phosphorus requirement for the crop(s) grown; or documentation from a peer reviewed journal including the effectiveness of the enhanced efficiency fertilizer
3. Application of nutrients within the LGU recommendations based on soil testing and established yield goals, considering all nutrient sources.



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4. Minimize soil surface disturbance during fertilizer placement.

#### **Adoption Requirements**

This enhancement is considered adopted when the enhanced efficiency product, for nitrogen and/or phosphorus, has been utilized as a fertilizer or fertilizer additive and applied to the land use acre.

#### **Documentation Requirements**

1. A map showing where the activities are applied,
2. Enhanced efficiency product used,
3. Treatment acres,
4. Soil test results,
5. Crops grown and yields (both yield goals and measured yield),
6. Calibration of fertilizer application equipment, and
7. Nutrient application rates/amounts and application dates for each treatment area.

Note: In lieu of documenting each individual item listed in the Documentation Requirements, a Certified Crop Advisor plan that contains each of the items may be substituted.

#### **References**

AAPFCO. 2011. Association of American Plant Food Control Officials, Official Publication No. 64. AAPFCO Inc., Little Rock, Arkansas.