

**Water Quality Enhancement Activity – WQL24 – Apply enhanced efficiency fertilizer products**



**Enhancement Description**

At least 50% of the pre-emergent and early post emergent nitrogen fertilizer and/or phosphorus fertilizers used for crop 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. Increased phosphorus availability improves phosphorus use efficiency and reduces the potential for loss by leaching (soluble P) and erosion (P bound to detached soil particles).

**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 the state Land Grant University (LGU) and concurred with by NRCS on all treatment acres to supply at least 50% of the LGU recommended nitrogen or phosphorus requirement for the crop(s) grown.
3. Application of nutrients within the LGU recommendations based on soil testing and established yield goals and considering all nutrient sources.



4. Minimize soil surface disturbance during fertilizer placement.

### **Adoption Requirements**

This enhancement is considered adopted when the enhanced efficiency product, for nitrogen or phosphorus enhancement, 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.



United States Department of Agriculture  
 Natural Resources Conservation Service

**IDAHO ADDENDUM 2012**  
**Water Quality Enhancement Activity – WQL24 – Apply**  
***Enhanced Efficiency Fertilizer Products***

**Additional guidance for enhanced efficiency nitrogen fertilizer:**

In Idaho, at least 50% of pre-emergent and early post emergent nitrogen fertilizer **MUST** be an enhanced efficiency product. Phosphorus fertilizers may be applied as enhanced efficiency formulations. Enhanced efficiency formulations are designed to match availability of nutrients to plant growth needs over the season, and reduces potential for loss. All applications of fertilizer should consider and address the potential for off-site impacts. The enhancement does not apply to fall applications.

The following table identifies acceptable enhanced efficiency products. **For any products not on this list, you MUST GET CONCURRENCE FROM THE IDAHO NUTRIENT MANAGEMENT SPECIALIST.**

**Enhanced Efficiency Fertilizer Products<sup>1,2</sup>**

Fertilizer/Additive	Base Form	Common Names	N %	Effective Duration (weeks)
<u>Slow/Controlled/Enhanced Release</u>				
Urea formaldehyde	Ureaforms	Nitroform	38	10-30
		FLUF	18	6-10
		Folocron	29	6-10
		GP-4340	30	6-10
Urea formaldehyde	Methylene Urea	Nutralen Hydrolene Nitamin	40	7-12
Urea formaldehyde	Methylol Urea	ResiGrow	30	6-10
Urea formaldehyde	Polymethylene Urea	CoRoN	12/28	7-9
Isobutylidene-diurea	Isobutylidene-diurea	IBDU	31	10-16
Triazone	Triazone/urea	N-Sure Nitamin TriSert Formelene	28-33	6-10

Crotonylidene Diurea	Urea/ crotonaldehyde	Crotodur CDU Triabon	34	6-12
Sulfur Coated Urea	Urea	SCU Enspan	30-42 39	4-12
Polymer/S Coated Urea	Urea	PolyPlus PolyS TriKote XCU	38-42 38-42 41-43	6-16
Polymer or Resin Coated Urea	Urea	Polyon Osmocote Meister Agriform Mulitcote Escote Prokote ESN Nutrisphere	38-44 38-44 25-46 25-46 25-46 25-46 25-46 25-46 25-46	8-14
Dicarboxylic Acid Copolymer	Liquid and Dry Phosphate	Avail	0	8+

<sup>1</sup> Sartain, J. B., Food for turf: Slow-release nitrogen, University of Florida

<sup>2</sup> Washington State Department of Agriculture (WSDA) Fertilizer Product Database

**This activity may NOT be used with the following enhancements:  
ANM21, ENR10, WQL07**

**Potential duplicate practices:  
590 – Nutrient management (high level or precision)**