

**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**

Crop, Pasture

**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.



United States Department of Agriculture  
Natural Resources Conservation Service

2014 Ranking Period 1

### **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.

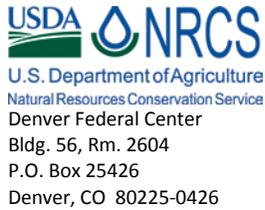
### **Documentation Requirements**

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.



## Colorado Supplement

to

National CSP 2014 Enhancement Activity Job Sheet: WQL24

### Apply enhanced efficiency fertilizer products

#### Criterion #1

The Colorado Department of Agriculture (CDA), Inspection and Consumer Services Division, Fertilizer Program, is responsible for registering fertilizers, soil conditioners and plant amendments for use in Colorado.

Contact Jonathan Handy, CDA Fertilizer Program Administrator at [jonathan.handy@ag.state.co.us](mailto:jonathan.handy@ag.state.co.us) or 303-867-9237, for information regarding Enhanced Efficiency Fertilizer products registered for use in Colorado.

CDA Fertilizer Program Home Page

(<http://www.colorado.gov/cs/Satellite/Agriculture-Main/CDAG/1167928218802>)

#### Criterion #3

Annual soil and manure sampling and analysis is required for systems that receive organic nutrient applications.

Soil sampling and analysis is required every three years for mineral systems that do not receive organic nutrients.

Acceptable soil test labs are those that meet the requirements of the [North American Proficiency Testing Program – Performance Assessment Program](#) (NAPT-PAP).

Acceptable manure testing labs are those that meet the requirements of the [Minnesota Department of Agriculture, Certified Manure Testing Labs Program](#)

Complete a Colorado [Nutrient Management 590 Job Sheet](#) to document planned and applied nutrient applications. Planned nutrient application rates will be based on Colorado State University fertility recommendations.

Completion of a [Colorado Nitrogen Leaching Index Risk Assessment](#) is required for each field and soil test cycle unless the Preliminary Nitrogen Leaching Risk Screening Tool indicates that a risk assessment is not necessary.

Completion of a [Colorado Phosphorus Index Risk Assessment](#) is required for each field and soil test cycle when any of the following conditions apply.

- The planned phosphorus ( $P_2O_5$ ) application rate exceeds CSU fertility recommendation for the planned crop and realistic yield goal, or
- The site is located within a phosphorus- impaired watershed (contributes to 303d-listed water bodies), or
- The Preliminary Phosphorus Risk Screening Tool directs the planner to complete a Phosphorus Index Risk Assessment.

**Additional Documentation Requirements**

Provide a copy of the completed Nutrient Management 590 Job Sheet including soil and organic nutrient analysis results, and risk assessments for N leaching and P runoff, as applicable.