Water Quality Enhancement Activity – WQL11 – Precision application technology to apply nutrients

State Criteria (same as NATIONAL CRITERIA)

Additional Criteria for Nebraska

- Soil samples will be taken using either grid sampling and/or geo-referenced (GIS) management zones (directed) sampling.
  (1) Grid Sampling
    (a) When using grid sampling a sampling density of at least one sample per 5.0 acres is required. The University of Nebraska recommends a sampling density of at least one sample per 2.5 acres and a sampling density of one sample per acre is recommended for fields with more apparent variability.
    (b) Grid sampling is typically used for surface samples and all nutrients other than nitrogen.
  (2) Geo-referenced (GIS) Management Zones (directed) Sampling
    (a) When using directed sampling, individual soil samples shall represent an area no larger than 20 acres in size. Areas with similar results and recommendations can be combined into larger management zones.
    (b) Management zones will be selected using GIS yield maps, digital soil maps, aerial photography, and other maps of soil variability such as maps from previous grid sampling efforts.
    (c) Management zones should have similar management (i.e. cropping history, manure and fertilizer applications, and irrigation) and similar soil and site conditions (i.e. soil texture, soil color, organic matter, slope, drainage, etc.).
  (3) A combination of grid and directed sampling may be utilized. For example, surface grid samples may be utilized for amendments/nutrients other than nitrogen, and directed management zone sampling used for nitrogen management.
- Soils shall be sampled and analyzed in accordance with Practice Specification for Nutrient Management (S-590) or NebGuide (G1740) "Guidelines for Soil Sampling".
- All soil samples must be taken prior to applying fertilizer or manure.
- If applicable, manure shall be sampled and analyzed annually following University of Nebraska recommendations. See NebGuide (G1450) "Sampling Manure for Nutrient Analysis" and NebGuide (G1780) "Manure Testing: What to Request".
- All nutrients will be applied using variable rate technologies (VRT).
- Nutrient application rates will follow University of Nebraska recommendations based on soil tests and established yield goals (refer to Practice Standard 590 and Practice Specification (S-590) for Nutrient Management).

Documentation Requirements (SEE NATIONAL ENHANCEMENT ACTIVITY JOBSHEET)
Additional Documentation Requirements

1. Provide copies of manure analysis, if applicable.
2. Complete the nutrient and fertilizer application table on the following page.
3. Provide a copy of the as-applied digital map of nutrients applied.
4. Complete the fertilizer/application equipment type and calibration date on the following table:

Type of Equipment	Date of Calibration

I certify that the enhancement criteria have been met and the required documentation provided to NRCS.

Certified by: _____ Date:_____

United States Department of Agriculture
Natural Resources Conservation Service

Field Information				Commercial Fertilizer and Manure Application Information								
Tract, Field & Management Zone	Acres	Crop & Yield	Type of Soil Test (Grid or Zone) & no. of samples	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)
Ex. T1234 Field 1 Zone 1	*23.5*	Crop	*Zone sampling 15 samples*	4/1/10	28-0-0	300	Surface applied		84		168	
		Corn										
		Yield		6/15/10	28-0-0	300	Surface applied		84			
		212										
		Crop										
		Yield										
		Crop										
		Yield										
		Crop										
		Yield										