

STATEMENT OF WORK
Nutrient Management (590)
Precision Ag/Variable Rate Application
South Carolina
Revised November 2015

Requirements of System Design:

- The system shall be in accordance with the South Carolina NRCS conservation practice standard for Nutrient management (available at the local NRCS office or at (<http://www.nrcs.usda.gov/technical/efotg/>) and the following specific requirements:
- The precision ag/variable rate application plan shall include maps showing the tract numbers, field numbers, and crop management zones/grids; soil analysis. Plan shall also include crops to be produced, realistic yield goals, nutrient recommendations, and record of nutrients applied (source and quantity).
- Fields will be identified with the Tract and field numbers used by the Farm Service Agency. If only portion of any field is entered in EQIP, the number for the appropriate subdivision of the field will be used.
- Each field will be subdivided into “crop management zones” based on indicators of production potential including, but not limited to: soil type, aerial photography, yield records, yield maps, measurements of electrical conductivity with a Veris unit, etc.) or grids. *Soil samples will not represent more than 7 acres.*
- A soil sample will be collected annually from each crop management zone/grid and will be analyzed for the pH, CEC, and soil availability measurements for the standard nutrients including P, K, Ca, Mg, Zn, Mn, Cu, and B.
- If nutrient applications are adjusted based on tissue analysis, the tissue analysis report will become part of the required documentation.
- Nutrient recommendations for each crop management zone/grid will be based on the soil analysis, the crop to be grown, and realistic yield goals. All sources of nutrients will be credited in the nutrient budget/recommendations. The recommendations provided to the client shall be consistent with the basic recommendations of Clemson University. If the recommendations differ from the basic recommendations of CU, the adjustment will be approved by the Clemson University State Soil Fertility Specialist or SC NRCS State Agronomist.
- **Soil sufficiency ratings set by Clemson University must be observed.** http://www.clemson.edu/public/regulatory/ag_svc_lab/soil_testing/downloads/index.html
- **Independent/private labs that analyze soil samples must use the Clemson University algorithm or equation to establish application rates for N, P, & K.**
- Any setbacks limiting/restricting nutrient application will be identified on the plan map.
- Animal manures may be included as a nutrient source. However, application of animal waste on fields included in a Precision Ag. Nutrient Management Plan will be limited to the amount of animal waste needed to supply the needs of the most limiting major nutrient (nitrogen, phosphorus, or potassium).
- Yield monitors or other equipment should be used to check yields and update future yield goals. In the absence of monitors the best estimate of the crop consultant or producer will be recorded. Yield records will be used to make adjustments in crop management zone boundaries and development of future nutrient recommendations, including nitrogen.

Application of the Designed System:

- The application of lime and fertilizers (specifically phosphorus and potassium) will be either a) with variable rate application equipment capable of applying the specifically recommended amounts on each crop management zone/grid; b) by blending an analysis and rate that is within a 10% tolerance of the recommendation for all crop management zones/grids within the field; or c) through multiple applications of products including differing analysis to provide a total application within 10% tolerance of the recommendation for all crop management zones/grids.

Practice Certification/Approval:

1. NRCS staff will review the precision ag./variable rate application plans and application documents for 10% of the total number tracts. If the plan has less than 10 tracts a minimum of one will be checked.
 - *NRCS retains the right to request copies of the precision ag nutrient management plans and documentation for any and all of the tracts under contract for the application of nutrients using precision ag techniques, as needed.*
2. The following documents will be provided by the producer or his consultant to the NRCS Field Office for the practice certification and approval for conservation program contract payments:
 - Copies of the precision ag./variable rate application plans

The plans shall include:

- 1) **Maps of the crop management zones/grids (sampling points)**
- 2) **Nutrient analysis results for points sampled,**
- 3) **Crops to be grown with Realistic Yield Expectations (RYE's)**
- 4) **Nutrient recommendations using Clemson's recommendations and based on RYE'S**

5) Records of nutrient application (Application Maps by field)

(Note: The conservation plan developed by NRCS will include a soils map and interpretations for all land units under contract. Thus a soils map will not be required as a component of the nutrient management plan).

- 5) **A certification by the contract participant and his consultant of all tracts/fields on which nutrients were applied in accordance with the precision ag/variable rate application plan. (See attached)**

590 Nutrient Management, Precision Nutrient Management Certification:

I certify that the soil samples have been analyzed and N, P, & K *recommendations* have been made according to Clemson University recommendations based on crop(s) grown and Realistic yield goals.

CU recommendations located

here: http://www.clemson.edu/public/regulatory/ag_svc_lab/soil_testing/downloads/index.html

Consultant/Crop Advisor

Producer

Date

I certify that all nutrients (P and K) have been *applied* using GPS guidance and application was based on the above prescription (recommendations).

Applicator/Consultant Signature

Producer

Date