United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E590B

CONSERVATION STEWARDSHIP PROGRAM

Reduce risks of nutrient loss to surface water by utilizing precision agriculture technologies

Conservation Practice 590: Nutrient Management

APPLICABLE LAND USE: Crop (annual & mixed); Crop (perennial)

RESOURCE CONCERN ADDRESSED: Water

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Precision application technology and techniques are utilized to plan and apply nutrients to improve nutrient use efficiency and reduce risk of nutrient losses.

Criteria

- Documentation of producer's record of nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- Minimize soil surface disturbance during fertilizer placement.
- Development of site-specific yield maps using soils data, current soil test results, and a yield monitoring system with GPS receiver to correlate field location with yield. Data is used to diagnose low, medium, and high productivity areas (management zones).
- Nutrient rates of application (minimum N-P-K) are planned and applied according to management zone.

- Utilize variable rate technology for nutrient application to reduce nutrient loss risk and improve nutrient use efficiency; variable rate technology may be map-based, sensor-based (crop canopy sensors), or manual.

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Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, provide documentation for review by NRCS showing a record of implementing nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- ☐ Prior to implementation, develop site-specific yield maps and use them to develop management zones within the field.
- ☐ Prior to implementation, develop and document a planned nutrient budget, yield goal, and applications by management zone (pounds/acre active ingredient nutrients, must include at a minimum N-P-K). Develop planned variable and flat rate application layers (maps and/or tabular statistics).
- ☐ During implementation, utilize variable rate technology. Variable rate technology may be map-based, sensor-based (crop canopy sensors), or manual.
- ☐ During implementation, keep records to document as applied records of actual variable rate applications (maps and/or tabular statistics).
- ☐ During implementation, minimize soil surface disturbance during fertilizer placement.
- ☐ During implementation, notify NRCS of any planned changes to verify the planned system meets the enhancement criteria.
- ☐ After implementation, make documentation and records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- ☐ As needed, provide technical assistance to meet the criteria of the enhancement.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Nutrient Management (CPS 590) as it relates to implementing this enhancement.

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- ☐ Prior to implementation, review documentation to verify a record of implementing nutrient management meeting all NRCS Conservation Practice Standard Nutrient Management (CPS 590) general criteria and additional criteria to minimize agricultural nonpoint source pollution of surface and groundwater.
- ☐ Prior to implementation, verify the development of site-specific yield maps used to develop management zones within the field.
- ☐ Prior to implementation, verify the development of a planned nutrient budget, yield goal, and planned nutrient applications by management zone.
- ☐ During implementation, evaluate any planned changes to verify the planned system meets the enhancement criteria.
- ☐ After implementation, review documentation and records to verify implementation of the enhancement.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date