



# Nutrient Management (590)

## MRBI - Conservation Practice Job Sheet for Precision Farming in Kentucky

Natural Resources Conservation Service (NRCS)

July 2010

Participant Name: \_\_\_\_\_

**INFORMATION ON THIS JOB SHEET IS CONSIDERED TO BE PART OF THE CONTRACT AND/OR CONSERVATION PLAN.**

### Definition

A management system that is information and technology based, is site specific and uses one or more of the following sources of data: soils, crops, nutrients, moisture, or yield, for optimum profitability, sustainability, and protection of the environment.

The basics of a Precision Farming system include:

- Background data
- Recordkeeping system
- Analysis and decision making
- Specialized implementation equipment
- Evaluation and Revision

### Purpose

Nutrient Management (590) - Precision Farming includes soil testing at a more intensive level, and the precise application of soil nutrients to:

- Improve Water Quality by targeting nutrient applications to meet field-specific cropland yield capabilities.
- Improve Water Quality by reducing unnecessary field nutrient inputs.
- Reduce surface runoff and subsurface loss of nutrients through proper placement.
- Reduce energy use by utilizing precisely controlled cropping equipment.



### Conditions Where Practice Applies

Cropland producing annually planted crops and located within the Mississippi River Basin Healthy Watershed Initiative (MRBI) boundaries.

### Planning Considerations

The participant must agree to install all required buffers and cover crops in the planning unit. Riparian Forest Buffers, Field Borders or Filter Strips are required adjacent to all areas of concentrated flow. Buffering existing grassed waterways is optional.

Cover crops are required on these planning acres when a winter crop such as wheat is not planted as part of the rotation. Small grain cover crops will scavenge residual Nitrogen and prevent soil erosion, which is known to transport Phosphorus and Potassium.

The planner must communicate that this practice incentive ties back to an approved Nutrient Management Plan. Fields enrolled for this incentive will have a planned and implemented Nutrient Management Plan.

## Practice Requirements

- Development and application of a Nutrient Management plan according to the NRCS Nutrient Management (590) Standard. Plans will be developed by a KYDOC Nutrient Management Specialist, NRCS staff, or a certified Technical Service Provider (TSP).
- Install buffers if the field is bordered by areas of concentrated flow. Buffering of areas around grassed waterways is optional.
- Install a cover crop on the offered acres. The only exception will be when winter crops will be grown as a part of the rotation. A small grain cover crop will suffice for the purposes of water quality.
- 2.5 acre “Grid” soil sampling or “Directed” zone sampling of areas no larger than 20 acres. If “directed” sampling is used, then soil conductivity, yield data, and/or aerial maps will be used to establish application zones.
- Implementation of Precision Ag (GPS guided navigation) equipment to avoid overlap and unnecessary applications. Producers can use navigation systems such as GPS plus “Light Bars” and set application zones, OR they may use more sophisticated equipment such as “RTK” and use (on the fly) variable rate application equipment.
- Field specific “Management zone” application based on “directed” soil sampling or “VRA” Variable Rate Application records based on “grid” soil sampling.
- Field specific zone yield recordkeeping and/or Yield Maps.

## Certification

**Sampling maps and records must be provided to NRCS for certification.**

**A copy of the Nutrient Management plan will be required for review. NOTE: nutrient application records should follow the Nutrient Management Plan.**

**Documentation of the type of Precision Farming equipment that was used must be confirmed by KYDOC or NRCS staff.**

**Final Certification by NRCS staff will occur after required buffers and cover crops are in place, and the required records have been submitted and reviewed.**

***NOTE: See Agronomy Tech Note No. 1, June 2007 for more information concerning Precision Agriculture. This document is available on the KY SharePoint site under the Technology tab.***