What Is A Farm Nutrient Management Plan?

A farm nutrient management plan is a strategy for obtaining the maximum economic return from both on- and off-farm fertilizer resources in a manner that optimizes soil conservation and protects the quality of nearby water resources. A successful plan makes sense agronomically, economically and environmentally. Developing a plan requires some basic information and thoughtful consideration during the planning process. Although plans can range from simple to complex, all plans include the following five basic components:

1. Soil test results

Complete and accurate soil tests are the starting point of any farm nutrient management plan. All cropland fields must be tested or have been tested within the last four years. From the soil test results, the base fertilizer recommendations for each field are given.

2. On-farm nutrient resources inventory and nutrient credits

The amount of crop nutrients supplied to fields from on-farm nutrient resources such as manure, legumes and organic wastes need to be determined so those nutrients can be deducted from the base fertilizer recommendations. Legume crops, such as alfalfa and clover, supply nitrogen to the crops that follow them. Manure applications to fields supply crops with nitrogen, phosphorus, and potassium—as well as sulfur and organic matter.

On farms with livestock, a key step in the planning process is developing a manure inventory. This involves estimating the annual manure volume produced on the farm. This applies to both stored liquid and solid manure, as well as any pastured animals. If the farm uses any biosolids or other organic wastes, these nutrients should also be included in the inventory. To properly credit nutrients supplied from manure, both the crop- available nutrient content of the manure and application rate are required. The most accurate method to determine application rate is by calibrating the manure spreader. This is done by weighing the spreader, spreading, measuring area and calculating the tons/acre rate. Assistance and portable axle scales are available from county Extension or Land Conservation offices.

Legume credits are determined by assessing previous stands based on regrowth height, stand density and soil texture. Once all on-farm nutrient resources are inventoried and manure spreaders calibrated, then nutrient credits can be determined.

3. Cropping plan

A cropping plan for each field (full rotations) along with yield goals and planned tillage is an important part of developing a nutrient management plan. Pre-planning rotations can optimize legume credits and manure applications, as well as identify areas where management practices for soil and nutrient loss can be improved.

4. On-farm conservation practices inventory

A nutrient management plan should be consistent with the farm's soil farm conservation plan, which includes information used to determine the soil erosion rate. The slope and critical soil map symbol for each field determines how vulnerable that field is to soil loss and is an important tool for planning future nutrient applications and tillage.

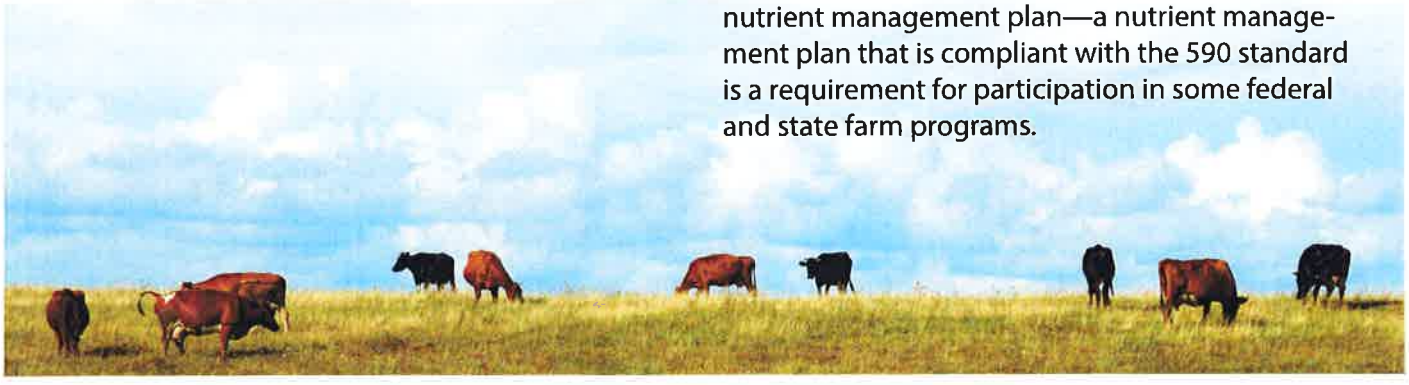
Other practices that limit soil erosion and phosphorus runoff, such as filter strips and fields farmed on-contour, are important to inventory during the planning process to ensure your plan accurately estimates the soil erosion and phosphorus losses resulting from crop management activities.

5. Nutrient application plan

The nutrient application plan is the culmination of all of the other parts of the plan. The goal is to have planned nutrient application rates for both commercial fertilizer and manure that makes sense agronomically, economically and environmentally. A good plan does not exceed crop nutrient needs as identified in the soil test report. If the farm has manure, the plan prioritizes those fields that would benefit the most from the manure-supplied nutrients (while posing little threat to water quality) and also clearly identifies fields that have spreading restrictions—fields adjacent to lakes and streams, sloping fields where the threat of spring runoff prohibits manure applications in the winter, and fields in the vicinity of wells, sinkholes, or fractured bedrock.

A note about the 590 Nutrient Management Standard

You may have heard or read about something called the "590 standard" and wonder what it has to do with nutrient management planning. The 590 standard is a USDA-Natural Resources Conservation Service document that defines the minimum requirements and components of an acceptable nutrient management plan—a nutrient management plan that is compliant with the 590 standard is a requirement for participation in some federal and state farm programs.



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June 2014