



Five Steps to the Development and Implementation of a Feed Management Plan

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Disclaimer

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<http://www.extension.org/animal+manure+management>



Introduction

This fact sheet has been developed to support the implementation of the Natural Resources Conservation Service Feed Management 592 Practice Standard. The Feed Management 592 Practice Standard was adopted by NRCS in 2003 as another tool to assist with addressing resource concerns on livestock and poultry operations. Feed management can assist with reducing the import of nutrients to the farm and reduce the excretion of nutrients in manure.

The Natural Resources Conservation Service has adopted a practice standard called Feed Management (592) and is defined as “managing the quantity of available nutrients fed to livestock and poultry for their intended purpose”. The national version of the practice standard can be found in a companion fact sheet entitled “An Introduction to Natural Resources Feed Management Practice Standard 592”. Please check in your own state for a state-specific version of the standard.

The national Feed Management Education team has developed a systematic 5-step development and implementation process for the Feed Management Practice Standard as shown in figures 1 and 2. The steps of the flow diagram were chosen to coincide with the sections of the Feed Management Practice Standard.

The first step focuses on defining the purpose(s) for considering the Feed Management Standard on a particular farm, either to: 1) feed to minimize excess nutrients in manure while maintaining production, performance, and reproduction, or 2) feed to improve net farm income by feeding more efficiently.

Key participants at step 1 would be the producer, the nutrient management planner, and NRCS staff.

The second step of the flow diagram focuses on identifying the conditions where the practice applies and making an initial assessment of the opportunity for the full development of a Feed Management Plan. The conditions where the practice applies as noted the in 592 standard include:

- 1) Whole farm imbalance
- 2) Soil nutrient build-up
- 3) Land base not large enough, or
- 4) Seeking to enhance nutrient efficiencies.

After defining the condition(s) for use of the 592 standard, an opportunity checklist is then used make an initial assessment of developing a complete feed management plan. The opportunity checklist can be found in a companion fact sheet entitled “Use of the Opportunity Checklist in Feed Management Plan Development”. The Opportunity Checklist can be found in species specific versions for beef, dairy, poultry and swine.

Key participants at step 2 would be the producer, the nutrient management planner, and NRCS staff.

The third step of the flow diagram focuses on the question of “how to reduce nutrients on manure used on the farm”. This step will not be considered by all farms. Two major ways that a reduction in on-farm manure nutrients can be achieved is through feed ingredient and exporting manure off-farm. Making the decision to make a ration change vs. moving manure off-farm has major economic implications.

An electronic decision aid tool has been developed to assist with this decision. The tool is called FNMP\$ and a description and set of instructions can be found in a companion fact sheet entitled “Feed Nutrient Management Planning Economics (FNMP\$)...Connecting Feed Decisions with Crop Nutrient Management Plans”. This spreadsheet tool estimates the quantity of manure nitrogen, phosphorus, and solids excreted based upon user inputs of feed program and animal performance (based upon procedures contained within ASABE Standard D384.2). In addition, using procedures defined in USDA Natural Resources Conservation Service publication "Agricultural Waste Management Field Handbook", an estimate of harvested and crop available nutrients are estimated. This information is then used to develop an estimate of 1) land requirements for agronomic utilization of the manure, 2) time requirements for land application, and 3) costs associated with land application and potential nutrient value (N and P only) of manure.

Key participants at step 3 would be the producer, the nutrient management planner, and the nutritionist.

The fourth step of the flow diagram focuses on the development of the feed management plan. The key tool to assist with the writing of the plan is the Feed Management Plan (FMP) Checklist. The FMP checklist can be found in a companion fact sheet entitled “Use of the Feed Management Plan Checklist in Feed Management Plan Development”. The Feed Management Plan Checklist can be found in species specific versions for beef, dairy, poultry and swine.

A national Feed Management Plan template has been developed and can be found in the companion fact sheet entitled “National Feed Management Plan Template”.

Key participants at step 4 would be the producer and the nutritionist.

The fifth and final step of the flow diagram focuses on Feed Management Plan implementation and monitoring. This step focuses on implementing those practices that will help achieve the purpose(s) that were selected at step 1. In addition, review dates are established so that the FMP will be utilized as an active management tool.

It is important that the outcomes of the feed management plan as it relates to manure volume and nutrient composition are communicated to the nutrient management planner as this may affect cropping recommendations.

Key participants at step 5 would be the producer and the nutritionist.

Summary

Following the five steps to the development and implementation of a feed management plan, can provide the basis for thoroughly evaluating the merits of feed management in relation to nutrient management at the whole farm level. Clear and frequent communication with everyone managing nutrients on the farm will be a key factor to the success of the feed management plan.

Project Information

Detailed information about training and certification in Feed Management can be obtained from Joe Harrison, Project Leader, jhharrison@wsu.edu, or Becca White, Project Manager, rawwhite@wsu.edu.

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Figure 1 – Feed Management Development and Implementation Flow Chart for Adoption of USDA-NRCS* Feed Management 592 Practice Standard.

| Activity | Who is Involved with Activity |
|---|---|
| Step 1) Determine the Purpose Specific to the Farm | Step 1) Nutrient Management Planner and Producer |
| Step 2) Identify where Practice Applies and Assess the Opportunity for Adoption of 592 Standard | Step 2) Nutrient Management Planner and Producer |
| Step 3) Evaluate the Economics of Making a Ration Change vs Transporting Manure | Step 3) Nutrient Management Planner, Producer, and Nutritionist |
| Step 4) Feed Management Plan Development | Step 4) Producer, and Nutritionist |
| Step 5) Feed Management Plan Implementation and Monitoring | Step 5) Producer, and Nutritionist |

***USDA-NRCS – United States Department of Agriculture – Natural Resources Conservation Service**

Figure 2.

CNMP* Activity

Feed Management 592 Implementation Flow Chart

Step 1) Determine purpose (TSP and Producer)

Feed to minimize excess nutrients in manure while maintaining production, performance, and reproduction

Feed to improve net farm income by feeding more efficiently.

Step 2) Identify conditions where practice applies and assess the Opportunities (TSP and Producer)

Conditions where practice applies:
1) Whole farm imbalance
2) Soil nutrient build-up
3) Land base not large enough
4) Seeking to enhance nutrient efficiencies
If one or more apply, continue on to next step

Determine the FM opportunities for addressing resource concerns
Use Opportunity Checklist (NRCS, TSP may want to collaborate with nutritionists)

Conditions where practice applies: Seeking to enhance nutrient efficiencies
If applies, continue on to next step

Little opportunity for FM to address resource concern, no FMP developed

Determine the FM opportunities for improving net farm income
Use Opportunity Checklist (NRCS, TSP may want to collaborate with nutritionists)

Consider other opportunities of the CNMP:
1) Manure and waste water handling and storage
2) Nutrient management
3) Land treatment

Opportunities exist for FM to address resource concern

Opportunities exist for FM to improve net farm income

Little opportunity no FMP developed

Step 3) Economic evaluation (TSP, Nutritionist Producer)

Evaluate options based upon:
• Economics of feed change (Nutritionist)
• Economics and time requirements for manure transport (NRCS, TSP and Nutritionist)
• Land access requirements including costs (rent lease or purchase) (Producer)

Transport manure or increasing land base more profitable- no FMP

Ration change more profitable

Nutritionist utilizes the FMP Checklist to develop & complete FMP

Nutritionist communicates ration change to TSP as it relates to changes in manure excretion

Step 4) Feed management plan development (Nutritionist and Producer)

Step 5) Implement and monitor (Nutritionist and Producer)

Nutritionist and producer work to implement and monitor FMP

*CNMP= Comprehensive Nutrient Management Plan; FMP= Feed Management Plan; NRCS= Natural Resources Conservation Service; TSP= Technical Service Provider