



## Use of the Swine Feed Management Plan Checklist in Feed Management Plan Development

B. Richert, A. Sutton J. H. Harrison, and R. A. White, Purdue University and Washington State University.

### Disclaimer

This fact sheet reflects the best available information on the topic as of the publication date.  
Date 9-3-08

This Feed Management Education Project was funded by the USDA NRCS CIG program. Additional information can be found at <http://www.puyallup.wsu.edu/dairy/nutrient-management/publications.asp>. This project is affiliated with the Livestock & Poultry Environmental Learning Center  
<http://www.extension.org/animal+manure+management>



### Introduction

This fact sheet has been developed to support the implementation of the Natural Resources Conservation Service (NRCS) 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 NRCS 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. A complete description of the 5-steps can be found in a companion fact sheet entitled “Five Steps to the Development and Implementation of a Feed Management Plan”.

The fourth step of this process focuses on the development of the Feed Management Plan. Key participants at step 4 would be the producer and their nutritionist. The key tools to be used at step 4 are the Feed Management Plan Checklist (FMP) and the Feed Management Plan Template.

The FMP checklist is designed to assist swine operators and their nutrient management advisor to determine feeding management factors that affect nutrient management. The checklist is meant to be used as an *on-farm* assessment tool. The factors contained in this assessment can be used as a guide to document and identify feeding management practices that will impact whole farm nutrient management.

The FMP checklist is designed to systematically gather information that can be used to develop the feed management plan. The organization of the checklist is divided into six management categories of:

- targeting nutrient requirements
- phosphorus feed utilization
- nitrogen feed utilization
- ration management practices
- production aids/enhancers
- monitoring tools
- 

Within each category there are multiple management practices to consider with a set of five questions to consider.

- Has it been implemented?
- Was it considered?
- Will it be economical?
- Will it be implemented?

- Will it be considered in the future?

To use this checklist, each practice should be discussed with the operator: Are they already implementing the practice? If Yes, indicate so and skip to the next question. If No, discuss whether or not the practice could be implemented and consider the economic implications. In many cases the economic implications will be a “best professional” judgment by the consulting nutritionist or producer.

It is important to address the question “Will it be considered in the future?” as this can provide guidance for reviewing and updating the FMP in the future. The ‘Benefit to the Environment’ column provides the possible impact the practice could have on whole farm nutrient management.

On pages three to seven of this fact sheet you will find a blank copy of the Feed Management Plan Checklist. The next step (Step 5) in the process is to write the Feed Management Plan.



## SWINE Feed Management Plan Checklist

Feeding management is one of six components of a Comprehensive Nutrient Management Plan (CNMP) as defined by the Natural Resource Conservation Service. Feed management practices may reduce the volume and/or nutrient content of manure and may be an effective approach to minimizing the import of nutrients to the farm. Feeding management as part of a CNMP should be viewed as a “consideration” and not a “requirement” as some practices will not be economical on some pork operations. The following checklist is designed to assist pork producers and their nutritionist or nutrient management advisor to determine feeding management factors that affect nutrient management. The checklist is meant to be used as an *on-farm* assessment tool. The factors contained in this assessment can be used as a guide to document or identify feeding management practices that will contribute to achieving nutrient balance at a whole farm level. Nitrogen and phosphorus are the two nutrients that are required to be managed as part of a CNMP. When nitrogen and phosphorus imports exceed nitrogen and phosphorus exports and crop fertilizer utilization, there is an imbalance at a whole farm level. These imbalances may lead to impaired water quality in nearby water bodies due to surface runoff or leaching of nutrients to ground water. Excess nitrogen can also be volatilized and contribute to impaired air quality.

Pork Operation Name \_\_\_\_\_

Date Completed \_\_\_\_\_

Producer Signature \_\_\_\_\_

Advisor/Nutritionist Signature \_\_\_\_\_

On the following pages is a list of feeding management practices that can affect nutrient balance. Please read through each feeding management consideration and record your answer.



Feed Management Considerations	Has it been implemented? (If yes, date implemented)	Was it considered?		Will it be economical?		Will it be implemented?		Will it be considered in the future?		Benefit to the environment
		Yes	No	Yes	No	Yes	No	Yes	No	
<b>Phosphorus Feed Utilization</b>										
Formulate and balance ration for Ca: available P ratio										P
Dietary available P within 5% of NRC or other published requirements										P
Phytase is being used with reduced supplemental dietary P level										P
By-product feeds are used and formulation adjustments made for their nutrient content and availability										P
<b>Nitrogen Feed Utilization</b>										
Formulate and balance ratios on digestible AA ratios										N, NH <sub>3</sub>
Reduced CP-elevated synthetic AA diets used										N, NH <sub>3</sub>
Ingredients selected based on nutrient digestibility										N, NH <sub>3</sub>
By-product feeds used and formulation adjustments for nutrient content and availability										N, NH <sub>3</sub>
Enzymes used to increase dig.										N, NH <sub>3</sub>

Feed Management Considerations	Has it been implemented? (If yes, date implemented)	Was it considered?		Will it be economical?		Will it be implemented?		Will it be considered in the future?		Benefit to the environment
		Yes	No	Yes	No	Yes	No	Yes	No	
<b>Ration Management Practices</b>										
Adjust feeders routinely to minimize feed wastage										N, NH <sub>3</sub> , P and reduce manure generation
Use proper feed processing methods to maximize nutrient availability										N, NH <sub>3</sub> , P
Diet particle size routinely tested (600-700 microns)										N, NH <sub>3</sub> , P
Complete diet provided in pelleted form										N, NH <sub>3</sub> , P
Routinely monitor water system and minimize water wastage										N, NH <sub>3</sub> , P and reduce manure generation
Quality control procedures used in feed manufacturing										N, NH <sub>3</sub> , P
Monitor loading and scale accuracy										N, NH <sub>3</sub> , P
New feed ingredient's impact on nutrient efficiency and excretion considered before inclusion										N, NH <sub>3</sub> , P
Formulation safety margins are minimized (5%)										N, NH <sub>3</sub> , P

Feed Management Considerations	Has it been implemented? (If yes, date implemented)	Was it considered?		Will it be economical?		Will it be implemented?		Will it be considered in the future?		Benefit to the environment
		Yes	No	Yes	No	Yes	No	Yes	No	
<b>Production Aids/Enhancers</b>										
Antibiotic growth promoters are used	What phases are they used?									N, NH <sub>3</sub> , P
Enzymes are used to improve nutrient digestibility										N, NH <sub>3</sub> , P
Paylean										N, NH <sub>3</sub> , P
Copper sulfate	When?									N, NH <sub>3</sub> , P
Zinc	When?									N, NH <sub>3</sub> , P
Organic/ inorganic acids	When?									N, NH <sub>3</sub> , P
Herd health (vaccination) programs										N, NH <sub>3</sub> , P
<b>Monitoring Tools</b>										
Measure and record feed intake by phase of production										N, NH <sub>3</sub> , P
Monitor water quality for Na, sulfates and nitrates and nutrient contributions to diets										N, NH <sub>3</sub> , P and reduce manure generation
Monitor N intake/N output										N, NH <sub>3</sub>
Monitor P intake/P output										P
Monitor feed efficiency by phase of production										N, NH <sub>3</sub> , P

Information contained in this checklist assessment was developed by \_\_\_\_\_ . The suggested feeding management practices were the best management practices based on research and professional judgment.

## Project Information

Detailed information about training and certification in Feed Management can be obtained from Joe Harrison, Project Leader, [jhharrison@wsu.edu](mailto:jhharrison@wsu.edu), or Becca White, Project Manager, [rawhite@wsu.edu](mailto:rawhite@wsu.edu).

## Author Information

Brian Richert, [brichert@purdue.edu](mailto:brichert@purdue.edu) and Alan Sutton, Purdue University  
Joe Harrison [jhharrison@wsu.edu](mailto:jhharrison@wsu.edu), and Becca White, Washington State University.

## Reviewers

Joel Spencer, JBS United Feeds, Inc  
Brandon Hill, Dykhuis Farms  
Wayne Cass, Premium Standard Farms  
Dustin Kendall, Murphy-Brown, LLC.



"Extension programs and policies are consistent with federal and state laws and regulations on nondiscrimination regarding race, sex, religion, age, color, creed, national or ethnic origin; physical, mental or sensory disability; marital status, sexual orientation, or status as a Vietnam-era or disabled veteran. Evidence of noncompliance may be reported through your local Extension office."