Use of the Dairy Opportunity Checklist in Feed Management Plan Development

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Disclaimer
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USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

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

The conditions where the practice applies as noted the in NRCS 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.

A variety of state-specific tools and tests could be used to determine that conditions 1- 4 might exist.

After defining the condition(s) for use of the 592 standard, an opportunity checklist (see pages 3-7) is then used make an initial assessment of developing a complete feed management plan.

The Opportunity Checklist is designed to determine the relative opportunity for feed management to impact Whole Farm Nutrient Management. The Opportunity Checklist is the first step in making a decision on whether to complete a FMP.

The checklist is meant to be used as an initial, quick, *on-farm* assessment tool. If the decision is made to complete a FMP, numerous additional feed management practices will be assessed in more detail with the use of the Feed management Plan Checklist.

The items shown in the Opportunity Checklist are the management practices which have the greatest opportunity for feed management to impact Whole Farm Nutrient Management. The 'Benefit to the Environment' column provides the possible impact the practice could have on whole farm nutrient management. It is meant to be informative and should not be answered for each farm.

If one or more of the Opportunity Checklist items are noted in the category of "moderate or lots of opportunity for improvement", then the next evaluation step should be completed: Economic Evaluation (manure transport vs feed management change) or FMP Checklist.

The Opportunity Checklist is organized to first identify the resource concerns. These concerns are generally identified by a nutrient management planner. The resource concerns to consider are:

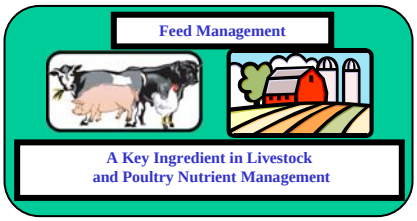
- Soil Condition – Animal Waste and other organics (nitrogen and phosphorus nutrient levels from applied animal waste and other organics restrict desired use of the land).

- Water Quality - Excessive Nutrients and Organics in Groundwater (pollution from natural or human induced nutrients such as N, P, and S - including animal and other wastes - degrades groundwater quality).

- Water Quality - Excessive Nutrients and Organics in Surface Water (pollution from natural or human induced nutrients such as N, P, and S - including animal and other wastes - degrades surface water quality).

If one or more of these conditions exist on an operation, then a FMP should be considered by completing the Opportunity Checklist.

On pages eight to eleven of this fact sheet you will find a completed Opportunity Checklist as an example.



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Dairy Opportunity Checklist: Identify resource concerns and/ or conditions where practice applies and assess the Opportunities

Feeding management is one of six components of a Comprehensive Nutrient Management Plan (CNMP) as defined by the Natural Resource Conservation Service. Feeding management as part of a CNMP should be viewed as a "consideration" but not a "requirement" as some practices will not be economical on some dairies.

Resource concerns and the conditions where practice applies

Field specific resource concerns that may be impacted by feed management (but not limited too) are soil and water quality. For example, nutrients may build-up in the soil or leach into ground water due to manure application. Feed management practices with or without several other practices may reduce the volume and nutrient content of manure. If one or both of these resource concerns exist on an operation, then a Feed Management Plan (FMP) should be considered by completing the Opportunity Checklist.

Conditions where practice applies are whole farm imbalance, soil build-up of nutrients, land base not large enough, or operation seeking to enhance nutrient efficiencies. Feed management practices with or without several other practices may reduce the volume and nutrient content of manure and may be an effective approach to minimizing the import of nutrients to the farm. If one or more of these conditions exist on an operation, then a FMP should be considered by completing the Opportunity Checklist.

Opportunity Checklist

The Opportunity Checklist is designed to determine the relative opportunity for feed management to impact Whole Farm Nutrient Management. The Opportunity Checklist is the first step in making a decision on whether to complete a FMP. The checklist is meant to be used as an initial, quick, *on-farm* assessment tool. If the decision is made to complete a FMP, numerous additional feed management practices will be assessed in more detail.

The items shown in the Opportunity Checklist are the management practices which have the greatest opportunity for feed management to impact Whole Farm Nutrient Management. The 'Benefit to the Environment' column provides the possible impact the practice could have on whole farm nutrient management. It is meant to be informative and should not be answered for each farm. If one or more of the Opportunity Checklist items are noted in the category of "moderate or lots of opportunity for improvement", then the next evaluation step should be completed: Economic Evaluation (manure transport vs feed management change) or FMP Checklist.

Dairy information

Dairy Name _____

Date Completed_____

Producer Signature_____

Adviser Signature _____

Identify resource concern(s) and/ or the condition(s) where practice applies:

Resource Concern(s)

☐ **Soil Condition**: *Contaminants – Animal Waste and Other Organics*
Nutrient levels from applied animal waste and other organics restrict desired use of the land.

☐ **Water Quality**: *Excessive Nutrients and Organics in Groundwater*
Pollution from natural or human induced nutrients such as N, P, and organics (including animal and other wastes) degrades groundwater quality.

☐ **Water Quality**: *Excessive Nutrients and Organics in Surface Water*
Pollution from natural or human induced nutrients such as N, P, and organics (including animal and other wastes) degrades surface water quality.

Conditions Where Practice Applies

☐ **Whole Farm Imbalance:** Confined Dairy operations with a whole farm nutrient imbalance, with more nutrients imported to the farm than are exported and/or utilized by cropping programs.

☐ **Soil nutrient build-up:** Confined Dairy operations that have a significant build up of nutrients in the soil due to land application of manure.

☐ **Land base not large enough:** Confined Dairy operations that land apply manure and do not have a land base large enough to allow nutrients to be applied at rates recommended by soil test and utilized by crops in the rotation.

☐ **Dairy operations seeking to enhance nutrient efficiencies**

Instructions for Dairy Opportunity Checklist:

On the following pages is a list of feed management practices that can affect nutrient balance.

- Answer each feed management question by circling the corresponding answer that best represents the operation
- If one or more of the questions are answered in the category of "moderate or lots of opportunity for improvement", then the next evaluation step should be completed; economic evaluation or FMP Checklist

Dairy Opportunity Checklist

Question	Little opportunity for improvement	Some opportunity for improvement	Moderate opportunity for improvement	Lots of opportunity for improvement	Benefit to the environment
Are diets formulated to meet the requirements of the animal?	Yes, by either a nutritionists, feed company, or software program	_	_	No	N, NH_3, P
Are animals fed in groups?	Yes, high, low producing cows, dry cows, close-up cows, and multiple heifer groups	Yes, lactating, dry, and multiple heifer groups	Yes, lactating, Dry, and heifer groups	No	N, NH_3, P
Is there a system for determining diet Dry Matter (DM) on the farm?	Yes	_	-	No	N, NH_3, P
Are diets adjusted for changes in DM?	Daily to weekly	Weekly to monthly	Infrequently	No	N, NH_3, P
How often is DMI (Dry Matter Intake) determined?	Daily to weekly	Weekly to monthly	Infrequently	Not done	N, NH_3, P
Are heifers monitored for ADG?	Yes, with a scale monthly	Yes, with a scale three times per year	Yes, with a weigh tape twice per year	No	N, NH_3, P

Question	Little opportunity for improvement	Some opportunity for improvement	Moderate opportunity for improvement	Lots of opportunity for improvement	Benefit to the environment
Diet Composition					
Are Ingredients or diets analyzed for nutrient composition? (i.e. CP, P, K, NDF, ADF etc.)	Yes, routinely	Only when a new feed or forage is fed	Not regularly analyzed	Not analyzed	N, NH_3, P
Crude protein (CP) in diet (DM basis):					
High producing cows *	16-16.9%	17-17.9%	18-18.5%	18.5% or greater	N, NH_3
Low producing cows *	13-13.9%	14-14.9%	15-15.9%	16% or greater	
Dry cows	11-11.9%	12-12.9%	13-13.9%	14% or greater	
Heifers***					
Young calves *250-350 lbs 4-6 months*	15.2–15.5%	< 15.1% or >15.6%	< 14.7% or >15.9%	<14.4% or >16.2%	N, NH_3
Pre-Breeding *450-850 lbs 7-14 months*	14.8–15.1%	<14.7% or >15.2%	<14.3 or >15.5%	<14% or >15.8%	N, NH_3
Post-Breeding *950-1350 lbs 16-23 months*	14.5-14.8%	<14.4% or >14.9%	<14% or >15.2%	<13.7% or >15.5%	N, NH_3

Question	Little opportunity for improvement	Some opportunity for improvement	Moderate opportunity for improvement	Lots of opportunity for improvement	Benefit to the environment
Phosphorus in diet (DM basis):					
High producing cows *	0.38-0.39%	0.40-.41%	0.42-0.43%	0.44% or greater	P
Low producing cows *	0.32-0.34%	0.35-0.36%	0.36-0.37%	.38% or greater	P
Dry cows	0.25%		>0.25%		P
Heifers 6-12 months	0.30%	0.30-0.33%	0.33-0.36%	>0.36%	P
Heifers > 12 months	0.23%	0.24-0.29%	0.30-0.35%	>0.36%	P
Potassium in Diet (DM basis): When Using DCAD**	NA	NA	NA	NA	NA
Potassium in Diet (DM basis):	Fed at NRC recommendation (1%)	Fed at 20% above recommended	Fed at 40% above recommended	Not known	K

*Holstein cows in midlactation and ration is balanced for RDP/RUP (NRC, 2001)
**When formulating for DCAD in lactation rations, one should not consider potassium as part of the opportunity checklist. However, attention to levels for K in home-grown forages is warranted.
***Holstein heifers with an average daily gain of 1.75 lbs/day and mature weight of 1400 lbs (NRC, 2001)

Dairy information

Dairy Name Werk Dairy

Date Completed 1-22-08

Producer Signature A J Werk

Adviser Signature J H Hamilton

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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, rawhite@wsu.edu.

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