

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**FEED MANAGEMENT**

(No.)

**CODE 592**

**DEFINITION**

Managing the quantity of available nutrients fed to livestock and poultry for their intended purpose.

**PURPOSE**

- Supply the quantity of available nutrients required by livestock and poultry for maintenance, production, and reproduction; while reducing the quantity of nutrients, especially nitrogen and phosphorus, excreted in manure by minimizing the over-feeding of these and other nutrients.
- Improve net farm income by feeding nutrients more efficiently.

**CONDITIONS WHERE PRACTICE APPLIES**

Any livestock or poultry operation with a whole farm nutrient imbalance, with more nutrients imported to the farm than are exported and/or utilized as computed in the crop nutrient management plan that is based on land grant university recommendations.

Any livestock or poultry operation that has a significant soil nutrient accumulation as determined by soil testing according to land grant university recommendations.

Any livestock or poultry operation that land applies manure and does not have a land base large enough to allow nutrients to be applied at rates that do not exceed those required for crop production based on land grant university recommendations.

Livestock or poultry operations seeking to lower air emissions and risk to water quality

from their operations. Air emissions include, but are not limited to, Particulate Matter (PM-10), ozone, odor, and greenhouse gasses.

**CRITERIA**

**General Criteria Applicable to All Purposes**

The diets for specific species of animals shall be developed in accordance with recommendations from one of the following:

- Standards outlined in the most current recommendations of the National Research Council (NRC).
- Recommendations based on the land grant university.

Laboratory analysis shall be done on the feed ingredients used to formulate the diet according to NRC and land grant university recommendations, and on the formulated diet to determine the accuracy of feeding management to deliver the formulated diet. Feed analysis will be conducted as often as necessary to adjust the diets for changes in chemical composition of the feeds being fed.

Feed analyses shall be conducted by laboratories whose tests are accepted by the land grant university in the state in which the feeding strategy will be implemented.

Diets and feed management strategies shall be developed by professional animal scientists, independent professional nutritionists or other comparably qualified individuals. When required by state policy or regulation, animal nutritionists shall be certified through any certification program recognized within the state.

Diets shall be formulated to provide the quantities and correct relative ratios of

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available nutrients required by the animal species to meet the goals for which the plan is being developed.

Adjustments to nutrient levels shall be provided to meet specific genetic potential, environmental demands, and/or requirements to insure health, well-being and productivity.

One or more of the following feed management practices and/or diet manipulation technologies shall be used to reduce N, P and other excreted nutrients while maintaining the health, well-being and productivity of the animal.

- Formulating diets closer to animal requirements, complemented by feed management that results in grouping animals according to requirements and consistent delivery of the the formulated diets to the correct group of animals.
- Reducing protein in the diet by formulating diets to meet rumen nitrogen and animal amino acid requirements.
- Manipulating the crude protein and energy (carbohydrate and fat) content of the diet to enhance the availability of amino acids (ruminants). This may include shifts in carbohydrates, fats, and types/quantities of protein utilized.
- Using highly digestible feeds, as appropriate, in the diet.
- Using phytase and reducing the supplemental phosphorus content of the diet (non-ruminants)
- Reducing phosphorus in the diet of ruminants to NRC recommendations by reducing supplemental phosphorus. It is recognized that P levels in some diets will exceed NRC recommendations because of high P levels in forages, grains and food processing by-products being fed.
- Using selected enzymes or other products recommended by the land grant university to enhance feed digestibility or feed use efficiency.
- Using growth promotants recommended by the land grant university as allowed by law.

- Implementing phase feeding.
- Implementing split-sex feeding.
- Using other feed management or diet manipulation technologies recommended by the land grant university that have demonstrated the ability to reduce manure nutrient content.

When analysis of manure is done to determine manure nutrient content, the analysis shall be performed by laboratories whose results are accepted by the land grant university in the state in which the feeding strategy was implemented.

## CONSIDERATIONS

Consider nutrient requirements for production based upon stage of growth, intended purpose of the animal and the type of production (e.g., meat, milk, eggs) involved.

Use management practices described in the NRCS Nutrient Management (Feed Management) Technical Notes for the specific animal species.

Analyze the drinking water consumed by the animals to determine its nutrient content, and/or sulfur content, and adjust the diet or treat the water to account for these extra elements.

Consider the impact of using different combinations of feed ingredients on the nutrient content of excreted manure.

Consider the potential impact of feed management on the volume of manure excreted and on manure storage requirements.

Consider the impact of feed management practices, animal management practices, and diet manipulation on manure odors, pathogens, animal health and well-being.

Maximize use of feeds grown on the farm to minimize the quantity of nutrients imported to the farm, and to maximize the recycling of nutrients on the farm.

Analyze the excreted manure or manure from storage facilities to evaluate the feeding program.

Consider changes in the forage type, planting, harvesting, storage, and feeding methods to produce a more consistent, high quality feed.

### **PLANS AND SPECIFICATIONS**

Plans and specifications for feed management shall be in keeping with the requirements of this standard. They shall describe the specific feed management practices and/or technologies that are planned for the operation.

The following components shall be included in the feed management plan:

- The type of technology, or technologies, and/or feeding practices that will be used on the operation.
- Feed analyses and adjustments in ration formulation as needed to adjust for changes in animal requirements and chemical composition of the feeds being fed in each diet.
- Feed weighing, mixing and delivery to consistently deliver the formulated diet that matches the requirements of each group fed.
- The measured nutrient content of the manure to evaluate the adequacy of the feeding program in minimizing nutrients in manure.
- Guidance for how often the feed management plan shall be reviewed and potentially revised.
- The quantities and sources of nitrogen and phosphorus that will be fed.
- Identification of the qualified animal nutritionist who developed the plan.

### **OPERATION AND MAINTENANCE**

The producer/client is responsible for the operation and maintenance of the feed management plan. Operation and maintenance activities address the following:

- Periodic plan review to determine if adjustments or modifications are needed.
- Routine feed analysis to document the rates at which nitrogen and phosphorus were actually fed. When actual rates fed differ from or exceed the planned rates, records will indicate the reasons for the differences.
- Maintaining records to document plan implementation. As applicable, records include:
  - ◆ Records of feed analysis and ration formulations.
  - ◆ Records of the initial estimate of the impact the feeding strategy was expected to have on reducing manure nutrient content.
  - ◆ Records of any manure analysis that was done after the feeding strategy was implemented to determine manure nutrient content.
  - ◆ Dates of review and person performing the review, and any recommendations that resulted from the review.

Records of plan implementation shall be maintained for five years, or for a period longer than five years if required by other Federal, state, or local ordinances, program, or contract requirements.