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# W086-Comprehensive Nutrient Management Plans

The University of Tennessee Agricultural Extension Service

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## Livestock Waste Management and Conservation

### Comprehensive Nutrient Management Plans (Class I & Class II – Large and Medium CAFOs)

Tennessee CAFO Factsheet #7

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#### What Is a CNMP?

A Comprehensive Nutrient Management Plan (CNMP) is a group of conservation practices and management activities that will ensure both production and natural resource protection goals are achieved. A CNMP will contain actions that address water quality criteria for the feedlot, production area and land on which the manure will be applied. It addresses natural resource concerns dealing with soil erosion, manure and organic by-products, and their potential impacts on water quality.

#### Who Needs a CNMP?

A CNMP is required for all Large Liquid CAFOs. Only a site-specific nutrient management plan is required of Large Dry CAFOs and all Medium CAFOs, but a CNMP will satisfy the requirements of a site-specific nutrient management plan. There are additional reasons why a Large Dry CAFO or Medium CAFO should develop a CNMP. The Natural Resource Conservation Service (NRCS) requires a CNMP if any cost-share activity on a production unit includes the waste management system. NRCS will cost-share on the development of a CNMP, and will either develop the CNMP within their organization or contract it to a certified Technical Service Provider. Additionally, the Farm Service Agency now requires producers to develop a CNMP before guaranteeing loans.

#### What Goes into a CNMP?

There are six elements in a CNMP. Not all CNMPs will contain all six elements. However, each element will need to be considered by the producer during the development phase and the producer's decision regarding each must be documented.

1. Manure and Wastewater Handling and Storage:
  - Provides for adequate collection, storage, treatment and/or transfer of manure
  - Ensures proper disposal of dead animals, animal medical wastes and spoiled feed
  - Includes an emergency action plan to address spills and catastrophic events
2. Land Treatment Practices:
  - Identifies existing or potential natural resource concerns, problems and opportunities
  - Identifies the potential for nitrogen and phosphorus losses from the site
  - Addresses soil erosion
  - Includes practices such as setback, buffers and waterways
  - Identifies sensitive areas such as sinkholes, streams, springs, lakes, ponds, wells, gullies and drinking water sources

3. Nutrient Management:
  - Develops a nutrient budget for nitrogen, phosphorus and potassium that includes all potential sources of nutrients
  - Documents include planned crop types, sequence and yield targets; current soil test results; manure test results; source, timing and method of application of nutrients by field; and description of application equipment and method used for calibration
  - Considers other practices addressing air quality, pathogens, salt and heavy metals
4. Recordkeeping Includes:
  - Manure and soil test results
  - Application records for each manure or commercial fertilizer application event
  - Crops planted and yields
  - Records addressing manure storage structures, such as level before and after emptying or discharge or overflow events
  - Transfers of manure to third parties
  - Changes made in the CNMP
5. Feed Management:
  - Includes activities to reduce the nutrient content of manure that may result in less land being required to utilize the manure
  - Also includes specific information and recommendations obtained from state Extension Services, land grant universities, the Agricultural Research Service, the Federation of Animal Science Societies, the American Registry of Professional Animal Scientists or other technically qualified entities.

6. Other Utilization Activities:
  - Address alternative uses for animal manure when nutrient supply exceeds the nutrient requirement of crops and/or where land application could cause significant environmental risk
  - Examples include using manure for energy production; reducing the weight, volume or form of manure through composting or pelleting; mixing with industrial or municipal byproducts to produce a value-added material; or manure brokering

### **What Happens after the Development Phase?**

A CNMP is not a document that is written and placed in a filing cabinet. It is a dynamic document that will need to be changed over time as soil tests, manure tests or on-farm conditions change. Implementation may require additional designs or analysis. It is important for the certified CNMP writer and the producer to maintain a relationship throughout implementation to address changes or new challenges. Evaluation of the effectiveness of the CNMP may begin during implementation, but may not end until several years after the last practice is applied. Evaluations will help determine whether the implemented practices are meeting the needs of the producer and solving the conservation concerns in a beneficial manner.

### **How Much Does a CNMP Cost?**

Even a simple CNMP may cost several thousand dollars. The price of a CNMP will vary greatly depending on the type and size of an operation, the current condition of the waste management system and the severity of conservation concerns. However, in most cases, cost-share funds are available through NRCS for most of the issues that will be addressed in a CNMP.

## How Do I Start the Process?

If you want to develop a CNMP, start now. The development process can take from a couple of months to a couple of years. Start by calling your local NRCS District Conservationist's office, and by applying for cost-share funds. Though your local conservationist may not be qualified to write a CNMP, he or she is your first contact with NRCS. Another option would be to contract the service directly with a certified Technical Service Provider (TSP). However, the cost of a TSP and conservation practices installed will not be cost-shared unless initiated through NRCS.

The next step of CNMP development is to complete the "Information Sheet for Developing a CNMP for an Animal Feeding Operations." This form is available on the UT Extension Livestock Waste Management and Conservation Web site

(<http://animalscience.ag.utk.edu/WasteManagement/WasteManagement.htm>)

or from your local NRCS office. Be prepared to provide the most accurate information available about your location, your operation (number of animals, housing, etc.), current waste facility design, storage and use, current land application practices, mortality management and other factors. NRCS will not proceed without all of the necessary information, and gathering this information and completing this form may take some time.

## Reference

Comprehensive Nutrient Management Planning Technical Guidance. 2003. National Planning Procedures Handbook, Amendment 4 (180-VI-NPPH, Amend. 4). Natural Resources Conservation Service, United States Department of Agriculture.