

MANURE MANAGEMENT

Source: Maryland Department of Agriculture, 1999. Regulatory Citation: COMAR 15.20.08.03

Introduction

Manure management protects environmental quality through containment and control of animal manure and waste nutrients associated with animal production. Manure management is an integral component of a nutrient management plan for any land where animal manure and waste nutrients associated with animal production exist or are utilized as a nutrient source. The nutrient management plan must be developed to address current manure management practices. Manure management planning is a management tool to improve resource utilization and to minimize potential non-point source pollution. It also shall be utilized to address polluting conditions caused by the failure to properly manage manure.

Manure management planning consists of:

1. evaluation of existing conditions and procedures;
2. identification of any improvement measures and;
3. development of a schedule of implementation of identified improvement measures.

It is used to identify site specific conditions and management deficiencies.

Manure management planning considers the relationship of manure management to the overall operation of the land and the impact on the local environment. Manure management components selected are those most likely to succeed given the existing and potential economic condition, management skill, equipment, labor, site conditions, cropping systems and enterprise objectives. Manure management must encompass all land where animals are kept and all land used for manure storage, treatment or utilization that is under the control of the agricultural operator.

Agricultural operators with insufficient land to utilize manure and waste nutrients associated with animal production must adopt manure management practices that contain or manage manure to minimize the potential for nutrient loss or runoff prior to export to other agricultural operations or receiving facilities. Agricultural operators that import animal manure or waste nutrients associated with animal production for nutrient application on their land must adopt manure management practices that minimize the potential for nutrient loss or runoff prior, during and after application.

Manure management includes structural or management components necessary to manage animal manure for optimal benefit while minimizing water quality impacts. Manure management consists of a single component such as a diversion to exclude clean water from concentrated manure areas or several BMPs that function together to address site conditions, animal and manure management, manure storage and nutrient application requirements.

Technical assistance is available from agricultural agencies including local soil conservation districts, USDA's Natural Resources Conservation Service, and the University of Maryland Cooperative Extension and private consultants to address environmental problems or improve management efficiencies.

Design criteria and specifications for individual components are contained in the USDA Natural Resource Conservation Service (NRCS) Field Office Technical Guide for Maryland, which is located in every local soil conservation district office. Operations may elect to use alternative criteria for design of temporary or permanent components where shown to be consistent with sound engineering, agronomic, and management principles such that the components achieve the intended purpose. If, over time, there are changes in the enterprise, modifications to the plan and manure management shall be required if necessary to achieve objectives of minimizing the potential for nutrient loss.

Planning Process

The comprehensive evaluation of manure management shall include the following when applicable:

1. **Situation** Account for the location and size of the operation, its proximity to water, and the operation's enterprise (field crops, pasture, animals, etc.) and management (crop rotation, machinery, etc.)
2. **Problem** Identify and address any problems that are associated with the operation's practices. Problems include nutrient runoff, ineffective manure management or utilization, or related environmental concerns.
3. **Geographic Area** Account for soils (fertility, erodibility, texture), any topographical features that would be of concern such as steep slopes, drainage patterns or karst topography and proximity of natural resources such as water resources, sink holes and other sensitive areas.
4. **System Components** Manure management shall achieve the dual purposes of management efficiency and environmental protection and keep labor and costs reasonable for the operation and its continuation. Components include technology and management for manure collection, transport, treatment, storage, utilization and disposal; runoff and erosion control; animal control and other items.
5. **Component Details** Address selected components by purpose in relation to other components and to manure management as a whole. Component details include purpose, size, shape, capacity, placement and other important information. Engineered structural components should include sufficient design information that will verify the safety, functionality and effectiveness of the structure.
6. **Utilization** Address equipment already in place or that will be needed to operate the system, how the animal manure is applied to the land, and the time and labor required to manage animal manure, maintain BMPs, and apply nutrients.
7. **Implementation** If additional BMPs are identified as needed, develop a reasonable timetable and sequence for implementing components. Manure management practices shall be installed or adopted in a sequence that allows each to function as intended without hazard to other components, the overall system, animals or humans.
8. **Operation** Address managerial, health, safety, environmental, mechanical, structural and other aspects of component operation.
9. **Maintenance** Address the types, timing and methods of operator conducted inspections and evaluations of components to identify and correct any dysfunction.