



Minnesota  
Pollution  
Control  
Agency

Regional  
Division  
Feedlot  
Program

# Closure of Feedlots or Manure Storage Areas

Water Quality/Feedlots #6.50, February 1, 2001  
(reviewed May 2005)

## Background

The proper abandonment and closure of an animal feedlot or manure storage area that has ceased operation is important from both an environmental and safety perspective. Runoff and seepage from abandoned feedlots and manure storage areas can contribute to surface-water or ground-water pollution.

Properly installed clay, concrete, and geotextile liners reduce seepage from manure storage structures and are necessary to protect ground water. However, when these structures are not used or maintained they create a threat to surface-water and ground-water quality. For example, deep-rooted vegetation can penetrate through earthen liners, allowing manure-contaminated liquids a direct conduit to seep into the ground water.

Clay liners also may be damaged by erosion, rodents, and large burrowing animals, freeze-thaw cycles, drying, or manure pumping and agitation equipment. Geotextiles may be damaged by pumping and agitation equipment, rodents, large animal traffic (e.g., deer, cattle), and exposure to ultraviolet light.

Abandoned manure storage areas also can be dangerous. Manure storage areas can be a potential source of trapped

gasses, such as hydrogen sulfide, that can be lethal. There have also been cases of people and animals drowning in liquid manure storage areas.

## Closure Requirements

The feedlot rule requires the owner of the feedlot who is ceasing operation to properly close the facility. Within one year of ceasing operation all manure and manure-contaminated soils must be removed and land applied. Once the manure and manure-contaminated soils have been removed and land applied, the site is to be re-vegetated with a perennial forage crop such as alfalfa to reduce the soil nitrogen levels. This vegetation is to be maintained on the site for at least five years.

Within 60 days of completing the above actions, the owner must submit a certified letter to the MPCA or the county feedlot officer stating the location of the facility and that the feedlot has been properly closed.

## Unpermitted Basins

Owners of facilities capable of holding **1,000 animal units or more** that have an unpermitted or noncertified liquid manure storage area, and that chose to close the liquid manure storage area must have completed closure prior to October 1, 2001.

### MPCA Area Offices:

#### **Rochester area:**

507/285-7343

#### **Mankato area:**

507/389-5977

#### **Marshall area:**

507/537-7146

#### **Willmar area:**

320/214-3786

#### **Detroit Lakes area:**

218/847-1519

#### **Brainerd area:**

218/828-2492

#### **Duluth area:**

218/723-4660

#### **Metro area:**

651/296-6300

#### **Toll-Free Number:**

800/657-3864

#### **Feedlot Service Center:**

877/333-3508





The owner of the facility must notify the county feedlot officer or the MPCA three days prior to commencing closure of the manure storage area. This notification can be by letter, telephone, or facsimile and should include the owners name, facility name (if different), location by county, township, section, quarter section, and the dates when closure will take place.

Owners of facilities capable of holding **less than 1,000 animal units** that have an unpermitted liquid manure storage area, who have chosen to close the liquid manure storage area must complete this work by October 1, 2005, and complete the notice requirements outlined above.

Owners of facilities with open lots capable of holding **less than 300 animal units** who have entered into the 2005/2010 Open-Lot Agreement, and who choose to close an unpermitted basin must do so according to the following schedule:

1. Notify the county feedlot officer or the MPCA by October 1, 2005, that the manure storage area will be closed.
2. Close the manure storage area by October 1, 2010.

### Liquid Manure Storage Area Closure Process

1. Manure from an abandoned or unused liquid manure storage area needs to be applied to cropland at rates that meet the crop nutrient requirements. If possible, analyze the manure for nutrient content prior to land application. If that is not possible, estimate that nutrient content and obtain a sample for analysis during the land application process. This analysis can then be used to balance future applications of crop nutrients in additional fertilizer or manure applications. It is generally best to thoroughly agitate the manure prior to removal both to develop more uniform slurry and re-suspend the solids that have settled to the bottom.
2. Remove any remaining sludge at the bottom of the liquid manure storage area and apply on

cropland. Again, estimate or analyze the nutrient content of these sludges and apply on cropland at agronomic rates. Bottom sludges will typically be high in phosphorus.

- a. For a clay- or earthen-lined liquid manure storage area, remove all soils discolored by the manure down to native soils. There is generally about one foot of discolored soil below the manure.
  - b. For concrete or other type of liquid manure storage areas clean all surfaces of manure by washing, repeated flushing, or scraping.
3. At least three days prior to backfilling the liquid manure storage area, the feedlot owner should contact the MPCA or county feedlot officer. An inspection may be done at the discretion of the MPCA or county feedlot officer.
  4. Following removal of manure and manure-contaminated soils, the liquid manure storage area should be backfilled as a safety precaution to prevent people or animals from falling into the storage area. Backfilling should only be done with material allowed for burial under federal, state, and local regulations.

### For More Information

For more detailed information on the closure requirements for a feedlot or manure storage area, please see Minn. R. chap. 7020. The revised feedlot rule and other fact sheets can be downloaded from the MPCA website at:  
<http://www.pca.state.mn.us/hot/feedlot-rules.html>.

Or, for more information call your area office listed on the first page of this fact sheet and ask for the feedlot staff person, or call the Feedlot Service Center toll-free at 1-877-333-3509.