



Minnesota
Pollution
Control
Agency

Best Management Practices for Supplemental Feeding Areas

Feedlot Program

Water Quality/Feedlots # 8.45, October 2002

Regional
Environmental
Management
Division

Questions about
this factsheet?

Contact:
Joe Schimmel at
(651) 296-7756

Find your County
Feedlot Officer on
MPCA's Web site:
<http://www.pca.state.mn.us/hot/fl-countyoff.html>

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

Scope

These guidelines do not supersede local ordinances. These guidelines are also not intended to be used to site or manage existing winter feeding areas. Issues surrounding winter feeding operations are currently being reviewed by the MPCA and clarification on regulatory requirements will be addressed before the winter of 2003/2004.

Introduction

Winter feeding refers to the practice of providing animals with supplemental feed over the winter when pasture land is no longer available. It can be done by confining animals in a small area where feed and water are made available or by providing feed and water for animals kept in a larger fenced area where a crop or pasture will be grown the during the following growing season.

Depending on the management and number of animals involved, winter feeding operations can be classified as feedlots and subject to regulation as such. These guidelines were not developed to answer the question of when a winter feeding operation becomes a feedlot. These guidelines were developed to provide best management practices for an emergency situation that may affect Minnesota during the winter of 2002/2003. Determinations on whether a winter feeding area is a feedlot will continue to be made on a case by case basis.

Background

Drought conditions prevalent in the West during the spring and summer of 2002 have forced cow-calf operators from those states to move their herds for temporary winter feeding to various eastern states including Minnesota. Because this emergency situation has the potential to impact sensitive areas, the Minnesota Pollution Control Agency (MPCA) was asked to provide clarification on its expectations of producers that decide to participate by providing winter feeding areas this year.

MPCA met with representatives from the University of MN Extension Service, Natural Resources Conservation Service, Minnesota State Cattlemen's Association, and County Feedlot Officers to develop a strategy for preventing this event from causing environmental problems and to provide guidance for MPCA staff, County Feedlot Officers, and producers to address this immediate situation.

Permitted Facilities: If animals are added to an operation that has a feedlot permit, the producer must ensure that requirements in the permit are met at all times. Depending on the management of the feedlot and winter feeding area a modification to the permit may be required. It is also possible that if the total number of animal units is increased to 1,000 or greater, federal standards for NPDES permitting could be triggered.



Contact MPCA or your County Feedlot Officer for information on how accepting animals for emergency winter feeding could affect your operation.

Best Management Practices

Winter feeding operations that cause the most concern for the environment are those that are located in environmentally sensitive areas and those that allow accumulation of manure to occur. Because of this, the management practices outlined in these guidelines concentrate on locating winter feeding areas in less sensitive areas and management of those winter feeding areas that allow manure packs to form.

Management practices that minimize formation of manure packs are encouraged. This can be done by moving the location of feeding equipment throughout the area available for winter feeding at a frequency that does not allow development of a manure pack. The frequency of movement required to prevent a manure pack from forming will be dependent on the number and size of animals in any given area (see table at the end of this fact sheet for guidance on a rotation schedule). Rotational winter feeding generally results in prompt recovery of vegetative cover during the following growing season and is believed to have less impact on the environment.

If manure packs are allowed to form, manure that is accumulated should be collected and land applied according to standards for land applied manure (see fact sheet "Land Application of Manure: Minimum State Requirements").

Please check with your County Feedlot Officer to determine if any additional requirements are in place for winter feeding in your county.

Site Selection for Rotational and Stationary Emergency Winter Feeding Areas

It is the responsibility of the producer to locate and manage all winter feeding areas, so that manure-contaminated runoff from the site does not discharge into waters of the state. The criteria in this section can be used as a guide to help the producer prevent this from occurring.

Winter feeding areas should not be located within:

- Rock quarries, gravel or sand pits, bedrock, or any mining excavation sites.
- Designated shoreland areas.
- 100 year floodplains.
- 300 feet of a sinkhole.
- 100 feet of a private well.
- 1,000 feet of a community water supply well or other wells serving a public school as defined under Minnesota Statutes, section 120A.05, a private school excluding home school sites, or a licensed child care center where the well is vulnerable according to part 4720.5550, subpart 2 unless all of the following conditions are met:
 - the Minnesota Department of Health has approved a drinking water supply management area for the well under part 4720.5360;
 - the animal feedlot or manure storage area is not within the drinking water supply management area; and
 - the animal feedlot or manure storage area is not within 200 feet of the well.



Additional Criteria for Stationary Emergency Winter Feeding Areas

In addition to the site selection criteria for all emergency winter feeding areas, areas where manure packs are allowed to form should be managed as described below.

- **Manure packs should not be allowed to form within:**
 - 300 feet of flow distance and at least 50 feet horizontal distance, to waters of the state, sinkholes, rock outcroppings, open tile intakes, and any uncultivated wetlands which are not seeded to annual farm crops or crop rotations involving perennial grasses or forages.
 - 300 feet of flow distance to any road ditch that flows to one of the features identified above.
 - 50 feet of any road ditch;
 - 100 feet of any private water supply or unused and unsealed well and 200 feet from any private well with less than 50 feet of watertight casing and that is not cased through a confining layer at least ten feet thick; and
 - 100 feet from field drain tile that is three feet or less from the soil surface;
- **Manure packs should not be allowed to form:**
 - On land with greater than six percent slope;
 - On land with slopes between two and six percent, except where clean water diversions and erosion control practices are installed.
- **Areas where manure packs have formed should be managed as follows:**
 - Accumulated manure must be removed from the site and land applied in accordance with part 7020.2225, within one year of the date the manure pack was initially established.
 - A vegetative cover must be established on the site for at least one full growing season prior to reuse as a winter feeding area.



The following table is provided as guidance for scheduling movement of rotational feeding areas to avoid the formation of a manure pack. Because the time it takes to form a manure pack will vary depending on animal size and other factors, the actual time it takes to form a manure pack may take more or less time than is estimated by this table. When determining the size of the winter feeding area, look at the size of the area where animals concentrate for feeding. The size of the winter feeding area is not the entire acreage available for animals to roam.

**Estimated Days for Rotation of Feeding and Watering Devices on
Winter Feeding Areas to Prevent Manure Pack Formation¹**

Head of 1200 lb. Beef Cows	Size of Winter Feeding Area			
	1 acre	2 acres	3 acres	4 acres
	-----estimated days for rotation-----			
25	66	133	-	-
50	33	66	100	-
75	22	44	66	88
100	16	33	50	66
125	13	27	40	53
150	11	22	33	44
175	9	19	28	38
200	8	16	25	33
225	7	14	22	29
250	6	13	20	26

¹ Calculations assume that cows spend half of the day on the feeding area. These values also take animal space requirements into account. Adapted from Feedlot Evaluation Model (FLEval).