

Background on:

Livestock Feedlots and the Environment



Minnesota
Pollution
Control
Agency

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In Minnesota, there are about than 20,000 active, registered feedlots, ranging in size from small farms to large-scale commercial livestock operations. Animal agriculture comprises a major portion of the state's economy. Many organizations and programs work with livestock producers to ensure that we continue to have a healthy livestock industry and a healthy natural environment.

The Minnesota Pollution Control Agency (MPCA) regulates the collection, transportation, storage, processing and disposal of animal manure and other livestock operation wastes. The MPCA Feedlot Program implements rules governing these activities, and provides assistance to counties and the livestock industry. The feedlot rules apply to most aspects of livestock waste management including the location, design, construction, operation and management of feedlots and manure handling facilities.

The MPCA feedlot staff includes engineers, hydrologists, soil scientists and pollution control specialists. They work in the areas of land application of manure, permitting, data management, technical assistance, and compliance with the feedlot rule. Staff are located in St. Paul and six regional offices: Brainerd, Detroit Lakes, Mankato, Marshall, Rochester and Willmar.

Protecting water

There are two primary concerns about feedlots in protecting water in our agricultural areas:

- Ensuring that manure on a feedlot or manure storage area does not run into water; and,
- Ensuring that nutrient-rich manure is applied at a rate, time and method that prevents nutrients and other possible contaminants from entering streams, lakes and ground water.

The MPCA works with farmers to make sure their feedlots are environmentally safe. It provides technical assistance to farmers, and conducts inspections at feedlots to be certain they comply with environmental requirements. Some of those requirements for feedlots include:

- Construction specifications that ensure the feedlot will properly contain the manure;
- Manure management plans for many medium and large-sized feedlots; and
- Requirements for the amount and placement of nutrients spread on fields.

Air quality concerns

As some livestock operations have grown larger and more people are choosing to live near livestock farms, odor (particularly hydrogen sulfide) has become an issue. There are regulations for hydrogen sulfide and ammonia, which can be toxic at high levels.

The MPCA does not regulate odor in general, however, some local units of government may have restrictions related to odor.

The MPCA does regulate hydrogen sulfide emissions and requires the following:

- Requiring odor management plans to be included in the permits of large feedlots.
- Monitoring hydrogen sulfide emissions at feedlots where there have been odor complaints.

Nutrient and manure management

Livestock manure is a valuable resource if managed properly. It has been estimated that the amount of manure generated by livestock in Minnesota would be equivalent to that of a human population of about 50 million.

Land application removes livestock manure from feedlots and fertilizes crops. There are many ways to ensure that land-applied manure does not run off into waters, and is not over-applied beyond crop nutrient needs.

Manure management plans are required when producers need to apply for a feedlot permit, or when a facility has 300 or more animal units and does not use a licensed commercial applicator. Manure management plans help ensure that application rates do not exceed crop nutrient needs, and that setbacks from waters and drain tile intakes are observed.

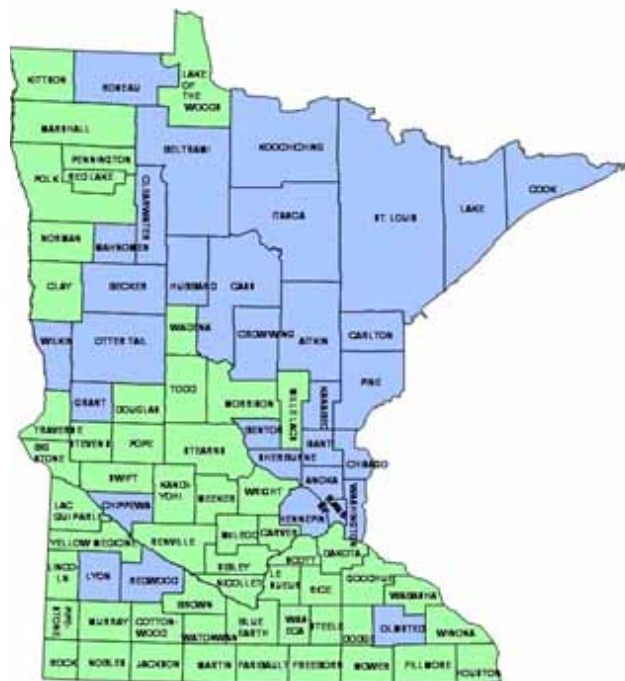
Much land-application is done by licensed commercial applicators.

Delegated county program

In 55 Minnesota counties, the feedlot program is conducted through a cooperative arrangement between the MPCA and county government. County feedlot programs have responsibility for implementing state feedlot regulations for facilities with fewer than 1,000 animal units (AU), or those that do not require federal permits. These responsibilities include: registration, permitting, inspections, education and assistance, and complaint follow-up.

Delegated counties receive state grants to help to help fund their programs. Funds are awarded based on the number of feedlots in the county with more than 50 animal units (10 AU in shoreland areas) and the level of inspection completed. In recent years the grants statewide have totaled more than \$2 million.

Counties delegated to operate Feedlot Program



The counties shaded in green have been delegated the authority to operate the Feedlot Program.

Feedlot rule revised in 2000

In October 2000, a major revision of the feedlot rule (Minn. Rules chapter 7020) went into effect. The main goals for the feedlot rules are:

- Register all feedlots with more than 50 AU (10 in shoreland areas);
- Focus on animal feedlots and manure storage areas that have the greatest potential for environmental impact;
- Expand the role of delegated counties in the feedlot program; and,
- Increase agency and delegated-county staff field presence.

The feedlot rule does not specifically regulate pasture operations, however, they still must abide by Minn. Rules chapter 7050 prohibiting pollution of state waters.

Feedlot permits

The revised feedlot rule eliminated the need for most smaller-sized feedlots to have permits. Most large feedlots operate with state and federal permits. The National Pollutant Discharge Elimination System permit

and the State Disposal System permit require specific conditions to comply with state law and the federal Clean Water Act.

Of the approximately 1,000 feedlots currently operating with NPDES permits, about 960 have general permits and about 40 have individual permits. A general permit is a single document that can apply to all livestock facilities whose operations are similar.

Environmental assessments of large feedlots

An environmental assessment looks at how a proposed feedlot project will affect the air, water and land, and at ways to mitigate any problems so that the project can go forward and be environmentally safe. Environmental Assessment Worksheets are mandatory for proposed feedlots of more than 1,000 AU, or more than 500 AU in a sensitive area. Environmental Quality Board Web site: www.eqb.state.mn.us/.

Training and technical assistance

The MPCA provides training opportunities and assistance to counties and livestock producers. County feedlot officers receive a detailed feedlot manual covering all aspects of the program. MPCA technical staff conduct workshops and presentations for county staff and producer groups.

Feedlot program statistics

- 20,000 registered feedlots.
- Approximately 1,000 large, federally-permitted feedlots (as of fall 2007).
- 55 counties delegated to administer the program not including large feedlots with federal permits.

For more information

For more information about Minnesota's Feedlot Program, contact one of the MPCA staff listed below:

- Kim Brynildson, 651-296-7366
- Dave Wall, 651-296-8440
- Mark Jacobs, 507-537-7132
- Bob Finley, 507-285-7345
- Randy Hukriede, 320-214-3794
- Wayne Anderson, 651-296-7323
- Forrest Peterson, 320-214-3789

All MPCA staff can be reached toll-free at 1-800-657-3864.

More information is also available on the MPCA Web site at www.pca.state.mn.us/hot/feedlots.html.

Other information sources

Producer organizations also provide environmental management information to their members. Many dairies have qualified for the Environmental Quality Assurance designation through the Minnesota Milk Producers Association.

The following Web sites are good information sources for feedlots and manure management:

- Manure and Odor Education Research — University of Minnesota Extension: www.manure.umn.edu/
- Minnesota Department of Agriculture: www.mda.state.mn.us/animalfeed.htm
- National Agriculture Compliance Assistance Center: www.epa.gov/agriculture/