Animal Feeding Operations
Iowa has two types of animal feeding operations (AFOs) regulated under the Department of Natural Resources: confinements and open feedlots. See the overview below for general information about the two types of animal feeding operations and state regulations that affect them.

For more specific information about requirements for construction or existing regulations, see the type of operation: Confinement, Open Feedlots or Combined.

See manure management under each type of operation for information about manure or nutrient management plans, land application requirements (including the phosphorus index and record keeping requirements) and manure applicator certification.

Overview of Animal Feeding Operations Iowa has two types of DNR-regulated animal feeding operations (AFOs): confinements and open feedlots. Both AFO types are confined (kept and fed for 45 days or more per year) in a lot, yard, corral, building or other area. Both types include manure storage structures, but do not include livestock markets.
A confinement feeding operation (above) confines animals to areas that are totally roofed. Confinement feeding operations in Iowa must retain all manure.

An open feedlot is unroofed or partially roofed with no vegetation or residue ground cover while the animals are confined. Large open feedlots with a national pollutant discharge elimination system (NPDES) permit are allowed to discharge to a water of the state under certain conditions listed in the permit, such as during a storm event larger than the 25-year, 24-hour storm.

A combined operation has some animals in a confinement and some in an open feedlot. Unlike livestock on pasture, animals in AFOs are kept in small areas where feed and manure become more concentrated. Animal manure and urine contain nitrogen (nitrate and ammonia), phosphorus, organic matter, sediments, pathogens, and heavy metals - all of which are potential pollutants if they are concentrated in a small area. Some of these substances can pose threats to human health or impair drinking water. When excess nutrients reach our waters, they can cause low levels of dissolved oxygen, algal blooms and, in extreme cases, fish kills. Iowa regulates AFOs to protect surface and groundwater resources. All AFOs must follow some regulations when land applying manure or when building a new structure or expanding an existing operation. Generally, regulations differentiate between the type and size of operation, and the type of manure storage that is used.

When constructing an AFO or applying manure, the operations must also meet separation distances from neighboring businesses, residences, churches, schools and public use areas. These distances help protect neighbors from potentially offensive odors and air emissions. Environmentally sensitive areas such as wells, sinkholes and water sources are also protected by setbacks from construction and manure application.
The DNR has several sections that work with animal feeding operations: The Air Quality Bureau has conducted a field study near animal feeding operations to evaluate air quality in rural Iowa. The purpose was to discover if harmful concentrations of ammonia, hydrogen sulfide, or odors were emitted.

The Field Services and Compliance Bureau reviews manure management and nutrient management plans, inspects earthen basins, inspects potential construction sites and responds to manure, fertilizer and chemical spills. Field specialists are experienced in spills and can help livestock producers identify the cause of the spill and find alternatives to stopping the release or fixing the problem.

DNR's AFO Construction Permitting Section reviews applications for construction permits for animal feeding operations. An engineer coordinates this review with the applicant, the applicant's engineer and other DNR staff to assure that all requirements are met before a permit is issued. The NPDES (or national pollutant discharge elimination system) Section of Iowa's DNR issues NPDES permits and storm water permits to animal feeding operations. Authority to issue these federal permits has been delegated to the Iowa DNR by the U.S. Environmental Protection Agency. Iowa NPDES staff provide technical assistance to animal feeding operators. The NPDES staff coordinate with the DNR field office staff when NPDES permits are issued, and with the construction permitting staff to ensure facility designs meet NPDES permit requirements.

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