



# ANIMAL FEEDING OPERATIONS GENERAL OVERVIEW

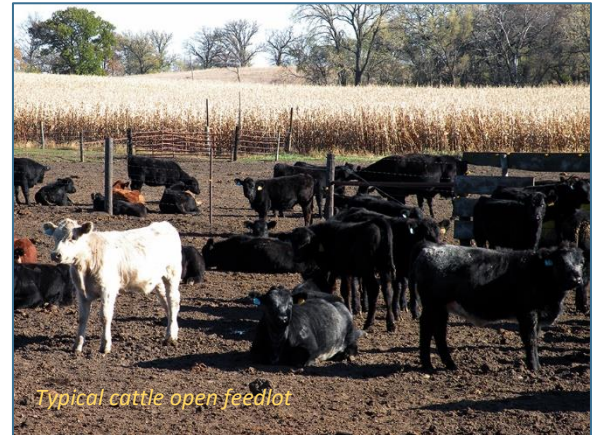
Iowa has two types of DNR-regulated animal feeding operations (AFOs): confinements and open feedlots. Both AFO types are confined (kept and fed for 45 days or more per year) in a lot, yard, corral, building or other area. Both types include manure storage structures, but do not include livestock markets.

## Definitions

- A **confinement feeding operation** 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.



*A typical confinement feeding operation.*



*Typical cattle 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.

## Regulations

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 a confinement, 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.