

567—65.3 (459,459B) Requirements and recommended practices for land application of manure.

65.3(1) *Application rate based on crop nitrogen use.* A confinement feeding operation that is required to submit a manure management plan to the department under rule 567—65.16(459,459B) shall not apply manure in excess of the nitrogen use levels necessary to obtain optimum crop yields. Calculations to determine the maximum manure application rate allowed under this subrule shall be performed pursuant to rule 567—65.17(459,459B).

65.3(2) *General requirements for application rates and practices.*

a. For confinement feeding operations required to submit a manure management plan to the department under rule 567—65.16(459,459B), application rates and practices shall be determined pursuant to rule 567—65.17(459,459B).

b. For manure originating from an anaerobic lagoon or aerobic structure, application rates and practices shall be used to minimize groundwater or surface water pollution resulting from application, including pollution caused by runoff or other manure flow resulting from precipitation events. In determining appropriate application rates and practices, the person land-applying the manure shall consider the site conditions at the time of application including anticipated precipitation and other weather factors, field residue and tillage, site topography, the existence and depth of known or suspected tile lines in the application field, and crop and soil conditions, including a good-faith estimate of the available water holding capacity given precipitation events, the predominant soil types in the application field and planned manure application rate.

c. Spray irrigation equipment shall be operated in a manner and with an application rate and timing that does not cause runoff of the manure onto the property adjoining the property where the spray irrigation equipment is being operated.

d. For manure from an earthen waste slurry storage basin, earthen manure storage basin, or formed manure storage structure, restricted spray irrigation equipment shall not be used unless the manure has been diluted with surface water or groundwater to a ratio of at least 15 parts water to 1 part manure. Emergency use of spray irrigation equipment without dilution shall be allowed to minimize the impact of a release as approved by the department.

65.3(3) *Separation distance requirements for land application of manure.* Land application of manure shall be separated from objects and locations as specified in this subrule.

a. For liquid manure from a confinement feeding operation, the required separation distance from a residence not owned by the titleholder of the land, a business, a church, a school, or a public use area is 750 feet, as specified in Iowa Code section 459.204. The separation distance for application of manure by spray irrigation equipment shall be measured from the actual wetted perimeter and the closest point of the residence, business, church, school, or public use area.

b. The separation distance specified in paragraph 65.3(3)“*a*” shall not apply if any of the following apply:

(1) The liquid manure is injected into the soil or incorporated within the soil not later than 24 hours after the original application.

(2) The titleholder of the land benefitting from the separation distance requirement executes a written waiver with the titleholder of the land where the manure is applied.

(3) The liquid manure originates from a small animal feeding operation.

(4) The liquid manure is applied by low-pressure spray irrigation equipment pursuant to paragraph 65.3(3)“*d*.”

c. Separation distance for spray irrigation from property boundary line. Spray irrigation equipment shall be set up to provide for a minimum distance of 100 feet between the wetted perimeter as specified in the spray irrigation equipment manufacturer’s specifications and the boundary line of the property where the equipment is being operated. The actual wetted perimeter, as determined by wind speed and direction and other operating conditions, shall not exceed the boundary line of the property where the equipment is being operated. For property which includes a road right-of-way,

railroad right-of-way or an access easement, the property boundary line shall be the boundary line of the right-of-way or easement.

d. Distance from structures for low-pressure irrigation systems. Low-pressure irrigation systems shall have a minimum separation distance of 250 feet between the actual wetted perimeter and the closest point of a residence, a business, church, school or public use area.

e. Variances. Variances to paragraph “*c*” of this subrule may be granted by the department if sufficient and proposed alternative information is provided to substantiate the need and propriety for such action. Variances may be granted on a temporary or permanent basis. The request for a variance shall be in writing and include information regarding:

(1) The type of manure storage structure from which the manure will be applied by spray irrigation equipment.

(2) The spray irrigation equipment to be used in the application of manure.

(3) Other information as the department may request.

f. Agricultural drainage wells. Manure shall not be applied by spray irrigation equipment on land located within an agricultural drainage well area.

g. Designated areas. A person shall not apply manure on land within 200 feet from a designated area, or in the case of a high-quality water resource, within 800 feet, unless one of the following applies:

(1) The manure is land-applied by injection or incorporation on the same date as the manure was land-applied.

(2) An area of permanent vegetation cover, including filter strips and riparian forest buffers, exists for 50 feet surrounding the designated area other than an unplugged agricultural drainage well or surface intake to an unplugged agricultural drainage well, and the area of permanent vegetation cover is not subject to manure application.

h. Setback requirements for confinement feeding operations with NPDES permits. For confinement feeding operations with NPDES permits, the following is adopted by reference: 40 CFR 412.4(a), (b) and (c)(5).

65.3(4) *Surface application of liquid manure on frozen or snow-covered ground.* A person who applies liquid manure on frozen or snow-covered ground shall comply with applicable NPDES requirements pursuant to the Act and also shall comply with the following requirements:

a. Snow-covered ground. During the period beginning December 21 and ending April 1, a person may apply liquid manure originating from a manure storage structure that is part of a confinement feeding operation on snow-covered ground only when there is an emergency.

b. Frozen ground. During the period beginning February 1 and ending April 1, a person may apply liquid manure originating from a manure storage structure that is part of a confinement feeding operation on frozen ground only when there is an emergency.

c. What constitutes an emergency. For the purposes of this subrule, an emergency application is only allowed when there is an immediate need to apply manure to comply with the manure retention requirement of subrule 65.2(3) due to unforeseen circumstances affecting the storage of the liquid manure. The unforeseen circumstances must be beyond the control of the owner of the confinement feeding operation, including but not limited to natural disaster, unusual weather conditions, or equipment or structural failure. The authorization to apply liquid manure pursuant to this subrule does not apply to either of the following:

(1) An immediate need to apply manure in order to comply with the manure retention requirement of subrule 65.2(3) caused by the improper design or management of the manure storage structure, including but not limited to a failure to properly account for the volume of the manure to be stored. Based on the restrictions described in paragraphs 65.3(4)“*a*” and “*b*” and the possibility that the ground could be snow-covered and frozen for the entire period of December 21 to April 1, an operation should not plan to apply liquid manure during that time period. Confinement feeding operations with manure storage structures constructed after May 26, 2009, and without alternatives to manure

application must have sufficient storage capacity to retain manure generated from December 21 to April 1 under normal circumstances in order to properly account for the volume of manure to be stored. For confinement feeding operations that have no manure storage structures constructed after May 26, 2009, the department will accept insufficient manure storage capacity as a reason for emergency application in the notification required in 65.3(4)“d”(1).

(2) Liquid manure originating from a confinement feeding operation constructed or expanded on or after July 1, 2009, if the confinement feeding operation has a capacity to store manure for less than 180 days.

d. Procedure for emergency application. A person who is authorized to apply liquid manure on snow-covered ground or frozen ground when there is an emergency shall comply with all of the following:

(1) The person must notify the appropriate department field office by telephone prior to the application. The department will not consider the notification complete unless the owner’s name, facility name, facility ID number, reason for emergency application, application date, estimated number of gallons of manure to be applied, and the application fields as listed in the manure management plan are given. In cases where the emergency is not easily confirmed by weather reports, the owner must make documentation of the emergency available to the field office upon request.

(2) The liquid manure must be applied on land identified for such application in the current manure management plan maintained by the owner of the confinement feeding operation as required in subrule 65.17(12). The land must be identified in the current manure management plan prior to the application, and that change must also be reflected in the next annual update or complete manure management plan submitted to the department and county boards of supervisors following the application as required in paragraph 65.16(3)“b.”

(3) The liquid manure must be applied on a field with a phosphorus index rating of 2 or less.

(4) Any surface water drain tile intake that is on land in the owner’s manure management plan and located downgradient of the application must be temporarily blocked beginning not later than the time that the liquid manure is first applied and ending not earlier than two weeks after the completion of the application.

(5) Additional measures to contain runoff may be necessary in order to prevent violation of federal effluent standards in 567—subrule 62.4(12).

e. Exceptions. Paragraphs 65.3(4)“a” through “d” do not apply to any of the following:

- (1) The application of liquid manure originating from a small animal feeding operation.
- (2) The application of liquid manure injected or incorporated into the soil on the same date.

65.3(5) Recommended practices. Except as required by rule in this chapter, the following practices are recommended:

a. Nitrogen application rates. To minimize the potential for leaching to groundwater or runoff to surface waters, nitrogen application from all sources, including manure, legumes, and commercial fertilizers, should not be in excess of the nitrogen use levels necessary to obtain optimum crop yields for the crop being grown.

b. Phosphorous application rates. To minimize phosphorous movement to surface waters, manure should be applied at rates equivalent to crop uptake when soil tests indicate adequate phosphorous levels. Phosphorous application more than crop removal can be used to obtain maximum crop production when soil tests indicate very low or low phosphorous levels.

c. Manure application on frozen or snow-covered cropland. Application of dry or liquid manure on frozen or snow-covered cropland should be avoided where possible. If manure application must take place in the winter time, the following are guidelines to minimize runoff and subsequent loss of nutrients.

(1) Apply manure to areas where land slopes are 4 percent or less or where control practices are sufficient to prevent runoff from reaching surface water or groundwater during winter.

- (2) If applying manure on a terraced field or sloping field, avoid application to areas that drain to tile intakes that directly discharge to surface water or groundwater.
- (3) Do not apply manure in grassed waterways.
- (4) Apply manure early in winter prior to significant snowfall.
- (5) Avoid application near tile intakes, ditches, gullies, areas of concentrated flow, creeks, streams, lakes, and other surface water.
- (6) Avoid application near water wells, sinkholes, losing streams, areas with shallow bedrock, agricultural drainage wells, or other pathways to groundwater.
- (7) Do not apply manure on top of deeper snow cover, especially in late winter.
- (8) Applying manure on soybean stubble where less snow is captured is preferable to applying manure on standing cornstalks.
- (9) In late winter, wait until the snow has melted before applying manure.
- (10) Avoid application during active runoff events or when rainfall, snow, or warming conditions are predicted that could cause snowmelt or runoff.
- (11) Fields and tiles should be observed during snowmelt and runoff events to identify and remediate any runoff that may occur. If discolored or odorous water is being discharged, immediate efforts should be taken to prevent the water from reaching surface water or groundwater and changes should be made to prevent the discharge from recurring. Sampling and analysis of runoff for nitrogen and phosphorus may be used to better evaluate management practices in order to avoid wasting valuable nutrients or causing water quality violations.

d. Manure application on cropland subject to flooding. Manure application on cropland subject to flooding more than once every ten years should be injected during application or incorporated into the soil after application. Manure should not be spread on such areas during frozen or snow-covered conditions.

e. Manure application on land adjacent to water bodies. Unless adequate erosion controls exist on the land and manure is injected or incorporated into the soil, manure application should not be done on land areas located within 200 feet of and draining into a stream or surface intake for a tile line or other buried conduit. No manure should be spread on waterways except for the purpose of establishing seedings.

f. Manure application on steeply sloping cropland. Manure application on tilled cropland with greater than 10 percent slopes should be limited to areas where adequate soil erosion control practices exist. Injection or soil incorporation of manure is recommended where consistent with the established soil erosion control practices.

65.3(6) Certified manure applicator. A confinement feeding operation that is required to submit a manure management plan to the department pursuant to rule 567—65.16(459,459B) must use a certified commercial manure service for land application of manure as provided in rule 567—65.19(459,459B). An operation subject to this subrule that applies its own manure must comply with certification requirements in rule 567—65.19(459,459B) pertaining to confinement site manure applicators.