

DNR requirements for applying liquid manure on snow or frozen ground

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Iowa law allows the application of all manure (whether dry or liquid) from any animal feeding operation (whether the operation is an open feedlot or confinement operation) on frozen or snow-covered ground except as specifically prohibited by the law. The specific provisions of the law (with practical points in italics) are:

- Liquid manure from a confinement operation that qualifies as a “small animal feeding operation” under DNR rules is exempt from the following requirements. A small animal feeding operation is a confinement operation using formed manure storage that has less than 500 animal units of capacity (1,250 head of hogs weighing more than 55 pounds or 10,000 head of pigs weighing less than 55 pounds).

Experience with this law shows that the DNR may receive calls from people who see manure application on snow-covered or frozen ground and believe there is a complete ban. The DNR will investigate these calls so producers who are exempt from the requirements of the law may still want to contact the DNR before they apply manure so that the DNR can respond accordingly to any complaints.

- Liquid manure from a confinement operation that is injected or incorporated on the same date also is exempt from the following restrictions on application on frozen or snow-covered ground. Injection is applying manure beneath the soil surface and incorporation is soil tillage that mixes the manure into the upper four inches or more of soil.

In other words, even if the ground is frozen or snow-covered between the dates set out below, the liquid manure can be applied without complying with the emergency restrictions if it can be injected or incorporated on the same date.

- Surface application of liquid manure from a confinement operation is prohibited on snow-covered ground from Dec. 21 (first day of winter) to April 1 and on frozen ground from Feb. 1 to April 1, except when there is an emergency.

It may seem obvious, but keep in mind that liquid manure from a confinement operation may be applied between these dates if the ground is not frozen or snow covered. Likewise, the manure may be applied before and after these dates even if the ground is frozen or snow covered.

- Frozen ground is ground that is impenetrable because of frozen soil moisture, but does not include ground that is frozen in the top two inches or less. Snow-covered ground is ground covered by one inch or more of snow or by one-half inch or more of ice.

The restrictions on liquid manure application on frozen or snow-covered ground apply only to those areas where the ground is frozen or snow covered. If there are areas of a field that do not qualify as frozen or snow covered, manure may be applied in those areas.

Also, the critical factor is the condition of the ground at the time the manure is applied. For example, if the ground is snow covered early in the day but not later in the day, then manure may be surface applied later in the day without being subject to the emergency restrictions. The same applies to manure applied on ground that becomes snow covered or frozen after the application. Thus, to ensure compliance with DNR requirements, a producer should document the condition of the ground at the time the manure was applied by keeping a detailed log and/or taking photos.

- An emergency is when there is an immediate need to apply manure because the manure storage structure is full due to unforeseen circumstances affecting the storage of liquid manure and which are beyond the producer's control. The law specifically states that these unforeseen circumstances must be beyond the control of the producer. The law also specifically states that these circumstances include unusual weather conditions or equipment or structural failure.

The most common example of unusual weather conditions is a prolonged wet period in the fall that delays crop harvest and therefore does not allow manure application until the ground is frozen or when wet field conditions

prevent manure application until the ground is frozen because of damage to the field from manure application equipment if manure was applied before the ground froze. The most common example of an equipment or structural failure would be a broken water line that fills a manure pit with water.

If a confinement operation has construction permit that includes a master matrix and points were taken for injection of manure (master matrix Item 26(e)), DNR rules state:

“If an emergency arises and injection or incorporation is not feasible, prior to land application of manure the applicant must receive a written approval for an emergency waiver from a department field office to surface-apply manure.”

Accordingly, producers who have taken points under master matrix Item 26(e) must contact their DNR Field Office and get written approval before surface applying manure due to unusual weather conditions or any other emergency.

- To apply liquid manure on snow or frozen ground due to an emergency, the law and DNR rules require the producer or applicator to comply with all of the following:

(1) **Telephone the DNR before application.**

The producer must telephone the DNR field office where the confinement operation is located before the manure application. The producer must give the producer's name, DNR facility name, DNR facility ID number, reason for the emergency application, application date, estimated number of gallons to be applied, and the fields in the MMP where the manure will be applied. The producer must document the emergency upon request by DNR.

See <http://www.iowadnr.gov/fo/fomap.html> for a field office map with contact information. The DNR field office telephone numbers are:

Manchester	563-927-2640	Mason City	641-424-4073	Spencer	712-262-4177
Atlantic	712-243-1934	Des Moines	515-725-0268	Washington	319-653-2135

(2) **Apply the liquid manure on land identified in the MMP for emergency application.**

The land must be identified in the MMP before the manure application. The MMP can either be the original MMP that has been submitted to the DNR or the original MMP can be amended and kept in the producer's records and then submitted to the DNR with the next required updated MMP.

(3) **Apply the liquid manure on land with a Phosphorus Index of 2 or less.**

If there is no land in the MMP with a P Index of 2 or less, the producer must add land to the MMP that qualifies. If that is not a viable option, the producer should contact a consultant or DNR for other options.

(4) **Block any surface tile intake on land in the MMP and down-grade from the application during application and for at least two weeks after.**

(5) **Properly manage the manure storage structure, including properly accounting for the amount of manure to be stored.** DNR rules state that due to the possibility that ground could be snow covered and frozen for the entire period from Dec. 21 to April 1, a confinement operation should not plan to apply liquid manure during that time. Confinement operations without alternatives to manure application must have enough storage capacity to store the manure from Dec. 21 to April 1 under normal circumstances. However, until Dec. 21, 2015, insufficient manure storage capacity will qualify as a reason for emergency manure application. After that date, no confinement operation will be allowed to apply liquid manure under the emergency application procedures because of a lack of capacity to store manure from Dec. 21 until April 1.

(6) **For manure storage structures constructed after July 1, 2009, construct the structure to have at least 180 days of manure storage.**

(7) Implement additional measures necessary to contain runoff as necessary to prevent violation of federal EPA effluent standards.

The DNR encourages all producers faced with emergency manure applications to contact the appropriate DNR field office as soon as possible so that the field office may assist the producer with taking all reasonable steps to handle the situation. This contact also provides the DNR with the necessary information to respond to any public inquiries. Finally, producers should notify neighbors that they will be surface applying manure and work with them to minimize any negative impacts. The critical message to neighbors is that application on frozen or snow-covered ground is the last resort and that their understanding in an emergency situation is appreciated.

In addition to the requirements of the law and DNR rules, producers must also remember that manure surface applied, under any soil conditions including frozen or snow-covered ground, must always be applied in compliance with the general manure application requirements. These requirements include:

- All manure must be applied so as not to cause water pollution.
- All manure that is not injected or incorporated on the same date must be applied at least 200 feet away from a creek, well or other water body or source and 800 feet away from a high quality water resource as designated by the Iowa DNR. (A list of high quality water resources is at <http://www.iowadnr.com/afo/files/hqwr2.pdf>)
- If a confinement operation has a DNR manure management plan (MMP), liquid manure from the operation cannot be applied within 750 feet of a neighbor's residence, business, church, school, or public use area unless the manure is injected or incorporated within 24 hours or unless the residence, owner, etc. signs a written waiver.
- If a confinement operation has a DNR MMP, all manure must be applied in compliance with the MMP.