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Paunch Management Methods

The regulations of Nebraska Title 126, Chapter 1, §032 state: "*Paunch manure*" means partially digested material taken from an animal at the time of slaughter. This is a concise and simple definition for a material very common to our state's livestock industry. It does not include any parts of the animal, such as tongues, trim, or organs; it only refers to the contents of the digestive tract.

Paunch material may be used as a livestock feed, directly land applied as a soil conditioner and fertilizer, composted for the purpose of land application, or disposed of in a municipal solid waste landfill.

If a paunch management plan would consist of using the material for feed the Department of Agriculture should be contacted for guidance. For other management processes mentioned above please contact the Nebraska Department of Environmental Quality (NDEQ). Direct land application of paunch may be considered a beneficial use of the material if good management practices are followed.

One of the first things to consider regarding direct land application is the nature of the land where the paunch will be applied. As with many other land application operations, the site should meet certain set-back requirements to ensure the material will not negatively impact the surrounding environment.

Questions to ask about the land:

- Does the land have greater than 10% slope?
- If the land is frozen, does it have greater than 5% slope?
- Is the land a designated wetland?
- Is the land within 1000 feet of inhabited dwellings, businesses or facilities frequented by the public?
- Is the land within 500 feet of a municipal water supply well?
- Will the paunch be applied to edible crops that are consumed without processing?

If the answer is "yes" to any of these questions, then the site is probably not a good location for land application of paunch.

The key measurement for direct land application of paunch at non-permitted sites is no more than 10 tons of dry paunch per acre per cropping season should be land applied. This can be difficult to

determine at times because paunch often has a significant amount of water content. Therefore, the moisture content must be known prior to direct land application. When the paunch is land applied it must be incorporated into the soil within 24 hours if conditions allow. This is required to reduce that amount of run-off material as well as to minimize odors and vectors. There are some allowances for poor weather or soil conditions but the material must be incorporated within 24 hours when conditions become favorable. Paunch may be land applied during a time frame when the ground is frozen but it must be incorporated within 30 days after weather and ground conditions become favorable. **Paunch cannot be stockpiled at any site that is not permitted by the NDEQ.**

If greater than 10 dry tons per acre of paunch is proposed to be land applied, or if the paunch is stockpiled on site, a permit must be acquired from NDEQ. The permit would be issued to the generator of the paunch. If the generator assigns the paunch to a facility permitted by the Department, such as a composting facility, then the paunch shall become the responsibility of the permitted facility. If the management process requires permitting, all information and procedures listed in Title 126, Chapter 10 will need to be addressed.

Composting paunch may be another option to consider when managing the material prior to land application.

Nebraska Title 132 – Integrated Solid Waste Management Regulations: Chapter 1, §018, “Composting” shall mean the controlled aerobic, thermophilic, microbial degradation of solid organic material such as raw or treated sewage sludge, animal manure, paunch manure, plant or food residue or their mixtures, to a stabilized, humus-like material.

Paunch in quantities of less than 1000 cubic yards per year per site may be managed by composting the material prior to land application. At this amount, a compost permit under Title 132 would not be required as long as the compost site does not constitute a hazard or threat to human health or the environment. Also, the compost must be actively managed at the site. Actively managed composting means the windrow shall be periodically turned and aerated so the paunch will become a stabilized, humus-like material.

Disposal of paunch at a permitted municipal solid waste (MSW) landfill may be another management option to consider. Waste material that is to be disposed at a MSW landfill must not contain free liquids. Therefore, the moisture content of the paunch is a criterion that must be met before considering MSW landfill disposal. Additionally, the landfill should be contacted prior to delivery to get permission for disposal of the paunch.

Regardless of the method of management, paunch must be transported responsibly. All Department of Transportation requirements must be met. Loads should be tightly covered for transport and if the paunch is wet it must be contained in a manner to prevent spillage.

RESOURCES:

- NDEQ Home Page <http://deq.ne.gov/>

Contacts:

- NDEQ Waste Management Section (402) 471-4210
- NDEQ Toll Free Number (877) 253-2603
- NDEQ Hazardous Waste Compliance Assistant (402) 471-8308
- Email questions to: NDEQ.moreinfo@nebraska.gov

NDEQ Publications:

- [Permitting and Operating Compost Sites](#)
- [Disposal of Animal Carcasses](#)
Guidance Documents are available on the NDEQ Home Page under "Publications and Forms"
- [Title 126 – Rules and Regulations Pertaining to Management of Waste](#)
- [Title 132 – Integrated Solid Waste Management Regulations](#)
Titles are available on the NDEQ Home Page under "Laws/Regs & EQC", "Rules & Regulations"