

Emergency Livestock Carcass Disposal

Board of Animal Health primary authority

The primary authority regulating carcass disposal in Minnesota lies with the Board of Animal Health (BAH) ([MN Stat 35.815](#), and [MN Rule 1721](#)). Large feedlots holding NPDES (National Pollutant Discharge Elimination System) permits are required to have an Animal Mortality Plan.

Animal carcasses should be disposed of as soon as possible, within 48-72 hours. Improper disposal increases the danger of disease to humans and livestock, and contamination of surface and groundwater. Vehicles transporting carcasses must be: Leak-proof, covered, inspected, and permitted by the BAH (except if owner is transporting their own dead animals).



In the event of a catastrophic animal loss, immediately contact the Minnesota State Duty Officer at 651-649-5451 or 800-422-0798, the Board of Animal Health at 651-296-2942 and your county or Minnesota Pollution Control Agency (MPCA) feedlot officer.

The NPDES General Permit states the following regarding animal mortalities:

- Disposing in liquid manure storage areas is prohibited;
- Disposal must not cause a discharge to surface or groundwater;
- Keep records of disposal management and practices.

Carcass disposal practices

Rendering

Carcasses left at an off-site pickup point must be:

- Kept in an animal-proof, enclosed area;
- At least 200 yards from a neighbor's buildings;
- Picked up within 72 hours;
- If the enclosed area is refrigerated to less than 45 degrees Fahrenheit, the carcasses must be picked up within seven (7) days.

Composting

The composting process must, at a minimum, meet the following:

- The owner of the compost facility shall have written procedures that all employees follow containing at least the minimum steps listed below;
- Mortalities must be processed daily;
- A base of litter is required. The carcasses or discarded animal parts and litter plus bulking agent are added in layers so that the carbon to nitrogen ratio is in the range of 15:1 to 35:1 (optimal 23:1);
- The carcasses or discarded animal parts must be kept six (6) inches from the edges and sealed with litter each day;

- The temperature must be taken and recorded on site daily. The compost temperature must reach a minimum of 130 degrees Fahrenheit. Approximately seven (7) to ten (10) days are needed in each heat cycle to process the carcasses and kill the pathogens. The temperature drop indicates the time to mix and move the compost. A minimum of two (2) heat cycles is required; and
- The finished compost must not contain visible pieces of soft tissue and must be handled, stored, and used according to all other applicable rules.
- Refer to the carbon-to-pig ratio, according to BAH factsheet, 3-5 cubic yards per 1,000 pounds of animals

In addition, composting facilities must be:

- Built on an impervious, weight-bearing pad large enough for equipment to maneuver;
- If possible, try to maximize the use of the existing roofed mortality building. Non-roofed composting should be done to avoid excessive moisture conditions.
- Built of rot-resistant material strong enough to withstand the force exerted by equipment; and
- Large enough to handle each day's normal mortality through the endpoint of the composting, which consists of a minimum of two (2) heat cycles.

Incineration

Incinerators must be:

- Permitted by the MPCA to accept carcasses;
- Capable of producing emissions not to exceed 20 percent opacity;
- Fitted with an afterburner that maintains flue gases at 1,200 degrees Fahrenheit for at least 0.3 seconds;
- Ash from the incinerator must be handled in a manner to prevent particulates from becoming airborne.

It is recommended that the incinerator be large enough to handle each day's mortalities.

Landfilling – Permitted solid waste facility

- Make arrangements with the landfill operator to determine delivery specifics, capacity availability and cost;
- Arrangements for waste transportation should be made to ensure timely and permitted disposal. Contact your local roll-off hauling companies and permitted facilities to discuss how many roll-off boxes local companies typically have available, as well as drivers to transport roll-offs to disposal sites.

Burial

Select burial sites with care to avoid ground and surface water contamination.

Buried carcasses must meet the following requirements:

- 5 feet above the seasonal high groundwater level measured from the excavation bottom
 - Maintain at least ten (10) feet vertical separation from bedrock
- 50 feet from any property line boundary
- 50 feet from any tile drainage line
- 150 feet from any water supply well
- 300 feet from any stream or river
- 300 feet from any wetland
- 1,000 feet from any pond or lake
- Be covered immediately with enough soil to keep scavengers out (BAH guidelines: 3 feet is sufficient)
- Avoid sandy or gravelly soil types
- Where separation distances or cover are not feasible, BAH will consult with MPCA who will be authorized to suggest alternate burial or setback conditions reasonably protective of surface and groundwater.

Also, carcass burial sites shall not be located within any property containing the following:

- Karst features
- Sinkholes
- Disappearing streams
- Caves

Alternative methods

Alternative methods of mortality disposal including but not limited to, pet food processing, fur farm consumption, lactic fermentation, extrusion, and experimental composting, require a permit from the Minnesota Board of Animal Health. For more information on alternative methods of carcass disposal, contact the Board of Animal Health at 651-296-2942.

For more information

Contact your county feedlot officer (www.pca.state.mn.us/water/county-feedlot-program), or MPCA staff at regional offices (www.pca.state.mn.us/water/mpca-feedlot-staff-contacts), or access the following webpages:

- Minnesota Pollution Control Agency: www.pca.state.mn.us/waste/managing-waste
- Minnesota Board of Animal Health: <https://www.bah.state.mn.us/emergency-carcass-resources/>
- U of M Swine Extension: What to do if your packing plant is closed: <https://blog-swine.extension.umn.edu/2020/04/what-to-do-if-your-pork-packing-plant.html>
- Carcass disposal rule: www.revisor.mn.gov/rules/1721/full#rule.1721.0690
- Carcass disposal statute: www.revisor.mn.gov/statutes/cite/35/full#stat.35.815
- U.S. EPA-Agriculture and carcass disposal: www.epa.gov/agriculture/agriculture-and-carcass-disposal