

DEAD ANIMAL DISPOSAL

General Overview

Composting

Incineration

Burial

Rendering

Alternative Methods

The Board of Animal Health investigates complaints from the public concerning the disposal of dead livestock. Agricultural Regulatory Specialists visit the premises to ensure disposal of carcasses complies with Board of Animal Health rules.

BEST MANAGEMENT PRACTICES - CARCASS DISPOSAL

GENERAL OVERVIEW: There are always losses (mortality) in animal production.

Proper disposal of carcasses is important both to prevent livestock disease transmission, and to protect air and water quality. This document provides options for disposal with associated advantages, disadvantages and rule requirements.

Carcass Disposal is Regulated by: *

[Minnesota Statutes 35.82](#)

[Minnesota Board of Animal Health Rules - 1719.0100 - 1719.4600](#)

Minnesota Pollution Control Agency Rules

Minnesota Department of Natural Resources Rules

*** These are summarized in the following Best Management Practices.**

LEGAL METHODS OF DISPOSAL (As of January 1996)

METHOD

SPECIES	BURY	INCINERATE	RENDER	COMPOST	EXEMPT BY LAW	FUR FARM CONSUMPTION	PET FOOD
Poultry	o	o	o	o		o	o
Swine	o	o	o	o		o	o
Cattle	o	o	o			o	o
Horses	o	o	o			o	o
Sheep/goats	o	o	o*	o			o
Household Pets					o		
Wild Anim.					o		
Game Farm/ Exotic Animals	o	o	o				

*** Allowed by Law, but at this time Minnesota renderers will not process sheep or goats.**

Definition of Carcass: The body or a part of a domestic animal or fowl that has died or has been killed otherwise than by being slaughtered for human or animal consumption.

Definition of Discarded Animal Parts: All or a part of animals, fish, or poultry that have been killed for human or animal consumption and not used for that purpose.

GENERAL RULE SUMMARY:

- 1. Carcass must be disposed of as soon as reasonably possible, ie; within 48-72 hours.**
- 2. Burying a carcass requires that the carcass be 5 feet above the high water level and covered with 3 feet of dirt. Sandy or gravelly areas or areas within 10 feet of bedrock should be avoided.**
- 3. Incineration must be in an incinerator that is approved by the Minnesota Pollution Control Agency.**
- 4. Hauling over the road. Carcasses or discarded animal parts must be in vehicles or containers that are leakproof and covered. The vehicles also need to be inspected and have a permit, unless the vehicle belongs to the owner of the animal before it died.**
- 5. Composting must use the protocol set forth in Board rules. These are explained on the page about composting.**
- 6. Fur farms need a permit and inspected vehicle to haul carcasses or discarded animal parts over the road.**
- 7. Each carcass used as pet food must pass an inspection by a veterinarian and must be processed under clean and sanitary conditions.**
- 8. Carcasses left at an off-site pickup point must be in an animal-proof enclosed area that is at least 200 yards from a neighbor's buildings. Carcasses must be picked up within 72 hours, except if the enclosed area is refrigerated to less than 45E F, the carcasses must be picked up within 7 days.**

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BEST MANAGEMENT PRACTICES - CARCASS DISPOSAL

C O M P O S T I N G

Composting is the process of placing carcasses in layers with a carbon source and manure to allow the natural heating process to break down the carcass and reduce its mass. As of January, 1996, composting is allowed for swine, sheep, goats and poultry.

ADVANTAGES

- + Biosecurity.
- + Year-round use.
- + Inexpensive

- + Environmentally sound.
- + Value - added product to
sell or us
- + Best and recommended
Method to handle catastrophic
losses.
- + Heat of composting process
kills pathogens and insect larvae.

DISADVANTAGES

- + May be more labor intensive.
- + Requires impervious pad,
rot resistant walls and cover
to repel rain.
- + Takes some practice to
develop the "art".
- + Requires carbon source
(straw, sawdust, cornstalks, etc)

RECOMMENDATIONS.

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! Composting is an "art" that must be practiced because of the variety in materials, weather conditions and number of carcasses. It is best to have the same person doing the composting to consistently read the pile.

DO:

- + Follow protocol as specified in Board of Animal Health rules.
 - Process mortality daily.
 - Keep carcasses covered and at least 6" from sides.
 - Take and record temperature daily (must reach 130E F).
 - Start with a base of carbon source material.
 - Put carcasses, litter and carbon source in layers.
 - Mix pile at least 1 time when the temperature starts to decline; this will generate a new heat cycle after each mixing.

DON'T:

- + Use frozen carcasses for composting.
- + Store carcasses before processing.

PUBLIC RELATIONS.

Build composter out of sight and away from neighbors. While a compost pile that is working right will have no smell and no insects, it may bother neighbors to see carcasses going into it on a daily basis. Convince your neighbors to use the finished compost for their gardens (before you tell them what is in it).

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BEST MANAGEMENT PRACTICES - CARCASS DISPOSAL

INCINERATION

Incineration is an effective but more costly method, working well as a cold weather alternative.

ADVANTAGES

- + Can use year-round.
- + Biosecurity (No trucks coming from other farms to pick up carcasses).

DISADVANTAGES

- + Incinerator cost.
- + Fuel cost - expensive.
- + Odor.
- + Very expensive for larger size carcasses.

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RECOMMENDATIONS.

- ! Place your incinerator out of sight or enclosed with a decorative screen
- .
- ! Consider the wind direction and time of the day, so as to least effect your neighbors.

DO:

- + Purchase MPCA Approved incinerator.
- + Purchase unit large enough to handle each day's mortality.
- + Properly maintain unit.
- + Incinerate mortality daily.

DON'T:

- + Accumulate carcasses for days before incinerating.
- + Incinerate when down wind neighbor is having a barbecue, etc.
- + Forget to pay your gas bill.

PUBLIC RELATIONS.

Most problems from incineration come from the odor of burning hair or feathers that interferes with a neighbor's outdoor activities.

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BEST MANAGEMENT PRACTICES - CARCASS DISPOSAL

B U R I A L

Burial requires great care in site selection because as carcasses decompose, they release materials that can pollute ground water, particularly if large volumes are buried. This practice is most suitable for small amounts of material (e.g. less than 2000 lb./burial pit/acre).

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ADVANTAGES

- + Inexpensive (if own equipment).
- + Biosecurity (No trucks coming from other farms to pick up carcasses).

DISADVANTAGES

- + Difficult in winter.
- + Can cause groundwater pollution.
- + Cannot bury where water table is within 10' of surface.

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RECOMMENDATIONS:

! Should not be used by large facilities or with catastrophic losses because the volume of carcasses may lead to groundwater pollution.

! Examine other alternatives for dead livestock disposal.

DO:

- + Cover with three feet of dirt and stay five feet above the water table.
- + Cover each day's deposits with a layer of dirt.
- + Identify sites for worker safety.
- + Bury immediately.

DON'T:

- + Place in or near lakes, ponds, rivers, streams, wetlands, ditches or wells.
- + Use as a dump for other farm garbage.

- + Bury in areas with a high seasonal water table.
- + Bury in "karst" or sandy areas.
- + Bury in areas subject to surface water flooding.

PUBLIC RELATIONS.

Problems arise when using burial pits and from burying a carcass too near to a neighbor's well. The neighbors complain about burial pits when any smell comes from the farm; they assume it is from the pit or when carcasses are not properly covered each day and dogs or wild animals drag off parts of the carcasses.

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BEST MANAGEMENT PRACTICES - CARCASS DISPOSAL

R E N D E R I N G

Rendering offers the grower the chance to create a recyclable feed product if it is submitted to the renderer with proper handling.

ADVANTAGES

- + Recyclable resources
- + Can use year-round.

DISADVANTAGES

- + Lack of biosecurity with pickup of carcasses.
- + Cost.
- + Not available in all areas.
- + Not available for all species.

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RECOMMENDATIONS.

- ! Get on an annual contract with the renderer rather than a "per call" charge.

- ! If large enough farm, get on a scheduled weekly or twice weekly pick-up route.

- ! Use "off-site" pickup points for biosecurity purposes.

- ! Consider refrigerated "off-site" pickup points.

DO:

- + Know what substances the animals were exposed to, to avoid residue problems in the rendered product.
- + Follow Board of Animal Health Rules for "off-site pickup point".
 - Must be animal-proof enclosure at least 200 yards from neighbor's buildings.
 - Carcasses may not be left for more than 72 hrs. unless refrigerated - then 7 days.
- + Be aware of potential disease spread from a rendering truck.
- + Vehicles or containers must be leakproof and covered to haul carcasses over the road. (Contracted vehicles also need a permit from the Board of Animal Health.)

DON'T:

- + Delay calling for carcass pickup.
- + Leave carcasses where other animals can drag them off.
- + Leave carcasses in public view.

PUBLIC RELATIONS.

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What upsets neighbors the most are carcasses left where other animals can drag them into their yards or where the carcasses can be seen from the road. "Off-site" pickup points are required to be animal-proof enclosures.

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BEST MANAGEMENT PRACTICES - CARCASS DISPOSAL

A L T E R N A T I V E M E T H O D S

The Board of Animal Health may permit alternative methods of carcass disposal that are effective for the protection of public health and the control of livestock diseases.

ALL ALTERNATIVE METHODS REQUIRE A PERMIT FROM THE BOARD OF ANIMAL HEALTH.

(651) 296-2942

SOME ALTERNATIVE METHODS:

1. PET FOOD PROCESSING

- Requires permit, veterinary inspection of each carcass, facilities and equipment that meet Board of Animal Health specifications.

2. FUR FARM CONSUMPTION.

- Fur farm is required to have a permit and to keep the farm in a sanitary condition.
- Permits allow only the feeding to fur bearing animals that do not re-enter the food chain.
- Owner assumes the risk of a disease or condition in the carcass that could be detrimental to the fur animals.

3. GRINDING AND INJECTING INTO THE MANURE PIT

- A permit was granted to the University of Minnesota for an experimental project.
- Field trials are being conducted in 1996.
- A disadvantage may be neighbors' perception that the smell from the manure pit is worse because of the carcasses in it.

4. LACTIC FERMENTATION.

Lactic fermentation utilizes a mixture of ground carcasses and a carbohydrate source to produce a "silage" type product for refeeding.

5. EXTRUSION.

Extrusion is a method whereby ground carcasses and a carrier such as soybean meal are cooked under pressure and moisture, generating steam and a product with 12% moisture for refeeding.

6. EMERGENCY, COMMERCIAL OR EXPERIMENTAL COMPOSTING.

- In emergency or catastrophic loss - call the Board of Animal Health for a permit and advice on composting the losses.
- Experimental composting must be in conjunction with a University and requires a permit.
- Cattle and other species may be experimentally composted if the protocol is approved.

REFERENCES FOR MORE INFORMATION:

- Extension Service - University of Minnesota

Dr. Sally Noll - (612) 624-4928

- Minnesota Board of Animal Health

(651) 296-2942

- Minnesota Pollution Control

(Feed Lot Permits) (651) 296-6300

- Minnesota Dept. of Natural Resources

(Wetlands) (651) 296-4800