



MORTALITY DISPOSAL

MORTALITY DISPOSAL ENVIRONMENTAL CONCERNS

Primary environmental concerns related to dead animal disposal are:

- ◆ death due to disease that results in disease spread
- ◆ holding or burial sites that result in surface or ground water or air pollution
- ◆ flies or rodents that results in disease transfer to people, livestock or wildlife
- ◆ attraction of predators to the site that may be undesirable for wildlife

For information on these concerns:

- ➔ see Water Quality and Quantity Factors, page 9-1, and refer to Contaminants, and to Oxygen Demand
- ➔ see Air Quality Factors, page 10-1, and refer to Odours
- ➔ see Impacts on Biodiversity and Habitat, page 11-3, and refer to Farm Activities and Impacts

MORTALITY DISPOSAL LEGISLATION

The following is a brief outline of the main legislation that applies to mortality disposal.

- ➔ see page A-1 for a summary of these and other Acts and Regulations



Drinking Water Protection Act

This Act prohibits introducing, causing or allowing anything that will result or is likely to result in a drinking water health hazard to a domestic water system.



Forest Practices Code of BC Act

This Act has conditions under the *Range Practices Regulations*:

- ◆ Section 7(4): requires dead livestock within 100 m of a watercourse in a community watershed be removed within 24 hours



Health Act

This Act has conditions under the *Sanitary Regulations*:

- ◆ Section 9: prohibits accumulation or discharge of wastes that endanger the public health
- ◆ Section 42: requires separation from wells to be at least
 - 122 m from any cemetery or dumping ground (cemetery could include buried mortalities)
- ◆ Section 43: prohibits contamination of any domestic water supply



Environmental Management Act

The *Code* has requirements for livestock mortalities:

- ◆ Section 23: outlines the requirements for burial or incineration, including
 - burial pits located at least 30 m from any source of water used for domestic purposes

- incineration emissions not exceed 180 mg per m³ of particulate matter and 20% opacity
- ◆ Section 24: outlines the requirements for composting, including
 - composting site located at least 15 m from a watercourse and at least 30 m from any source of water used for domestic purposes

The *Spill Reporting Regulation* requires spills of a polluting substance (including mortalities) be reported immediately to Provincial Emergency Program (PEP) at 1-800-663-3456 (24 hour service). Report spills of mortalities greater than 200 kg or 200 litres. Or report any amount, if the mortality spill contains organisms that are or that are reasonably believed to be infectious.



Wildlife Act

This Act makes it an offence to feed dangerous wildlife (bear, cougar, coyote, wolf).

MORTALITY DISPOSAL BENEFICIAL MANAGEMENT PRACTICES

Comply with applicable mortality disposal related legislation, including the above, and where appropriate, implement the following beneficial management practices to protect the environment.

Disposal of mortalities so as to protect surface water and ground water. For livestock of all classes and types implement the following practices:

- ◆ remove dead animals from buildings and fields as soon as possible
 - dead animals may be carriers of disease and, if not promptly removed, will attract wildlife, rodents and flies, and produce offensive odours
- ◆ dispose of dead animals in an approved manner within one day
 - where this is not possible, freeze or store in a covered container for disposal at a more convenient time
- ◆ know the cause of death of an animal in order to select an appropriate disposal option as shown in Table 3.4, next page

Do not dispose of dead animals into manure pits or onto land during manure spreading operations. If experiencing excessive death losses contact MWLAP immediately for acceptable site-specific mortality disposal options.

Livestock Mortality Disposal

Off Farm Disposal. Options for off farm ruminant mortality disposal must meet the regulatory requirements of the Canadian Food Inspection Agency and WLAP for the handling of specified risk materials (SRM).

On Farm Mortality Disposal. By following the beneficial management practices referred to on the next page for on farm disposal of any livestock species, producers should not contravene the Canadian Food Inspection Agency and WLAP regulatory requirements.

Table 3.4 Mortality Disposal Options Based on Cause of Death

Cause of Death	← Most Preferred Method			Least Preferred Method →		
	Rendering	Composting	Municipal or Private Refuse Site	Incineration	On-farm Burial	'Natural' Disposal ¹
Disease² (withdrawal time of medication not met)	✓ ³	✓ ³	✓	✓	✓ ⁴	X
Disease² (no medication, or withdrawal time met)	✓	✓	✓	✓	✓ ⁴	✓ ⁵
Poisoning	X	X	✓	✓	✓ ⁴	X
Weather (hot or cold)	✓	✓	✓	✓	✓ ⁴	✓ ⁵
Flood, Earthquake, and Forest or Building Fire	✓	✓	✓	✓	✓ ⁴	✓ ⁵
Starvation	✓	✓	✓	✓	✓ ⁴	✓ ⁵
✓ means this disposal option is recommended, subject to any foot note X means this disposal option is not recommended ¹ Natural disposal is mortalities allowed to be consumed by wildlife. → see Natural Disposal, page 3-33 ² Depends on disease: check with veterinarian ³ Depends on medication used: check with veterinarian ⁴ On-farm burial only at suitable sites. → see Livestock Mortality Disposal, page 3-30 ⁵ Only where MWLAP accepts natural disposal: not in populated areas such as Vancouver Island or Fraser Valley						

Secondary Users. In BC a few rendering plants or secondary user operations accept dead animals. For information regarding the closest operation contact your respective livestock association. Dead animals should be stored in either airtight containers or freezers until they can be delivered to a rendering plant.

Composting. Composting of smaller dead animals is commonly practised. Research has demonstrated the ability to safely compost larger livestock, if properly monitored. When composting mortalities, implement the following practices:

- ◆ follow general composting information → see Compost, page 2-26
- ◆ install moisture control options for compost piles, in high precipitation areas a roof is necessary
- ◆ use absorbent materials for the compost base and cover mortalities with a minimum of 300 mm (suggested) of litter or straw – top and sides
- ◆ space layers of small dead animals with organic matter
- ◆ larger animals may need to be cut into small pieces for efficient composting

Landfills. In some cases, approved landfills operated by municipalities, regional districts, or private owners are made available to livestock producers for the disposal of dead animals. Contact site managers prior to

delivering carcasses. Take large animal mortalities to landfills within one day of death. Small animal mortalities, such as poultry, may be stored in a frozen state in airtight containers for as long as required prior to disposal.

Incineration. Incineration of dead animals by open burning is an unacceptable practice. Generally, a single-chamber two-burner incinerator, or equivalent, is required. Single-burner incinerators are unlikely to meet the requirements in the *Code*. Where dedicated incinerators are employed for small animal disposal, implement the following practices:

- ◆ locate so that prevailing winds carry exhaust fumes away from neighbours
- ◆ be fire safe
- ◆ operate until all material is consumed
- ◆ meet emission requirements

Burying. Consider burial pits for dead animals as the least preferred method for disposal. Contact MWLAP if considering on-farm burial.

If burial pits are an only option, locate them at least 30 m from any source of water used for domestic purpose (*Code*), and 30.5 m from a well (*Health Act*). Stagger burial sites throughout a property, not crowded together, and cover with earth; approximately 1 m (suggested) the day they are buried. Alternatives to on-farm burial will likely be necessary during the winter season in cold climates.

Place no more than 700 kg of mortalities per hectare per year in a single burial pit. This will ensure the nitrogen loading of the soil is limited to less than 50 kg of nitrogen per hectare per year. Locate only where ground water levels are well below pit bottom and where soil type permits good aeration. Do not dig pits on floodplains or in low-lying areas prone to seepage.

Natural Disposal. Only use natural wildlife consumption of mortalities in appropriate areas of the province and in locations remote from neighbours. Using carcasses to bait predators such as bears for kill may only be permitted under MWLAP supervision. It is an offence under the *Wildlife Act* to feed dangerous wildlife (bear, cougar, coyote and wolf).

Mass Mortality Contingency Plan

Develop a contingency plan for mass mortalities. The plan should provide a timely and effective response to any emergencies involving the unexpected impact to the environment, from:

- ◆ unusually high numbers of mortalities, resulting from disease, vandalism, loss of electrical power, etc
- ◆ accidental spills, such as when transporting, storing, applying or dispensing due to equipment failures, etc.
- ◆ impacts due to building fires or natural events, such as forest fires, floods, or earthquakes
- ◆ impacts due to vandalism, such as poisonings