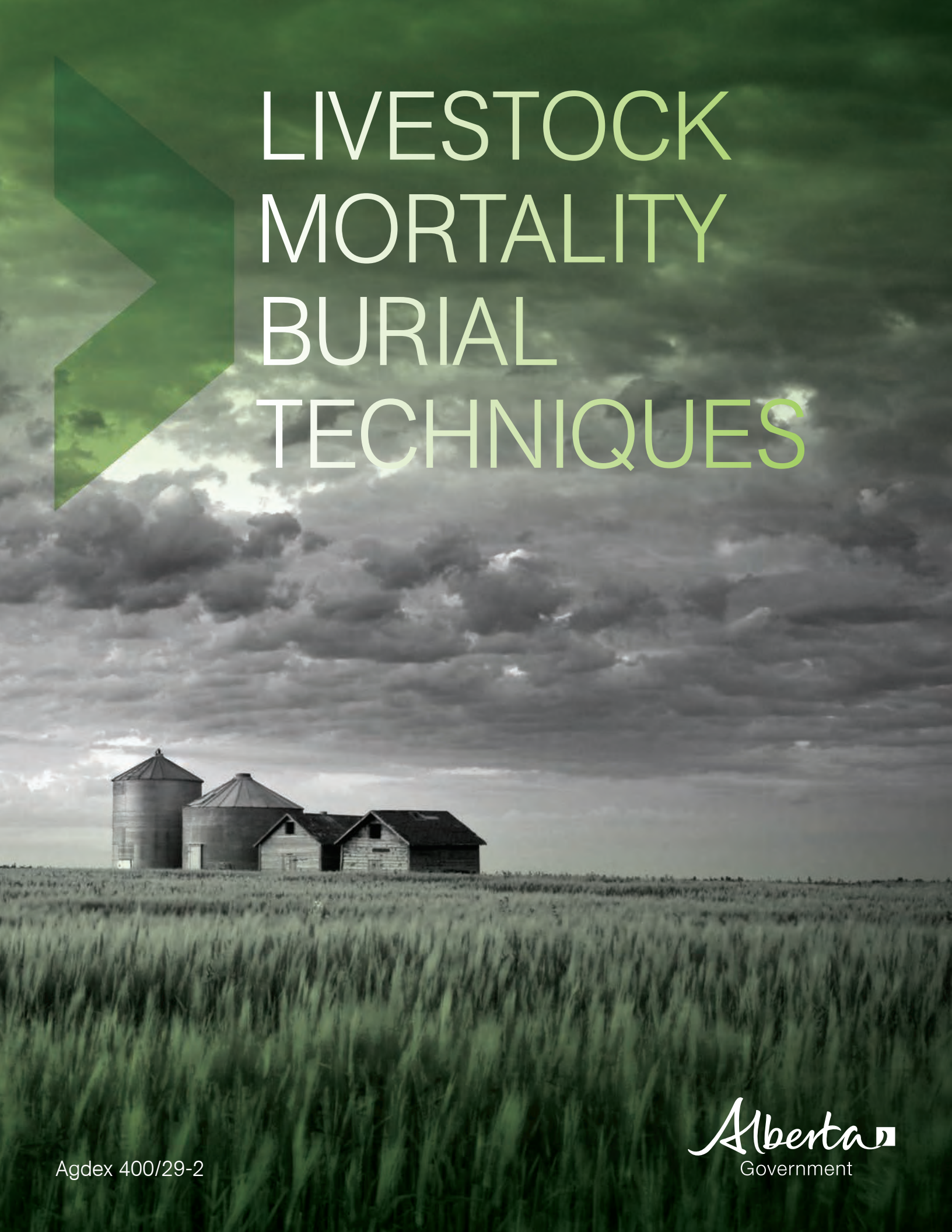
LIVESTOCK MORTALITY BURIAL TECHNIQUES



Agdex 400/29-2

Alberta Government

LIVESTOCK MORTALITY burial techniques

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mortality disposal

Mortalities happen. Under Alberta's Destruction and Disposal of Dead Animals Regulation of the *Animal Health Act*, Appendix A, the owner of a dead animal shall dispose of the animal within 7 days of its death. Mortalities can be composted, incinerated, buried, rendered or naturally disposed. Today, animal agriculture is challenged to discover innovative ways to dispose of livestock and poultry mortalities. Burial of livestock mortalities is one option.

The environmental considerations for improper disposal include:

- Odour – decomposition of organic matter, particularly the anaerobic (lacking oxygen) breakdown of proteins by bacteria, will produce a foul odour.
- Scavengers – ravens, magpies, coyotes, etc. and insects can transmit disease and are a nuisance.
- Pathogens – disease-causing spores may still be viable.
- Excess Nutrients – concentrated source of nitrogen.
- Nuisance – visible carcasses and bones fuel social issues and can puncture tires.

Burial of livestock and poultry mortalities on the farm where they were produced is one option. The booklet does not cover all burial requirements. For this information, refer to the regulation, Appendix A.

This protocol is not appropriate for disposal of mass mortalities.

Emergency Carcass Disposal

- Accidents and natural disasters can result in mass mortalities.
- Contact your Municipal District or County for emergency carcass disposal assistance.
- The Destruction and Disposal of Dead Animals Regulation allows more than 2500 kg (5500 lbs) of dead animals to be buried in a single on-farm burial pit under the direction of the Chief Provincial Veterinarian or a veterinary inspector.

How Burial Works

Decomposition of buried deadstock is a slow process and works best if the mortalities are mixed with soil and buried in well-drained, warm soils with aerobic (oxygen present) conditions.

In good conditions, decomposition occurs in a few months especially in the upper layers of the soil. However, under poor conditions decomposition can take years, especially if deadstock are packed together in wet soil and buried deep where soil temperatures are cool.

potential environmental and biosecurity risk

POTENTIAL RISK

lowest risk

- Compost in a properly managed system or burn in an approved incinerator on the farm.
- Bury in appropriate soils or store frozen for spring burial or rendering plant pick-up (Refer to Livestock Mortality Burial Techniques, Agdex 400/29 – 2).
- Partially buried or carcass left outside for scavengers or to decay.

highest risk

water contamination concerns

Groundwater Contamination Concerns

As the mortalities break down, the components that are soluble such as nitrates and chlorides (possibly bacteria) can be leached into the groundwater.

Soil properties that impact the leaching potential include soil organic matter content, soil texture and soil structure.

Organic matter and clay content together control the soil's ability to bind and hold compounds that are moving through the soil in the water. Soils low in organic matter and/or clay content have a lower ability to bind and trap compounds and are therefore a higher risk for groundwater contamination.

Soil texture refers to the proportions of sand, silt and clay in a soil. Coarse-textured sandy and gravelly soils have the largest pores and the most rapid permeability. Fine-textured clayey soils have very tiny pores and very slow permeability rates. Medium-textured loams, silt loams and clay loams have intermediate rates of soil permeability.

Soil structure can have an impact on water infiltration. Soils with dense, compact or cemented soil layers have very slow rates of permeability. Permeability rates are given in millimetres per hour. Typical rates are 0.25 mm/hr (0.01 in/hr) for compact clay, 12.7 mm/hr (0.5 in/hr) for a loam with good structure and 380 mm/hr (15 in/hr) for loamy sand.

The zone above the groundwater table (vadose zone) up to the soil surface is effective in binding and destroying some biological contaminants. The thickness and therefore the effectiveness of this zone depend on the height and duration of the groundwater table in the soil. Shallow water tables that persist for long periods increase the risk of groundwater contamination. Well-drained soils are much less sensitive than poorly drained soils which may have water tables at or near the surface for several months of the year.

Note: Shallow bedrock depth may also be a concern in a few areas of the province. Open fractures in bedrock permit rapid movement of contaminated water with minimal filtration or treatment.

The third factor that impacts a soil's risk for groundwater contamination is the amount of rainfall or snow. No matter how permeable the soil, the leaching potential remains low if there is insufficient water to move compounds through the soil.

Where rainfall exceeds both plant consumptive use and the soil's ability to store water, leaching occurs. Water moving below the root zone ultimately reaches groundwater, carrying with it soluble soil constituents.

The landscape also influences the impact of moisture. Soils near hilltops often shed water, either by runoff or lateral flow within the soil. Soils lower on the hillside and where the slope begins to flatten out are more susceptible to leaching from the added moisture loading.

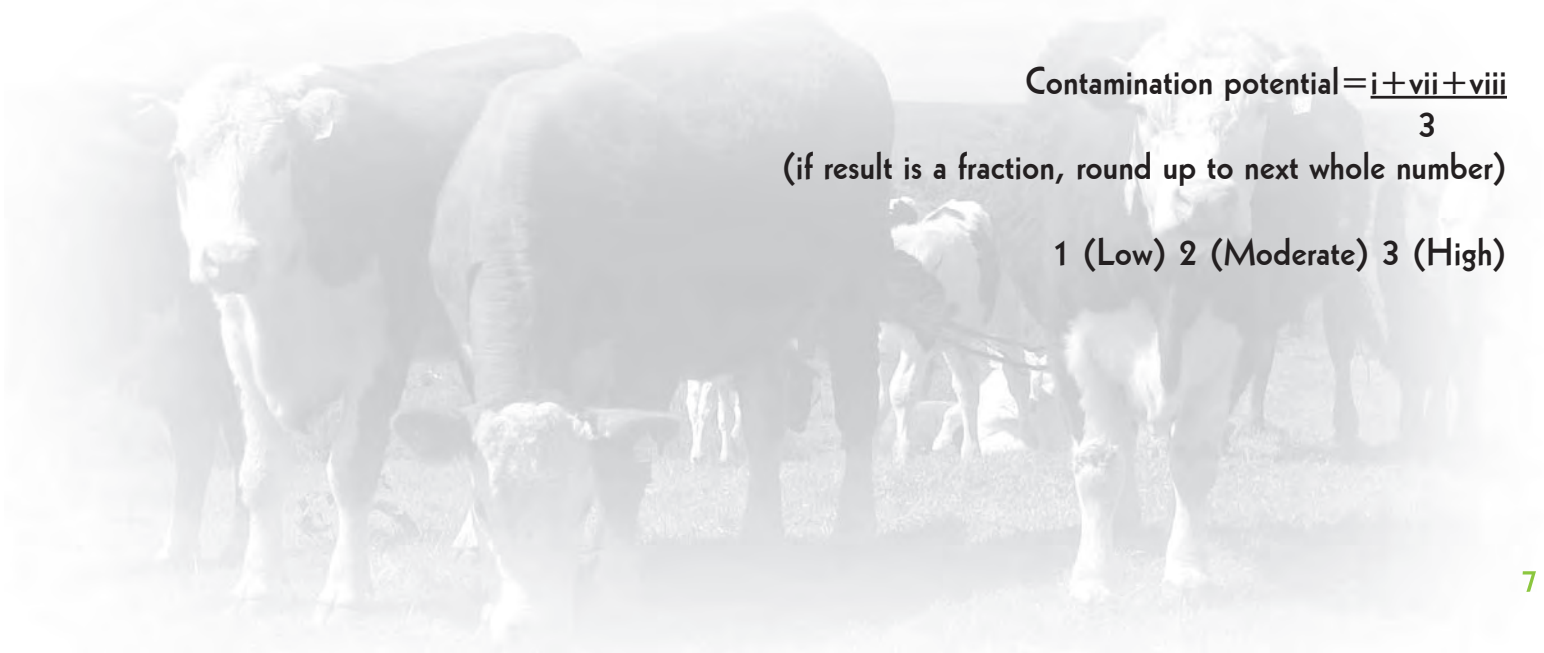
The combined effects of leaching potential, binding potential and moisture accumulation determine a soil's risk with respect to groundwater vulnerability. The highest risk soil to groundwater contamination is a sandy soil that is exposed to very high water accumulation. Soil with the lowest level of risk to groundwater contamination is fine textured and experiences very low rain or snow fall accumulations.

Alberta's Environmental Farm Plan (AEFP) provides a method for determining the potential for groundwater contamination. It suggests how to determine if the groundwater contamination potential is low, moderate or high.

For the purposes of this booklet, Table 1 can be used to determine which groundwater contamination category a burial site falls into. The Alberta Destruction and Disposal of Dead Animals Regulation specifies for burial that the bottom of the pit must be at least 1 m (3.3 ft) above the seasonal high water table.

Table 1. Simplified method of determining groundwater contamination potential

Soil Group (Rating i)	Sub Surface Soil Texture (Rating vii)	Depth of Aquifer (Rating viii)
Brown (2)	Bedrock or Coarse Textured Soils (4)	<8 m (30 ft) (4)
Dark Brown (3)	Medium Textured Soils (3)	8-30 m (30-100 ft) (4)
Black (4)	Fine Textured Soils (3)	30-60 m (100-200 ft) (2)
Grey (4)		>60 m (200 ft) (1)



Contamination potential $= \frac{i + vii + viii}{3}$

(if result is a fraction, round up to next whole number)

1 (Low) 2 (Moderate) 3 (High)

you dig!

1-800-242-3447

Request the location of your utilities marked.

Notify 2 full working days ahead.

Provide the dig area information, type of work, date of work to start.

It's easy and no charge to you.

Surface Water Contamination Concerns

Improper burial of mortalities can also result in surface water contamination. This can affect the water quality draining into watercourses, catch basins and ponds. Some land has a higher potential for surface water contamination because of the topography and soil type.

Hilly land is of more concern than flat land since it promotes more rapid surface water run-off during spring run-off or heavy rainfall.

Clays with higher clay content, often referred to as heavier soils, promote more rapid run-off than lighter soils such as sand.

The best soil condition to reduce groundwater contamination is a fine-grained, heavy soil like clay. Unfortunately, fine-grained, heavy soils can promote rapid runoff that can contribute to surface water contamination. This paradox complicates the choice for an ideal burial site.

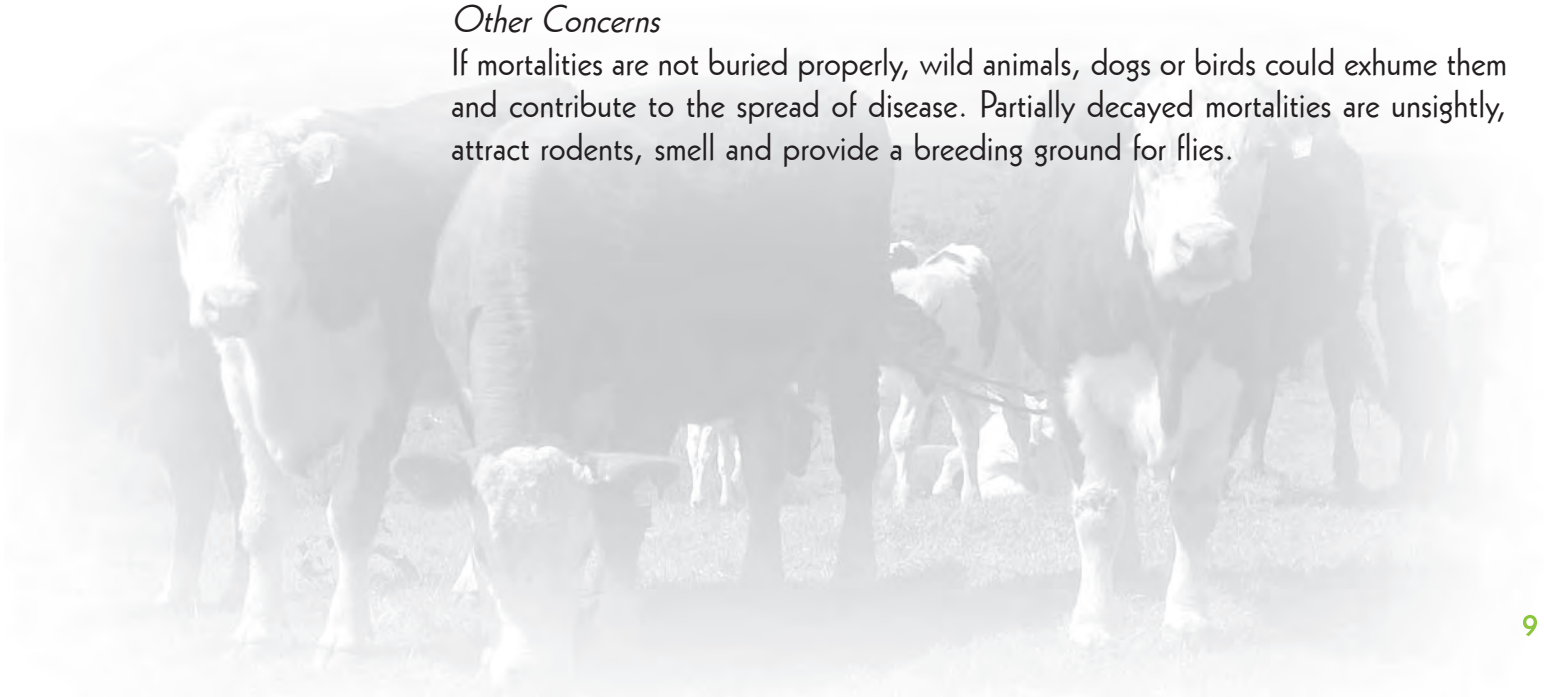
How Suitable is your Land for Burial of Mortalities?

To check the suitability of a site for burying mortalities, consult soil and topographic maps and dig test holes in the area to see how close the groundwater is to the soil surface. Dig test holes in early spring when the groundwater is normally at its highest. Before test holes are dug, underground utilities should be located (call Alberta One-Call 1-800-242-3447). Soil auger probes (50 mm (2 in.) diameter) are available in extendable lengths for simple depth investigations up to 3 m (10 ft).

Mortalities should not be buried on hilly land as the soil covering the mortalities could wash out during rainstorms leading to surface water contamination. Keep burial sites on relatively flat land with a slope of less than 2% (2 m (6.6 ft) drop for every 100 m (328 ft)).

Other Concerns

If mortalities are not buried properly, wild animals, dogs or birds could exhume them and contribute to the spread of disease. Partially decayed mortalities are unsightly, attract rodents, smell and provide a breeding ground for flies.



No one should ever get into a pit/hole since unstable side slopes could collapse!

Burying mortalities during cold weather when the ground is frozen is very difficult, both from the aspect of excavating frozen ground and from trying to cover the mortalities with frozen soil. During the winter, some species such as beef, swine, dairy, bison, horses and poultry can be picked up by rendering companies. Other species such as sheep, goats, alpaca, elk and deer must be kept frozen in a secured area until they can be buried in the spring.

Selecting the Right Site

Locating the burial site in the right place is critical for good carcass decomposition and protection of the environment. **Minimum** setback requirements under the Destruction and Disposal of Dead Animal Regulation are identified in Table 2. **Recommended** setback distances to water wells, Table 3, are based on AEFP methods for determining groundwater contamination potential. For burial sites located on flat land (less than 2% slope), the setback distances to open-top catch basins and ponds used for watering livestock should be 100 m (328 ft).

Table 2. Minimum setback requirements (<2500 kg/site)

Feature	Setback
Wells, domestic water intakes, streams, creeks, ponds, springs, rivers, irrigation canals, dugouts, highwater marks of lakes	100 m (328 ft)
Edge of coulee, or embankment	25 m (82 ft)
Residences	100 m (328 ft)
Boundary of any land owned or leased by another person unless written consent to the site being closer to the boundary	100 m (328 ft)
Provincial highway	300 m (984 ft)

Table 3. Recommended setback distances between burial sites and wells

Groundwater Contamination Potential	Drilled or Dug Wells
1 High	N/A
2 Moderate	150 m (492 ft)
3 Low	100 m (328 ft)

Using a Tractor-Mounted Posthole Auger

Tractor-mounted posthole augers are available in several diameters. The smallest hole diameter to consider for mortality purposes is 0.3 m (1 ft). Anything smaller would not fit a 25 kg (55 lbs) mortality without difficulty. For farmers with many mortalities to bury, a tractor-mounted auger with bore diameters up to 0.6 m (2 ft) is necessary. Cover mortalities between burial intervals with at least 0.15 m (6 in) of soil, use a secured plywood cap and flag the hole to provide warning. A hole 1.2 m (4 ft) deep and 0.3 m (1 ft) in diameter can hold up to 50 kg (110 lbs) of mortalities. A few holes could be dug at once then used as required provided they were suitably covered, secured and marked with warning flags.

Digging Safety

The Destruction and Disposal of Dead Animal Regulation specifies a maximum of 2500 kg (5500 lbs) total deadstock per burial pit. Due to this limitation, very large or deep pits are not necessary. Limiting the depth of burial pits to 1.2 m (4 ft) places deadstock in the biologically active part of the soil, protects groundwater and avoids the dangers of deep trenches.

Injuries and deaths resulting from trench and pit wall collapse are common and completely preventable.

Once soil is removed from a pit, it is no longer available to provide support for the soil left behind in the pit. Without support, soil from the pit wall eventually moves downward and inward into the excavation. This creates a serious life-threatening hazard for workers in a pit.

Occupational Health and Safety states that an excavation more than 1.5 m (5 ft) deep requires protection from cave-ins or sliding by shoring or cutting back the walls.

Spoil piles must be more than 1 m (3.3 ft) away from the edge of the pit and the slope of the pile cannot exceed 45 degrees from the horizontal. Factors that may cause pit cave-ins include soil type, increased moisture content and large heavy equipment movement near the pit causing vibrations resulting in soil fracture.

Type of Pits/Holes

Two methods for digging a pit are using a backhoe (for larger pits) or a tractor-mounted posthole auger (for smaller pits).

Using a Backhoe

A contractor can be hired to dig a deep, narrow pit (generally one or two hoe widths wide). Pits should not be more than about 1.2 m (4 ft) deep, 4.3 m (14 ft) long and 1.0 m (3 ft) wide. The size of the hole required may vary with species type but generally 0.22 m^3/100 kg (3.5 ft^3/100 lbs) of mortality is adequate.

Placing Deadstock in Burial Pits

Plan carefully how to place carcasses in the pit. Do not drop them from a tractor front-end loader unless your front wheels are well back from the pit. Push large, heavy carcasses such as cows into the pit from the side. Always stay as far away as possible from the pit with the tractor.

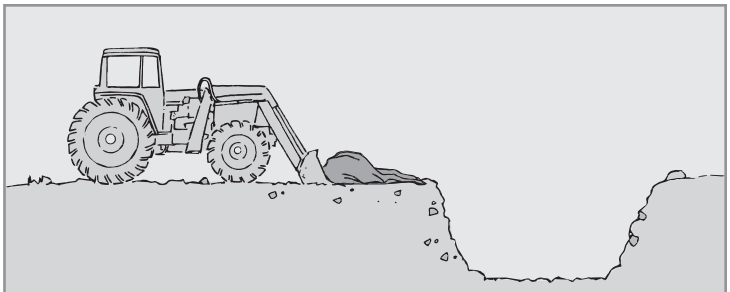


*Image courtesy of Ontario Ministry of Agriculture, Food and Rural Affairs

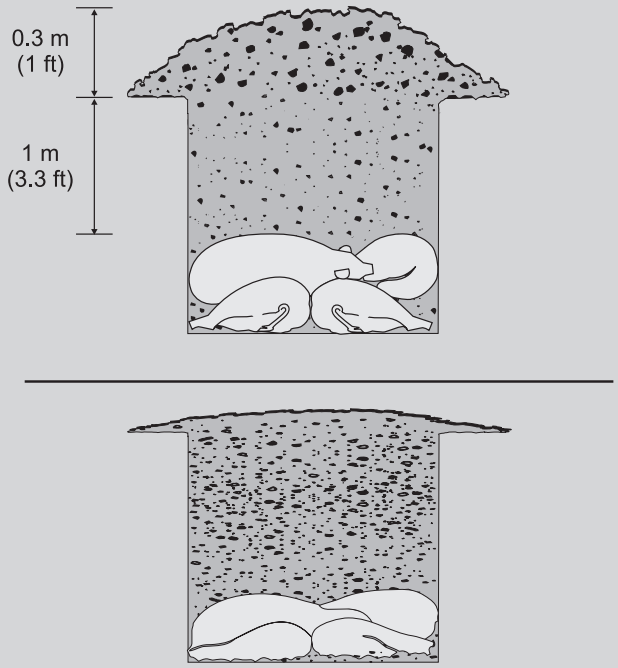


*Image courtesy of Ontario Ministry of Agriculture, Food and Rural Affairs

Covering Deadstock

Place as much soil as possible on deadstock to encourage quick decomposition. Reduce the chance of cave-ins by pushing the soil rather than dumping it in. Lightly compact the soil using a front-end loader or backhoe bucket. Do not drive over the pit. Mark the area with a flag for a period of time so you can find the location again and monitor it for scavenger problems, uneven settling or leaching.

There are two methods of covering mortalities. They can be immediately covered with a minimum of 1 m (3.3 ft) of compacted soil which includes 0.3 m (1 ft) of soil crowned up over the hole or pit. This mounding helps prevent scavenging animals from digging up the mortalities, allows the soil to settle and helps shed surface water.

An alternative method for covering mortalities uses 0.15 m (6 in) of soil between burial intervals with the addition of 0.5 kg (1 lbs) of quicklime for every 10 kg (22 lbs) of mortalities for controlling odour and flies. The pit is then capped with a metal or wooden lid and secured on the top edges with soil. The lid is removed and replaced every time mortalities are added. Install a bright flag warning of the pit location as it could be hazardous to wildlife, domestic animals, farm equipment, hunters, all terrain vehicles and children.

Record Keeping

A record should be kept of the burial sites to avoid digging again too soon in the same location. Important information to record for each site is:

- Exact location in relation to some fixed point or GPS coordinates.
- Date of burial.
- Type and size of animal mortalities.
- Reason for death.
- Approximate total weight of mortalities.

An aerial photo of the farm might be helpful in record keeping since the burial location could be drawn on it.

caution

If an animal is known or suspected to have died from an infectious or reportable disease, the owner must report this to authorities and dispose of the animal in the manner they recommend. For an animal that has been euthanized, owners need to prevent scavengers from gaining access to the dead animal. These animals cannot be disposed of by natural disposal.

Disease Deaths

Anyone who knows or ought to know that a reportable or notifiable disease is or may be present in an animal MUST report that fact to the Office of the Chief Provincial Veterinarian within 24 hours by calling 1-800-524-0051.

SRM Alert – Cattle Carcass Disposal (Canadian Food Inspection Agency 2009)

In 2007, the Canadian Food Inspection Agency's (CFIA) enhanced feed ban was enacted to control the handling, transporting and disposal of specified risk material (SRM). SRM includes the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older and the distal ileum (portion of the small intestine) of all cattle. Under the regulations, a permit is required to receive, remove from any premises, use, convey (other than from one area to another on the same premises), treat, store, export, sell, distribute, confine or destroy SRM in any form, including bovine deadstock from which SRM has not been removed. The location receiving the SRM must have a separate permit.

The Health of Animals Regulations allows for cattle producers to dispose of SRM on the premises where the animal was found dead without the need for a CFIA permit. The CFIA has defined "site" as being contiguous properties whether or not there is a public access or right of way which traverses the properties. Therefore, a permit is needed to move SRM from one property to another if travelling on public land (road) even if the sites are both owned by the same person.

A farmer may obtain an annual CFIA permit to transport SRM to this non-contiguous site. However, the receiving site requires an annual permit to receive the SRM and needs to meet defined minimal requirements as outlined on the permit.

The SRM permit application form is available online at www.inspection.gc.ca/bse. It should be completed and submitted to the nearest CFIA district office. If the situation is time-sensitive or occurs outside of normal business hours, call 1-800-442-2342 to request an emergency SRM permit. You will be directed to a CFIA inspector on-call who will request the following information:

- The transporter's name, address, phone number, e-mail address.
- A description of the conveyance used to transport the SRM (license plate of truck or description of tarp/bucket).
- The SRM permit number of the site that will be receiving the SRM (unless it is the farm of origin of an animal dying in transit).
- The number of carcasses and approximate weight of SRM being transported.
- CCIA or ATQ tag number(s).

The inspector will provide a permit number which will be valid for 48 hours or less. An actual copy of the SRM permit will be provided during an ensuing inspection.

CFIA's SRM permits to transport, accept and dispose of SRM are free. For more information, visit www.inspection.gc.ca/bse, call 1-800-442-2342 or visit your local CFIA office.

appendix A act and regulation

In this Regulation,

(a) "Act" means the *Animal Health Act*;

(b) "composting", in respect of a dead animal, means a managed process for aerobic decomposition of the dead animal;

(c) "dead animal" means

(i) all or part of an animal that has died from a cause other than having been slaughtered or killed for

(A) human or animal consumption, or

(B) an animal product or animal by-product,

(ii) inedible offal, condemned material or waste material from an animal that was slaughtered or killed for

(A) animal consumption, or

(B) an animal product or animal by-product,and

(iii) inedible offal, condemned material or waste material from an animal processed at a meat facility;

(d) "meat facility" means

(i) a meat facility within the meaning of the *Meat Inspection Act*, and

(ii) an establishment within the meaning of the *Meat Inspection Act* (Canada) in which animals are slaughtered;

(e) "rendering plant" means a rendering plant within the meaning of the *Health of Animals Act* (Canada).

Application

2 (1) This Regulation does not apply to wildlife as defined in the *Wildlife Act* or controlled animals as defined in the *Wildlife Act*, except

(a) wildlife or controlled animals possessed by a person who is or was the holder of a zoo permit under the *Wildlife Act* relating to the wildlife or controlled animals,

(b) wildlife possessed by a person who is or was the holder of a game bird farm permit under the *Wildlife Act* relating to the wildlife,

(c) wildlife possessed by a person who is or was the holder of a temporary shelter permit under the *Wildlife Act* relating to the wildlife,

(d) fur-bearing animals held by a person who is or was the holder of a licence under the *Fur Farms Act* relating to the fur-bearing animals,

(e) wildlife or controlled animals possessed by a non-resident or non-resident alien who is or was the holder of an import permit under the *Wildlife Act* relating to the wildlife or controlled animals, and

(f) wildlife processed at a meat facility.

(2) For greater certainty, nothing in this Regulation affects the operation of any other law, including, without limitation,

(a) any law that requires an approval, consent, permit, licence or other authorization or document to be obtained for an activity relating to the disposal of a dead animal, or

(b) any law that relates to a method of disposal, including without limitation, any law prohibiting or regulating the setting of fires.

DISPOSAL OF DEAD ANIMALS

Owner's duties

3(1) The owner of a dead animal shall dispose of the dead animal in accordance with this Regulation.

(2) In storing or disposing of a dead animal, the owner of the dead animal shall ensure that

(a) the odours generated by the dead animal are minimized,

(b) any run-on or run-off water at the site where the dead animal is located is minimized,

(c) the risk of the spread of disease is minimized, and

(d) the dead animal does not create a nuisance.

(3) The owner of a dead animal shall dispose of the dead animal within 7 days unless the owner stores the dead animal

(a) outside during winter months when the ambient temperature is low enough to keep the dead animal completely frozen,

(b) in a freezer unit, or

(c) in accordance with the directions of the chief provincial veterinarian, an inspector appointed under section 6(2) of the Act or a veterinary inspector appointed under the *Health of Animals Act* (Canada).

(4) The owner of a dead animal shall comply with any direction of an inspector directing the owner to dispose of the dead animal.

(5) The owner of an animal that is euthanized with drugs or other chemical substances shall take steps to prevent scavengers from gaining access to the animal beginning at the time the drugs or other chemical substances are administered until the final disposal of the dead animal.

Disposal by meat facility

4 Subject to section 6 and the terms of any order made under section 18, an owner or operator of a meat facility shall dispose of a dead animal by a method

(a) set out in section 7, 9(b), 10 or 13,

(b) referred to in section 15 that is approved for use by owners or operators of meat facilities under section 16, or

(c) authorized by the chief provincial veterinarian.

Conditions respecting use of disposal methods

5 An owner of a dead animal shall not dispose of a dead animal using a method referred to in section 8, 9(a), 11 or 14 unless

(a) the owner had custody or care and control of the animal immediately before the animal's death, and

(b) the owner is an owner of the land or premises

Diseased animals

6(1) If a dead animal is known or suspected to have had a disease that is reportable under the Act but is not reportable under the *Health of Animals Act* (Canada), the owner of the dead animal shall dispose of the dead animal by a method provided for in this Regulation as directed by the chief provincial veterinarian or an inspector appointed under section 6(2) of the Act.

(2) If a dead animal is known or suspected to have had a disease that is not reportable under the Act but is reportable under the *Health of Animals Act* (Canada), the owner of the dead animal shall dispose of the dead animal by a method provided for in this Regulation as directed by a veterinary inspector appointed under the *Health of Animals Act* (Canada).

(3) If a dead animal is known or suspected to have had a disease that is reportable under the Act and under the *Health of Animals Act* (Canada), the owner of the dead animal shall dispose of the dead animal by a method provided for in this Regulation as directed by

(a) the chief provincial veterinarian or an inspector appointed under section 6(2) of the Act, or

(b) a veterinary inspector appointed under the *Health of Animals Act* (Canada).

Disposal in landfill

7 Subject to section 6 and the terms of any order made under section 18, a dead animal may be disposed of in a Class I or Class II landfill as defined in the Waste Control Regulation (AR 192/96).

Burial

8(1) In this section, "provincial highway" means a provincial highway as defined in the Highways *Development and Protection Act*, but does not include a proposed highway.

(2) Subject to section 6 and the terms of any order made under section 18, a dead animal may be buried in a farm burial pit in accordance with subsections (3) to (6).

(3) A dead animal may be buried in a farm burial pit only if the bottom of the pit is at least one metre above the seasonal high-water table.

(4) One or more dead animals may be buried in a farm burial pit if

(a) the total weight of the dead animals buried in the pit doesnot exceed 2500 kg, and

(b) the pit

(i) is at least 100 m from any well or other domestic water intake, stream, creek, pond, spring, river, irrigation canal, dugout or other water source and the high-water mark of any lake,

(ii) is at least 25 m from the edge of any coulee or embankment,

(iii) is at least 10 m from any other farm burial pit,

(iv) is at least 100 m from any residence,

(v) is at least 100 m from the boundary of any land owned or leased by a person other than the owner of the dead animal, unless the owner or leaseholder of the land has consented in writing to the pit being located closer to the boundary,

(vi) is at least 300 m from any provincial highway, and

(vii) is covered with

(A) a minimum of one metre of compacted soil, if no additional dead animals are to be buried in the pit, or

(B) a wooden or metal lid that is designed to exclude scavengers and quicklime is applied to the dead animal or animals in sufficient quantities to control flies and odour, if the weight limit established by clause (a) has not been reached and the owner intends to bury additional dead animals in the farm burial pit.

(5) For the purposes of subsection (4)(a), the total weight of dead animals is determined by adding the weight at the time of burial of each dead animal buried in the pit to the weight at the time of burial of each dead animal previously buried in the pit.

(6) One or more dead animals may be buried in a farm burial pit if

(a) the total weight of the dead animals buried in the pit does not exceed 100 kg, and

(b) the pit

(i) is at least 50 m from any well or other domestic water intake, stream, creek, pond, spring, river, irrigation canal or other water source and the high-water mark of any lake,

(ii) is at least 25 m from the edge of any coulee or embankment,

(iii) is at least 100 m from any residence situated on land owned or leased by a person other than the owner of the dead animal,

(iv) is at least 3 m from any other farm burial pit,

(v) is covered with a minimum of one metre of compacted soil, and

(vi) has not been used for the burial of a dead animal during the previous 5-year period.

(7) If authorized in writing by the chief provincial veterinarian or an inspector appointed under section 6(2) of the Act, one or more dead animals exceeding 2500 kg in total weight may be buried in a farm burial pit in accordance with any directions provided in the authorization.

Burning

9 Subject to section 6 and the terms of any order made under section 18, a dead animal may be burned in accordance with the applicable provisions in the *Environmental Protection and Enhancement Act* and in the regulations or codes of practice under that Act relating to the burning

(a) in an open fire, or

(b) in an incinerator.

Composting in compost facility

10 Subject to section 6 and the terms of any order made under section 18, a dead animal may be disposed of by composting in a Class I compost facility as defined in the Waste Control Regulation (AR 192/96).

Farm composting

11(1) Subject to section 6, and the terms of any order made under section 18, a dead animal may be disposed of by composting

(a) in an outdoor farm open compost pile

(i) that is

(A) at least 100 m from any well or other domestic water intake, stream, creek, pond, spring, river,irrigation canal, dugout or other water source and the high-water mark of any lake,

(B) at least 25 m from the edge of any coulee orembankment, and

(C) at least 100 m from any residence,

(ii) that is designed in a manner that will exclude scavengers,

(iii) that is at least 100 m from the boundary of any land owned or leased by a person other than the owner of the dead animal, unless the owner or leaseholder of the land has consented in writing to the outdoor farm open compost pile being located closer to the boundary,

(iv) that is at least 300 m from any provincial highway, and

(v) in which the dead animal or animals are covered with at least 60 cm of composting material, or

(b) in an indoor farm open compost pile that is located in a building that has

(i) an impervious floor, and

(ii) adequate drainage control to prevent the contamination of surface water or groundwater from the compost effluent.

(2) Where one or more dead animals are composted in an outdoor or indoor farm open compost pile,

(a) the volume of the dead animal or animals in the compost pile must not exceed 25% of the total volume of the compost pile, and

(b) material may not be removed from the compost pile until the dead animal or animals are composted to the extent that

(i) the generation of odours by the compost is minimized,

(ii) the compost will not contaminate surface water or groundwater,

(iii) the compost will not attract vectors of disease, and

(iv) the use of the compost will not cause or contribute to the spread of disease, cause scavenging or create a nuisance.

Food for other animals

12(1) Subject to section 6 and the terms of any order made under section 18, the owner of a dead animal may dispose of the dead animal by feeding it or allowing another person to feed it to an animal if the owner of the dead animal

(a) knows that the dead animal

(i) did not have an infectious or contagious disease or a disease that is notifiable under the Act or reportable under the Act or the *Health of Animals Act* (Canada), and

(ii) was not euthanized with drugs or other chemical substances,and

(b) provides a written certificate to the owner of the animal to which the dead animal is being fed confirming that the dead animal did not have a disease referred to in clause (a) and was not euthanized as referred to in clause (a), where the dead animal is being fed to an animal that is not owned by the owner of the dead animal.

(2) No person shall feed a dead animal to a production animal as defined in the Authorized Medicine Sales Regulation if the feeding of the dead animal to the production animal would contravene the *Health of Animals Act* (Canada) or the regulations under that Act.

Rendering

13 Subject to section 6 and the terms of any order made under section 18, a dead animal may be disposed of by rendering at a rendering plant operated under a permit issued under the *Health of Animals Act* (Canada).

Natural disposal

14(1) In this section, "natural disposal", in respect of a dead animal, means disposing of the dead animal in a manner that allows for scavenging.

(2) Subject to section 6 and the terms of any order made under section 18, a dead animal, other than inedible offal or condemned material, may be disposed of by natural disposal if

(a) the animal is not known or suspected to have had an infectious or contagious disease or a disease that is notifiable under the Act or reportable under the Act or the *Health of Animals Act* (Canada),

(b) the dead animal was not euthanized with drugs or other chemical substances,

(c) the total weight of the animals being disposed of at one site does not exceed 1000 kg,

(d) there is a distance of at least 500 m between disposal sites, and

(e) the dead animal is disposed of at a disposal site that

(i) is on property that is owned or leased by the owner of the dead animal and at least 100 m from the boundary of land owned or leased by a person other than the owner of the dead animal, unless the owner or leaseholder of the land has consented in writing to the disposal site being located closer to the boundary,

(ii) is at least 500 m from any well or other domestic water intake, stream, creek, pond, spring, river irrigation canal, dugout or other water source and the high-water mark of any lake,

(iii) is at least 25 m from the edge of any coulee or embankment,

(iv) is at least 400 m from any livestock facility, including a pasture, situated on land owned or leased by a person other than the owner of the dead animal,

(v) is at least 400 m from any residence,

(vi) is at least 400 m from any road, and

(vii) is at least 400 m from any

(A) park or recreation area as those terms are defined in the *Provincial Parks Act*,

(B) wilderness area, ecological reserve, natural area or heritage rangeland as those terms are defined in the Wilderness Areas, Ecological Reserves, Natural Areas and *Heritage Rangelands Act*, or

(C) any other land intended for recreational use by the public.

Method approved by Minister

15 Subject to section 6 and the terms of any order made under section 18, a dead animal may be disposed of in a manner that has been approved by the Minister under section 16 if any terms or conditions imposed under that section are complied with.

Approval of disposal methods

16 The Minister may approve a method or methods for the disposal of dead animals in addition to the methods provided for under sections 7 to 14 and may, in the approval,

(a) specify whether the method or methods are approved for use by owners or operators of meat facilities, and

(b) impose any terms or conditions on the disposal of dead animals using the method or methods that the Minister considers appropriate.

Rendering plant

17 The owner or operator of a rendering plant shall ensure

(a) that a dead animal rendered at the plant is subjected to such temperature and pressure as is necessary to render every portion of the carcass free from all viable pathogenic organisms, and

(b) that microbiological quality assurance processes are in place to prevent the occurrence of viable pathogenic organisms.

Disaster or emergency

18(1) In the event of a disaster or emergency, including, without limitation, a flood, fire or outbreak of disease, the chief provincial veterinarian may, for the purposes of responding to and dealing with the effects of the disaster or emergency, make an order

(a) in respect of any person or class of persons that for the period set out in the order

(i) exempts the person or class of persons from the application of this Regulation or any provision of this Regulation, or

(ii) varies the rules applicable to a method for the disposal of dead animals set out in this Regulation in respect of dead animals disposed of or to be disposed of by the person or class of persons, or

(b) in respect of any owner or class of owner of a dead animal or type of dead animal specified in the order that directs the owner or class of owner to dispose of the dead animal or a dead animal of that type in a manner or by a method specified in the order.

(2) A person or owner who is the subject of an order or is a member of a class of persons or owners that is the subject of an order under subsection (1)(a)(ii) or (b) shall comply with the order.

GENERAL

Transport of non-rendered dead animal

19 A person who transports, or prepares for transport, a dead animal that has not been rendered shall ensure that the dead animal is transported or prepared for transport in such a manner so as to prevent

(a) any dissemination of pathogenic organisms into the environment from the leakage of blood or other body fluids of the dead animal, and

(b) the contamination of food intended for consumption by humans or animals.

Diagnosis of animal diseases

20 Nothing in this Regulation prohibits the collection, shipment or transport of a dead animal as may be required by a registered veterinarian or the owner of the dead animal for the diagnosis of animal disease.

Offences

21 A person who contravenes or fails to comply with this Regulation is guilty of an offence.

Penalties

22(1) A person who is guilty of an offence under section 21(a) for a first offence, to a fine of not more than $15 000 and, in the case of a continuing offence, to a further fine of not more than $1000 for each day or part of a day during which the offence continues after the first day, and

(b) for a 2nd or subsequent offence,

(i) to a fine of not more than $30 000 and, in the case of a continuing offence, to a further fine of not more than $2000 for each day or part of a day during which the offence continues after the first day, or

(ii) to imprisonment for a term not exceeding one year, or to both fines and imprisonment.

(2) A prosecution under subsection (1) may be commenced within 2 years of the commission of the alleged offence but not afterwards.

Repeal

23 The Destruction and Disposal of Dead Animals Regulation (AR 229/2000) is repealed.

Expiry

24 For the purpose of ensuring that this Regulation is reviewed for ongoing relevancy and necessity, with the option that it may be repassed in its present or an amended form following a review, this Regulation expires on September 30, 2023.

Coming into force

25 This Regulation comes into force on the coming into force of section 19 of the *Animal Health Amendment Act, 2009*.

references

Alberta Environmental Farm Plan Company. 2005. Soil and site characteristics. In *Environmental Farm Plan*, second edition. Edmonton, Alberta: Alberta Environmental Farm Plan Company.

Canadian Food Inspection Agency. 2009. Enhanced animal health protection from BSE. http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/enhren/enhrene.shtml (Accessed: November 2009).

Canadian Food Inspection Agency. 2007. SRM Permits http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/enhren/perme.shtml (Accessed: March 2010).

Fraser, H. 2009. Burial of on-farm deadstock, Agdex 729/400. Guelph, Ontario: Ontario Ministry of Agriculture, Food and Rural Affairs. Have permission certificate for artwork.

Government of Alberta. 2009. Part 32 Excavating and tunneling. In Occupation Health and Safety Code. 32-1 – 32-11. Edmonton, Alberta.

Government of Alberta. 2009. Part 32 Excavating and tunneling. In Occupation Health and Safety Code Explanation Guide. 32-1 – 32-31. Edmonton, Alberta.

for more information

Emergency Carcass Disposal

Contact your local rural municipality for assistance.

Reportable Diseases

Office of the Chief Provincial Veterinarian
780-427-3448 or toll-free by first dialing 403-310-0000
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cpv4264

Alberta's Notifiable and Reportable Diseases Website

http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/afs12455

Canadian Food Inspection Agency

Visit www.inspection.gc.ca/bse, call 1-800-442-2342 or visit your local CFIA office listed on the following page.

Canadian Food Inspection Agency (CFIA) Offices

Canadian Food Inspection Agency (CFIA)
Alberta South Calgary
110 Country Hills Landing Northwest
Calgary, Alberta T3K 5P3
Telephone: 403-299-7660

Canadian Food Inspection Agency (CFIA)
Lethbridge Office – Animal Programs
3605-14th Avenue North
Lethbridge, Alberta T1H 6P7
Telephone: 403-382-3121

Canadian Food Inspection Agency (CFIA)
Coutts Office – Animal Programs
PO Box 130
Coutts, Alberta T0K 0N0
Telephone: 403-344-3808

Canadian Food Inspection Agency (CFIA)
Medicine Hat District Office
7 Strachan Bay Southeast, Suite 105
Medicine Hat, Alberta T1B 4Y2
Telephone: 403-528-6850

Canadian Food Inspection Agency (CFIA)
Animal Programs – Edmonton
7000-113th Street
Edmonton, Alberta T6H 5T6
Telephone: 780-495-3333

Canadian Food Inspection Agency (CFIA)
Edmonton Regional Office – Animal Health
7000-113th Street
Edmonton, Alberta T6H 5T6
Telephone: 780-495-3333

Canadian Food Inspection Agency (CFIA)
Grande Prairie District Office
10135-100th Avenue
Grande Prairie, Alberta T8V 0V4
Telephone: 780-831-0335

Canadian Food Inspection Agency (CFIA)
Vermilion District Office – Animal Health
5016-49th Avenue, Unit B
Vermilion, Alberta T9X 1B7
Telephone: 780-853-5637

Canadian Food Inspection Agency (CFIA)
Red Deer
6503-67th Street
Red Deer, Alberta T4P 1A3
Telephone: 403-340-4204

Canadian Food Inspection Agency (CFIA)
Wetaskiwin District Office
5729-40th Avenue
Wetaskiwin, Alberta T9A 2Z1
Telephone: 780-352-3955

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Vince Murray
Julie Popowicz
Kayla Vaage
Amanda Vanee
Trevor Wallace
Wayne Winchell
all of Alberta Agriculture and Rural Development

Graphic Design:
Mihaela Manolescu
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Printed in Canada