environmental farm plan
sustainably farmed

INFOSHEET #9

DISPOSAL OF LIVESTOCK MORTALITIES

How to address concerns identified in Environmental Farm Plan Worksheet #9

Based on Environmental Farm Plan Workbook, 5th ed. 2025

This infosheet outlines options for your operation to ensure proper handling and disposal of livestock mortalities – normally referred to as deadstock.

For deadstock that are located in a Source Water Protection Zone, you may need to take measures to reduce risk. The **Farm Source Water Protection Plan framework** and workbook can help you work through the Source Water Protection Framework and its application on your farm.

For help with technical terms, please see the full glossary in your EFP Workbook.

All options in this infosheet are classed as **Actions, Compensating Factors,** or **Monitoring**.

- **Actions** address the identified concern, and will change the EFP rating to (3) or (4) Best.
- **Compensating Factors** are alternatives that will adequately address the concern, but will not change the rating in the EFP worksheet.
- **Monitoring** is an alternative in special circumstances only. When and how monitoring can be used is explained in the infosheet.

In most cases, you'll need more information before choosing and implementing options. Sources for more information are noted at the end of this infosheet.

Sustainable Canadian Agricultural Partnership
OSCIA
Ontario
Canada

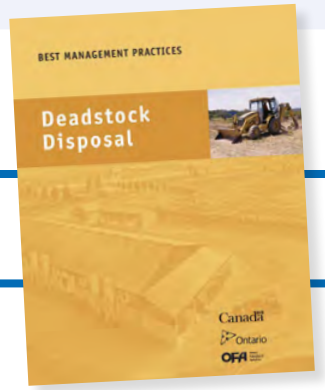
9–1. Method of disposal of deadstock

BACKGROUND

Mortalities are inevitable and must be properly disposed of to safeguard everyone's well-being. Improper management or disposal of deadstock poses risks to the environment, and to animal and public health – including the farm family and staff.

Leaving deadstock in natural areas or placing them on manure piles creates odours, attracts unwanted scavengers, predators, flies and disease, and is against the law.

The heat generated by microbial decomposition in the composting process destroys most pathogens.



WHAT CAN YOU DO?

OPTION 1 – ACTION

Hire a licensed deadstock collector (if this service is available). This relieves you of the planning and labour required for on-farm disposal.

You will still need to identify and address biosecurity concerns. Deadstock storage and collection areas must be properly sited and screened from public view.

OR

Transport the deadstock to an approved facility, including an anaerobic digester, approved disposal facility, or veterinary service (if taken for post-mortem).

Note that deadstock must not be in public view and must be transported in a leakproof container that can be cleaned.

OPTION 2 – ACTION

Compost the deadstock at a suitable site, provided you maintain proper soil separation distances and the following are available:

- substrate, e.g., sawdust, wood chips
- equipment – substrate chopper, loader, turning equipment, etc.
- labour
- spreader to land-apply compost and land for spreading

See 9–13 to 9–18 for more information.

OPTION 3 – ACTION

Place the deadstock in disposal vessel, provided the vessel:

- is made of impervious materials and is leak proof
- has a duct to allow insects to enter
- has a covered hatch for depositing deadstock
- is properly sited

See 9–19 to 9–22 for more information.

OPTION 4 – ACTION

Incinerate the deadstock. The incinerator must:

- be a two-stage incinerator
- have undergone Environmental Technology Verification (ETV)

Adhere to instructions in the operating and maintenance manual.

See 9–23 for more information.

OPTION 5 – ACTION

Bury the deadstock, provided:

- there are no (or limited) tile drains near the burial site and there is more than 15 m (50 ft.) separation
- the layer of soil above bedrock or an aquifer is more than 0.9 m (3 ft.)
- the soil type is appropriate for burial

See 9–7 to 9–12 for more information.

How livestock mortalities are disposed of has implications for the environment, animal and public health, and consumer confidence. This BMP book will help you compare options and implement regulation-compatible practices.

9–2. Timing and handling prior to disposal

BACKGROUND

Handling and disposing of deadstock promptly are key components of maintaining biosecurity on the farm. Proper disposal of deadstock will reduce the opportunity for scavenging and disease transmission.

Proper cold or frozen storage will also result in more efficient pickup by licensed collectors.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Keep deadstock in a leakproof container, out of public view.

Dispose of deadstock within 48 hours (preferably 24 hours) of the animal's death, using an approved disposal method – unless the deadstock is being held for post-mortem.

OPTION 2 – ACTION

Store deadstock in cold storage:

- deadstock may be held in cold storage (4°C or less) for up to 14 days

OPTION 3 – ACTION

Store deadstock in a freezer prior to disposal:

- deadstock may be held up to 240 days in frozen storage

A chest freezer can be used to temporarily store frozen deadstock.

Licensed deadstock collectors have the knowledge, equipment and the vehicles to safely handle and transport deadstock.

9–3. Transportation of deadstock on a public road prior to disposal

BACKGROUND

Deadstock collectors have the equipment and the vehicles to safely handle and transport deadstock. They know the importance of biosecurity protocols, especially when travelling to multiple farms.

Do not transport deadstock on public roads in plain view. Not only is this a violation of the Regulation (O. Reg 106/09), but it can result in a negative view of livestock production and agriculture.

Producers may not transport deadstock belonging to another producer. A permit from the Canadian Food Inspection Agency (CFIA) is required to transport dead cattle.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Hire a licensed deadstock collector to transport deadstock:

- service is available in some areas of the province

OPTION 2 – ACTION

Transport your own deadstock on public roads, only if:

- deadstock are out of public view
- the container is leakproof and can be cleaned afterwards
- transport is to an approved facility

9-4. Location of on-farm disposal site in relation to nearest neighbour's residence, barn, feedlot or yard

BACKGROUND

When selecting an on-farm disposal site, consider neighbouring residences and livestock areas. Regardless of how well deadstock is managed or how promptly, there may be occasional unpleasant odours.

Separation distances between burial sites and feeding areas, sick pens and maternity pens reduces the risk of disease transmission to other vulnerable animals.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Relocate the disposal site at least 150 m (500 ft.) away from any areas zoned residential, barn, feedlot or yard.

Close disposal vessels and burial sites that do not meet setback distances.

OPTION 2 – ACTION

Use alternative disposal method such as a deadstock collector service.

Try to locate the disposal site as far as possible from neighbouring properties to minimize odour concerns and protect livestock health.

Keep the disposal site as far as possible from sensitive land uses such as parks and businesses.

9-5. Location of on-farm disposal in relation to other sensitive land uses

BACKGROUND

Disposal sites should be chosen with regard for areas zoned residential and other sensitive areas such as parkland, industrial land, highways, community or institutional use. Regardless of how well deadstock is managed or how promptly, there may be occasional unpleasant odours or sights. Distance, if available, is usually the best solution.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Relocate sites for deadstock collection, composting, and incineration far enough away from sensitive land uses to achieve a 4 rating as described in the worksheet.

Cease using disposal methods that do not meet setbacks to sensitive land.

OPTION 2 – ACTION

Use alternative disposal methods such as a deadstock collector service.

9-6. Emergency planning for catastrophic losses

BACKGROUND

In the event of an emergency, an organized, effective response will help mitigate stress for you and your family during a difficult and emotional time.

Discussing options with insurance agents can ensure you have the appropriate coverage for your operation.

Learn more about fire prevention measures with OMAFA's Reducing the Risk of Fire on Your Farm, Publication 837.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Be proactive and discuss emergency situations with first responders, your insurance agent, commodity groups or OMAFA staff to explore options for disposal of deadstock.

Create an Action Plan for reference in the event of an emergency. Emergencies may include weather extremes, e.g., flooding, ice storm, barn fire, etc. where animals are lost.

Consider seasonal differences – winter or summer may affect the options available for deadstock disposal.

BURIAL

9–7. Distance from burial pit to nearest well

BACKGROUND

Separation distances from burial pits to wells helps to ensure a safe source of drinking water for the farm family, livestock and neighbouring communities.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Immediately cease use of any burial site that is too close to a well.

OPTION 2 – ACTION

Select new location for burial sites based on the potential for groundwater contamination and distance to nearest well that results in a rating of 3 or higher.

9-8. Distance from burial pit to field drainage tile

BACKGROUND

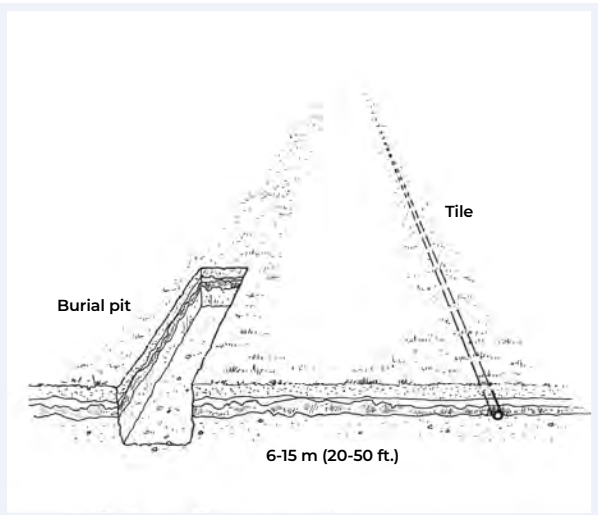
Leachate from a burial pit could potentially enter a field drainage tile, and then be discharged into surface water. This is both a potential biosecurity risk and a source of contamination.

Also, excavating near a field drainage tile increases the risks that the tiles themselves will be harmed.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Properly abandon burial site that is closer than 15 m (50 ft) from a drainage tile and establish a new burial site that is farther than 15 m (50 ft.) from the drainage tile.



Deadstock must be buried below the depth of any tile drains that are within 6–15 m (20–50 ft.) of the burial pit.

Regardless of what kind of well you have, this BMP publication will help you better understand its construction, risk factors to water quality, maintenance and troubleshooting, and procedures for unused wells.

For more information about in-field drainage, see this BMP publication. Cropland Drainage explains how surface and subsurface drainage systems function, and presents options for improvement, construction, maintenance and troubleshooting.

9-9. Distance from burial pit to nearest surface water or tile inlet

BACKGROUND

Deadstock buried too close to surface water or tile inlets increases the risk that surface water will be contaminated.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Select a new location for burial sites based on the potential for surface water contamination and distance of flow path that results in a rating of 3 or higher.

As the flow-path distance from a surface inlet to a burial pit increases, the risk of contaminated overland flow reaching surface water decreases.

Use a soil map, legend and report to shortlist candidate sites on your property.

9-10. Burial pit soil conditions

BACKGROUND

Adequate soil cover is necessary to reduce the risks of scavenging and disease transmission.

The soil microbes responsible for decomposition are most effective in soils that are not too dry or too wet.

An adequate separation distance between the bottom of the burial pit and the aquifer is needed to ensure that any leachate is properly managed by the soil organisms.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Dig a test pit in area of future burial site to verify:

- there is more than 0.9 m (3 ft.) of soil cover over bedrock or aquifer
- it is not located on organic soil, sandy, sandy loam or loamy sand soil

Verify Conservation Authority flood mapping to ensure selected area for burial is not prone to flooding.

9–11. Volume of deadstock in a burial pit and distance between burial pits

BACKGROUND

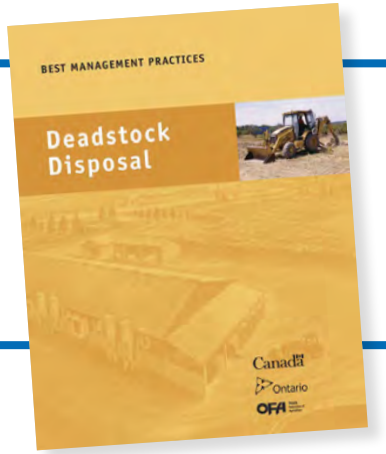
A greater surface area contact between the deadstock and the soil microbes, increases the rate of decomposition in the burial pit. Smaller burial pits, with a distance between pits, maximizes the ability of soil microbes to decompose buried deadstock.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Identify several burial pit locations, separated by more than 60 m (197 ft.), and do not dispose of any more than 2,500 kg (5,500 lb.) in any one burial pit.

There should not be more than 2,500 kg (5,500 lb.) of deadstock in a single burial pit.



Siting considerations and other key management facets for the burial option are described in this BMP.

9–12. Soil cover

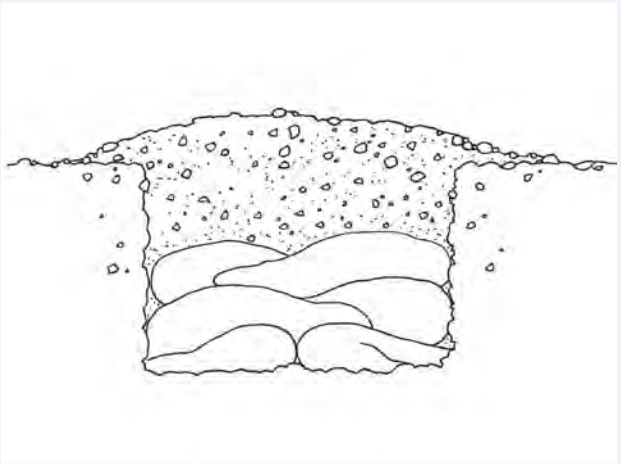
BACKGROUND

As deadstock decomposes, settling can occur within the burial pit. This depression may result in surface runoff accumulating in the area, decreasing the rate of decomposition.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Mound enough soil over the burial pit to compensate for the settling of soil once the deadstock has decomposed.



Adequate soil cover will allow for settling and help to shed surface water.

COMPOSTING

9-13. Distance from composting site to nearest well

BACKGROUND

There may be occasional leachate from composting sites and it is important to keep this liquid away from sources of drinking water.

Do not allow leachate to accumulate near water wells.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Immediately relocate any composting site from any well to the required separation distance to score a 3 or higher.

Decommission the previous site if necessary, by removing the composting material. If the material is fully composted, it could be land-applied.

OPTION 2 – ACTION

Select a new location for the well that gives you a rating of 3 or more, and properly abandon and plug the old well according to Regulation 903 of the Ontario Water Resources Act.

OPTION 3 – MONITORING

Regularly test the well water for bacterial contamination. Take immediate action if it tests positive.

Locate compost piles away and downhill from wells.

Drainage tiles are a conduit to surface water, and composting sites should be located at least 10 m (33 ft.) away.

9-14. Distance from composting site to field drainage tile

BACKGROUND

Leachate from a composting site could potentially enter a field drainage tile, and then be discharged into surface water. This is both a potential biosecurity risk and a source of contamination.

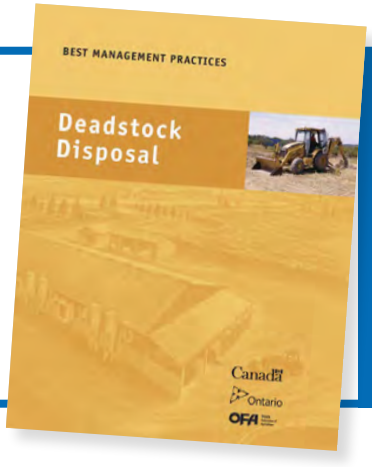
WHAT CAN YOU DO?

OPTION 1 – ACTION

Relocate the composting site more that 10 m (33 ft.) away from drainage tile – the more separation, the better.

Decommission the site, if necessary, by removing the composted material. If the material is fully composted, it could be land-applied or placed into the manure storage.

To learn more about composting, see this BMP publication.



9–15. Distance from composting site to nearest surface water or tile inlet

BACKGROUND

Deadstock composted too close to surface water or tile inlets increases the risk of surface water contamination after rainfall or snowmelt events.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Select a new location for composting sites based on the potential for surface water contamination and distance to nearest surface water or tile inlet that results in a rating of 3 or higher.

Decommission the previous site, if necessary, by removing the composed material. If the material is fully composted, it could be land-applied or placed into the manure storage.

The flow path from a composting site to surface water or tile inlet should exceed 75 m (250 ft.).

A roofed compost site will divert clean water from mixing with compost and producing runoff.

9–16. Management of compost pile

BACKGROUND

Appropriate quantities, mixing and management of the deadstock and substrate will ensure successful composting.

Consult the BMP booklet Deadstock Disposal for technical information on composting.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Mix substrate and deadstock together to achieve a ratio of 75:25 by volume. Additional amounts of substrate can be added to the pile to act as cap to ensure no parts of the deadstock are visible.

Add substrate to soak up leachate that leaks from the pile.

Divert clean, upslope water away from the compost pile to reduce the potential for leachate.

Turn compost pile at regular intervals as needed to introduce oxygen to the pile and reblend the materials for good composting.

Note: If scavenging is a problem, especially for windrows, it may be necessary to use a compost bin system. Add gates to a bin system to keep scavengers out. A roof or tarp over a compost site will divert clean water, preventing it from mixing with compost and producing runoff.

9–17. Composting site soil conditions

BACKGROUND

An impervious base, such as concrete, can make it much easier to manage compost with farm machinery. Any liquid coming off the pile or the base can be absorbed with additional substrate.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Construct an impervious base (e.g., concrete, asphalt) for the composting site or select an in-vessel compost unit.

OPTION 2 – ACTION

Relocate the composting site to an area with appropriate soil type(s) that has more than 0.9 m (3 ft.) of soil cover over bedrock or aquifer and is not located in any flood plain or area prone to flooding.

If the compost pile will be mixed and emptied with a loader, a concrete floor is preferred for ease of use, cleanliness and runoff management.

9–18. Land application of dead animal compost

BACKGROUND

Properly composted material can be a valuable nutrient source for cropland.

Improperly composted material containing partially decomposed materials is a biosecurity risk to the farm and encourages scavengers.

The Canadian Food Inspection Agency (CFIA) recommends that compost produced from Specified Risk Material (SRM) is not spread on pastureland or on land directly used to graze domestic ruminants. If SRM is spread on pasture or grazing land, then do not allow ruminants access to these fields for at least five years.

Federal regulations prohibit the sale or removal of on-farm composted material containing SRM from the farm of origin. Distribution or sale of on-farm compost is also contrary to the Nutrient Management Act, 2003 (NMA) Disposal of Dead Farm Animals Regulation.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Land-apply completely composted material to cropland (not on pasture or land used to graze ruminants) that is owned or controlled by the farmer.

As with other nutrient sources, application rate should match agronomic requirements of the field crops or at a rate less than 9 tonne/ha (4 ton/ac).

Keep records of the location of compost sites, the volumes, deadstock records, the location of spreading sites, and volumes spread.

Properly finished compost should not contain any recognizable parts of deadstock.

DISPOSAL VESSEL

9-19. Distance from disposal vessel to nearest well

BACKGROUND

A disposal vessel must be leakproof when installed. Over time, it may deteriorate. Therefore, it is important to have adequate separation distance between the vessel and a well to reduce the risk of contaminating well water.

WHAT CAN YOU DO?

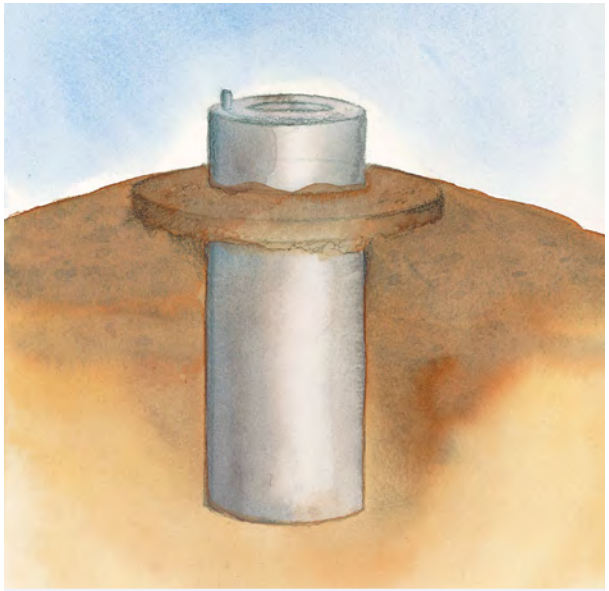
OPTION 1 – ACTION

Decommission disposal vessel sites located too close to a well.

OPTION 2 – ACTION

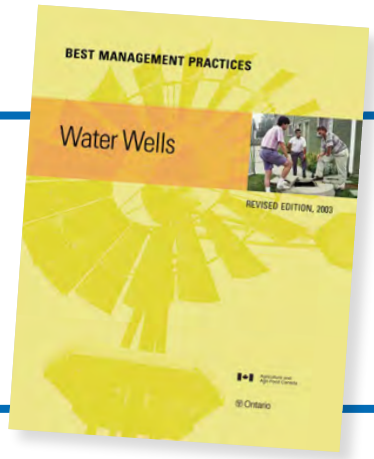
Select disposal vessel site based on the potential for groundwater contamination and distance to nearest well that results in a rating of 3 or higher:

- 76 m (250 ft.) away from a drilled well
- 150 m (500 ft.) from a bored, dug or sand point well
- 250 m (820 ft.) from a municipal well



Disposal vessels are scavenger-proof, leakproof containers into which deadstock is placed to decompose naturally.

If you want to learn more about how your well works, and how to safeguard well water quality, see this BMP publication.



9-20. Distance from disposal vessel to field drainage tile

BACKGROUND

A disposal vessel must be leakproof when installed. Over time, it may deteriorate. It is important to have adequate separation distance between the vessel and field drainage tile to reduce the risk of contaminants flowing into the tile.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Decommission the disposal vessel sites that are not properly situated.

Choose a new location for future disposal vessels that is greater than 15 m (49 ft.) from a field drainage tile.

To reduce the risk of contaminants flowing into the tile and reaching surface water, maintain an adequate separation distance – greater than 15 m (49 ft.) – between the disposal vessel and field drainage tile.

9-21. Distance from disposal vessel to nearest surface water or tile inlet, or in an area prone to flooding

BACKGROUND

Disposal vessels buried near surface water can increase the risk that the vessel will heave out of the ground during rainfall or spring flooding events. Deadstock vessels too close to surface water or tile inlets increase the risk that surface water will be contaminated.

Water that enters the disposal vessel will greatly reduce or even prevent decomposition of the deadstock. Successful decomposition within a disposal vessel relies on the air flow through the vent, and the flies and insect populations within the vessel.

WHAT CAN YOU DO?

OPTION 1 – ACTION

Decommission disposal vessel sites that are not properly situated.

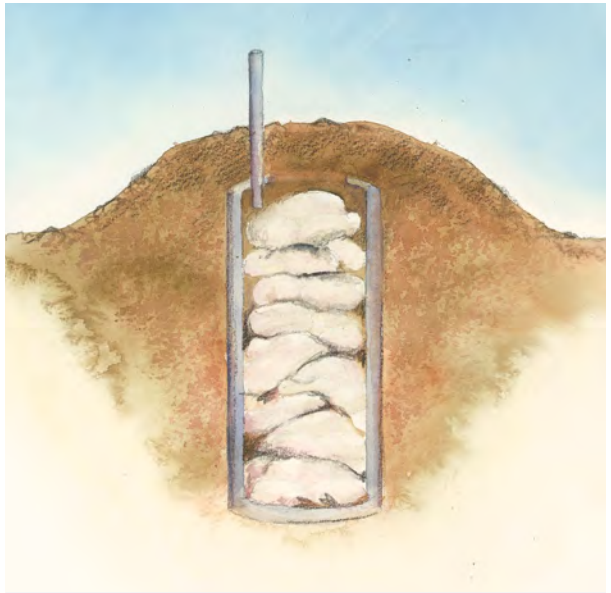
Choose a new location that has a flow path of at least 151 m (495 ft.) from surface water or a tile inlet, and not in an area prone to flooding.

OPTION 2 – ACTION

Select a new location for disposal vessel site based on potential for surface water contamination and distance to nearest surface water inlet or area prone to flooding:

- the new location should result in a rating of 3 or higher

Disposal vessels buried near surface water can increase the risk that the vessel will heave out of the ground during rainfall or spring flooding events.



The purpose of properly closing a disposal vessel is to make it no longer usable or accessible.

9-22. Design of disposal vessel

BACKGROUND

Successful use of disposal vessels depends on preventing water from entering the vessel, and having an open vent allows flies and insects responsible for decomposition to enter.

Leakproof vessels allow heat to be generated, which increases the opportunity for insects to further the decomposition process.

WHAT CAN YOU DO?

OPTION 1 – ACTION

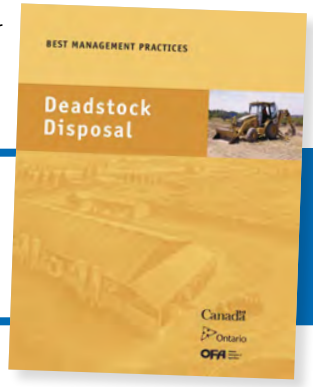
Stop using and properly decommission disposal vessels immediately that do not meet the design standards – see Option 2 or find an alternative acceptable disposal method such as licensed pickup, proper burial etc.

OPTION 2 – ACTION

Find and/or modify a container for use as a disposal vessel that meets the following requirements:

- leakproof
- volume no greater than 10 m^3
- impervious when installed
- a duct to allow insects to enter
- a covered hatch for depositing deadstock

For more information about proper design, use and management of disposal vessels, see this BMP publication.



INCINERATION

9–23. Type of incinerator

BACKGROUND

Most deadstock disposal options are focused on reducing the risks of surface and groundwater contamination.

Incinerators pose a different kind of risk: air emissions.

An incinerator that is operated improperly or malfunctioning can result in odour and smoke complaints from neighbouring properties.

Improper operating temperatures can decrease the efficiency of the equipment, using additional fuel and energy to incinerate the deadstock.

Maintain the incinerator according to the manufacturer's recommendations can extend the life of the equipment.

To ensure regulatory performance requirements can be met, an incinerator must have an Environmental Technology Verification (ETV) certificate or statement that demonstrates the unit has a secondary chamber that is capable of maintaining the gases at the following time and temperature requirements:

- at least 1 second at a temperature of 1,000 degrees Celsius or higher; or
- at least 2 seconds at a temperature of 850 degrees Celsius or higher

WHAT CAN YOU DO?

OPTION 1 – ACTION

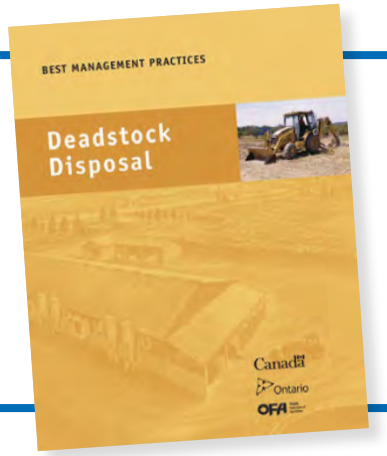
Purchase a two-stage incinerator unit that has undergone Environmental Technology Verification (ETV) to meet the regulatory performance requirements.

Keep records of the temperatures in the combustion chambers at all times during incineration.

Perform regular maintenance on the incinerator according to the manufacturer's specifications.

Ensure loading rates are adhered to – putting too much deadstock in at one time will decrease the efficiency of the combustion in the unit and increase the maintenance requirements.

Only burn deadstock in the incinerator.



To learn more about the incineration option, see this BMP publication.

FOR MORE INFORMATION

ONTARIO MINISTRY OF AGRICULTURE, FOOD AND AGRIBUSINESS (OMAFA)

- Agricultural Information Contact Centre (AICC)
  Toll free: 1-877-424-1300 | e-mail: ag.info.omafa@ontario.ca

  Find most of the resources listed below at www.ontario.ca

Publications

- Reducing the Risk of Fire on Your Farm

Factsheets

- Barn fires in Ontario
- Deadstock management of farm animals in Ontario
- Burial of on-farm deadstock
- Composting of cattle on-farm
- Deadstock disposal options for on-farm
- Disposal vessels for on-farm deadstock
- Emergency disposal of on-farm deadstock
- On-farm bin composting of deadstock
- Windrow composting of poultry carcasses
- Responding to agricultural nuisance complaints

Best Management Practice Series

- Deadstock Disposal
- Cropland Drainage
- Water Wells

FARM & FOOD CARE ONTARIO

- Emergency Fact Sheets

LEGISLATION/ACTS

- Nutrient Management Act, 2002
- Ontario Regulation 106/09 – Disposal of Dead Farm Animals
- Food Safety and Quality Act, 2001
- Ontario Regulation 105/09 – Disposal of Deadstock
- Ontario Water Resources Act, 1990