

10.0 DISPOSAL OF DEAD ANIMALS AND OTHER FARM WASTES

Like most business enterprises, every farm produces some type of waste material. Like manure, these waste materials must be disposed of in an environmentally acceptable manner to minimize the likelihood of contaminating soil and water. Common waste materials found on farms include:

- ! dead animals;
- ! animal health care products;
- ! general packaging (for example, boxes, bags, plastics);
- ! petroleum products such as used motor oil;
- ! paints and preservatives;
- ! pesticides;
- ! machinery and equipment including inert components, tires and restricted use components such as batteries;
- ! farm structures such as old buildings including building components;
- ! waste forage; and,
- ! waste fruit and vegetables (including organic waste dumps).

10.1 DISPOSAL OF DEAD ANIMALS

Commercial livestock operations are normally subject to mortalities and therefore generate many carcasses for disposal. Proper disposal of dead livestock is extremely important to protect the health of both people and livestock. Any animal carcass may contain bacteria and other disease organisms that can infect humans directly or through contamination of a residential water supply. Disposal of dead livestock must be in accordance with the Waste Materials Disposal Act. Mortalities must be kept in a secure and frozen state if not disposed of within 48 hours of the time of death. A secure state would be one where scavenger animals such as coyotes, wolves (in Labrador), dogs and birds, are prevented from access to the mortalities. Disposal is specified to be by delivery to a rendering plant, burial, composting or incineration.

Leaving mortalities outside for scavengers to feed on is not an acceptable method of dead animal disposal.

Rendering

Delivery of the carcasses to a rendering company is the preferred method for disposing of dead

animals. Currently, a rendering plant (Rothsay Rendering Plant) operates at Foxtrap.

Rendering companies may have certain restrictions regarding the condition of the carcass. In general, the animals must be brought in as quickly as possible in the summertime. Smaller animals that die during the winter can be frozen and delivered to the renderer at convenient intervals. Rendering companies will generally not accept dead animals that do not remain intact when handled. Depending on the end product of the rendering process, there may be restrictions on carcass quality and condition. Rendering companies that produce meat and bone meal and inedible tallow will usually accept mortalities regardless of the course of death; companies that produce an edible material may not.

If a processor is not nearby, however, the time and expense for travelling may make delivery impractical for small numbers of dead animals or farms located far away from the plant. If this is the case and if the dead animal is small in size (for example, piglets), you must freeze and store mortalities until such time as the animals can be buried or incinerated.

Fur farms in Newfoundland and Labrador accept mortalities and cull or off-sex animals as feed. Fur farmers are also feeding fish waste, meat cuttings and some wild animals killed on roadways (such as moose). Disposing of birthing mortalities is not considered a major issue in the province as adult animals often dispose of these naturally.

Burial

During the summer months, the carcass can be buried if a rendering service is not available. The Waste Materials Disposal Act prohibits the disposal of waste materials on any lands which are not waste disposal sites approved by the Government Services Centre. Place dead animals in a trench that is backfilled each time animals are added. Caution is required for burial of dead animals. While at one time carcasses could be brought to sanitary landfills, this is no longer possible in many areas. Municipalities that bury their refuse on a daily basis may allow animals to be deposited in landfill sites. Check with your local municipal office to determine if this is allowed in your area.

Ensure that the burial pit is or has:

- ! at least 90 metres (300 ft) from wells or domestic water intakes;
- ! at least 30 metres (100 ft) from any other surface water;
- ! constructed such that the bottom of the pit is 1.2 metres (4 ft) above the high water table;
- ! sized for a maximum of 700 kilograms (1,500 lb);
- ! hydrated lime (quick lime) to speed up decomposition and deter scavengers and insect infestation; and,
- ! a minimum 0.6 metre (2 ft) of soil covering the carcasses (offers protection from scavengers that will drag the carcasses around, creating both a nuisance and a possible

health hazard).

Dead animal burial pits need the approval of a Government Services Centre, Department of Government Services and Lands. Contact the regional Government Services Centre for details.

During the winter it is advisable to put dead animals in a holding area, such as a covered trailer, where they can remain frozen until burial is possible in the spring.

Composting *

Composting dead animals is becoming more popular in Canada and, as local experience is gained, it is anticipated that some farm composting facilities will be constructed in the future. Operations using composting of mortalities must be designed and managed in such a way that they do not cause pollution. An aerobic environment must be maintained, and all material must be heated throughout to a temperature of 55°C (130°F) for at least three days for adequate reduction of pathogen levels.

Where composting is employed for dead animal disposal, they must:

- ! be of sufficient capacity to dispose of normal mortality rates;
- ! have all contaminated runoff collected, and clean surface water directed away from the composting facility;
- ! be located to take the farm residence and any neighbouring residences into account. While offensive odours are not usually generated in the composting process, the handling of dead livestock and compost on a daily basis may not be aesthetically pleasing. When locating a composter, consider traffic patterns required in moving dead livestock to the composter, moving the required ingredients to the composter, and removing finished compost from the composter; and,
- ! be situated on a well-drained site and must provide all-weather capability for access roads and work areas.

* Where this is not a common practice in Newfoundland and Labrador, such composting would be appropriate if initiated on a small scale in consultation with the appropriate agricultural and environmental agencies.

Fully composted animals, where there is no sign of bones or other materials, can be added to manure for eventual land spreading.

For the proper design of a composting facility for dead animal disposal, qualified professionals should be consulted.

Incineration

Incineration is an acceptable method of disposal if performed properly. For the dead animals to be

burnt without creating an odour problem, the temperature of the incinerator must be sufficiently high.

Where incinerators are employed for dead animals disposal, they must:

- ! where possible, be located so that prevailing winds carry exhaust fumes away from neighbours;
- ! have sufficient capacity so that all odour levels stay within tolerable limits;
- ! be 50 m (160 ft) minimum from wells or domestic water intakes;
- ! be fire safe; and,
- ! consume all material fed into them.

The installation and operation of any incinerator must be in compliance with the Environment Act. Generally, a single chamber-two burner type of incinerator, or equivalent, will be required. Single burner incinerators are not recommended.

For the proper design of an incinerator for dead animal disposal, qualified professionals should be consulted. **An incineration shall be operated to meet the maximum requirements of 0.5 hour retention time in the chamber at 1400-1600°F.**

Disposal

Disposal at an approved landfill site or incineration at an approved waste disposal site with the consent of the owner/operator in acceptable.

10.2 OTHER FARM WASTES

Animal Health Care Products

Spent medicines, empty containers and other items must be disposed of in an acceptable manner. For livestock producers, no approved incineration facilities for medical wastes exist. As an alternative, you must follow the following practices:

- ! farm medical wastes that have the potential to cut or puncture such as needles and scalpels must be packaged in rigid containers (for example, a plastic container previously used for cleaning agents or windshield washer fluid) and discarded with household wastes or taken to the local Regional Veterinarian;
- ! return medical supplies that have outlived their shelf life (expiry date) to the supplier or to the local Regional Veterinarian.

General Packaging

Reuse or recycle farm plastics (for example, containers, silage wrap, black plastic mulch, greenhouse plastics and greenhouse transplant flats) and other packaging materials whenever possible. Packaging materials that once contained toxic materials, such as pesticides need to be disposed of as per guidelines for the disposal of pesticide containers.

Materials not reused or recycled must be disposed of at an approved municipal land-fill site or any other approved facility. Burning of plastics is also considered acceptable in Newfoundland and Labrador but only after you have contacted the Department of Environment for details.

Petroleum Products (Including Handling and Storage)

All farms use petroleum products and produce petroleum wastes such as gasoline, diesel fuel, machinery oil and hydraulic fluids. These should be stored in a double tank. Improper storage and handling of petroleum products presents a threat to public health and water quality. A few quarts of gasoline in the ground water may be enough to severely pollute your drinking water supply. At low levels, fuel contaminants cannot be detected by smell or taste but present a very real health threat. Petroleum products contain a number of potentially toxic compounds that are known carcinogens (cancer causing agents) to laboratory animals and humans.

Storage and handling of petroleum products are regulated under “The Storage and Handling of Gasoline and Associated Products Regulations” of the Environment Act. These regulations are administered by the Government Services Centre, Department of Government Services and Lands. Additional information on requirements or applications to install systems in accordance with the regulations are available from the Government Services Centre’s regional offices. Disposal of unwanted waste oil and hydraulic fluids by first collecting them in either a tank or containers and then transporting them to a local oil recycling depot or a licensed waste oil collection contractor. Used motor oil can be used as a lubricant on equipment. Waste oil should not be burned unless in furnaces designed for this purpose.

Any floor drainage from a service area where oil is being used has to be routed through an oil separator before being discharged. The used waste oil floating in the separator must be removed regularly and deposited in the waste oil tank or container.

In the case of a leak or spill during petroleum storage and handling, immediately call the Environmental Emergencies 24-Hour Report Line (see Section 12). For more information, refer to the Factsheet, Storage and Handling of Petroleum Products on the Farm, Publication GT005, November 5, 1996.

Paints and Preservatives

Paints, preservatives and other materials such as adhesives and lubricants must be safely stored on farm and used up as needed, shared with a neighbour or brought to a recycling depot.

Pesticides

Pesticides can be an environmental and health hazard when used improperly. Any use of pesticides must be in accordance with The Provincial Pesticides Control Regulations (CNR 1166/96) under the

Pesticides Control Act.

You must write a Pesticide Applicator License examination administered by the Pesticide Control Section, Department of Environment. Currently, no person shall store, use or apply a pesticide without an existing license of a prescribed class for that purpose unless exempt under the conditions for storing, use or application prescribed for the pesticide or unless exempted under the regulations (such as home or garden).

Pesticides may only be used if they are registered for use under the federal Pest Control Products Act.

Pesticides will be safely disposed of if you:

- ! triple or pressure rinse drums, glass bottles, plastic and metal containers and empty rinse liquid into sprayer;
- ! single rinse paper or plastic bags containers and empty rinse liquid into the sprayer;
- ! rinse water that cannot be added to the sprayer tank can be applied to a non-crop area which is on your property and which is at least 200 metres (656 feet) from waterbodies and wells;
- ! crush, puncture (several times) or damage empty containers so they cannot be reused once they have been rinsed;
- ! use an anti-backflow device on the pump used to fill the sprayer;
- ! keep an air gap between the filler hose and the top of the spray tank; and,
- ! discard clean, empty pesticide containers (never burn as the residues may not be destroyed and toxic fumes may be released) and then dispose of them at a landfill. Inform the landfill manager in case there is an area for more hazardous materials. Containers may also be returned to a recycling depot, where available.

Appendix J provides a description of proper pesticide handling and storage procedures that must be followed in Newfoundland and Labrador.

Machinery and Equipment

Reuse and recycle whenever possible. If this is not possible, equipment must be collected and disposed of at an approved municipal waste disposal site or facility or to a scrap dealer.

Disposal of oil, fuel and antifreeze should be done through a licensed oil contractor. Disposal of refrigerant is regulated under the regulations for refrigerant and halons. Contact your regional Government Services Centres for information on proper disposal methods for these materials.

Farm Structures and Building Components

Building components include such materials as wood frames, glass, sheet steel, plastic, shingles. Store materials on farm for future reuse or recycling. The remaining materials must be collected and disposed of at an approved municipal waste disposal site.

Restricted use old building components include materials such as insulation, pressure heated materials, asbestos materials, composite products and treated lumber. Reuse or recycle where possible. Otherwise, the materials must be taken to an approved landfill, waste disposal site or depot for hazardous materials. For the proper disposal of asbestos, contact your regional Government Services Centre.

Waste Forage

Waste forage is a normal by-product of any livestock feeding system. It includes hay, waste silage and silage effluent.

When hay is harvested, it is allowed to dry to less than 15% moisture. When it is stored and fed, it poses no environmental hazard. In most instances, wasted hay during feeding is incorporated with the bedding and manure. It is not advisable to burn waste forages since this can cause nuisance odours and contributes to air pollution.

The potential for waste by-product from silage feeding systems also exists. However, because silage is usually harvested and stored at a much higher moisture content than hay, there is also the potential for leachate or seepage waste from the storage area. Silage seepage can have a serious impact on surface and groundwater quality and can create odours.

Management options for waste forage include:

- ! aim to harvest and store only as much forage as will be required for the coming year;
- ! recycle waste forage for hay, mulching potato land in the fall (adds organic matter and protects against soil erosion);
- ! harvest silage at the optimum content to minimize the potential for seepage; and,
- ! compost waste hay and silage, thereby making it easier to handle when applied on the land.

10.3 WASTE FRUIT AND VEGETABLES USED AS ANIMAL FEED

Many of these wastes are wet and decompose readily. Under the circumstances, problems with odour, leachate and contaminated runoff may easily develop. You can avoid these problems by practicing the following:

- ! if possible, process vegetable and fruit wastes into animal feed quickly to reduce

the amount of waste and decomposition and help to reduce feeding costs;

- ! provide the feed in a trough or receptacle that will allow the feed to be eaten rather than trampled into the ground or pen;
- ! do not feed canker or wart diseased potatoes, and turnips infected with clubroot to livestock to minimize the spread of disease;
- ! provide adequate storage facilities (preferably covered) appropriate for the material;
- ! locate the storage facilities away from, and where possible, downwind from neighbours; and,
- ! avoid water quality problems by collecting, storing and properly disposing of leachate or liquor from the stored material. It can be a highly concentrated pollutant.