HANDLING BEFORE DISPOSAL

THIS CHAPTER DESCRIBES PROPER PROCEDURES FOR:

- **deadstock removal**
- **storage**
- **cleaning**
- **biosecurity.**

Regardless of disposal method, all deadstock must be handled safely, efficiently and immediately to reduce risks related to disease and environmental contamination.

REMOVAL

Removing deadstock from the housing facilities can sometimes present a problem with larger animals. Ideally, this problem was taken into consideration during the facility's design, but it is occasionally overlooked.

If there are areas that may present problems (e.g., maternity pens in the back corner of a barn, box stalls for horses, etc.), give some thought to possible extrication methods, and discuss them with everyone involved.

Under the Nutrient Management Act, 2002, Reg. 106/09, the livestock operation in most cases must dispose of deadstock within 48 hours of death by using the services of a licensed deadstock collector, composting, incineration, disposal vessels, or burial.

Deadstock can also be delivered to an approved anaerobic digester, an approved waste disposal site, a licensed disposal facility under the Food Safety and Quality Act, 2001, or to a veterinarian for post-mortem activity. As with all bovine carcass movement, this activity would require a federal SRM permit.

Large-animal deaths in confined areas can be challenging to remove properly. Plan facility layout and equipment carefully to prevent or minimize difficult removal conditions.

STORAGE

Under very specific conditions, livestock producers can store their deadstock for more than 48 hours prior to disposal. This can provide both producers and deadstock collectors with some cost-savings and flexibility by allowing deadstock to be:

- ▶ moved and stored on another farm property owned by the producer, or
- ▶ moved to another farmer's property pending pickup by a licensed collector.

At the chosen location, deadstock may be stored:

- ► in a refrigerated state, up to 14 days, or
- ► in a frozen state, up to 240 days.

Stored deadstock must be hidden from public view and stored under conditions that protect them from scavengers and other pests. Any stored deadstock that begins to decompose must be disposed of immediately as set out in the regulation.

COLD STORAGE

Being able to store deadstock at cold temperatures may be helpful in making collection or any other disposal method more efficient in terms of labour, resources, and cost. This option allows for much more flexibility than the maximum 48 hours between death and disposal requirement when cold storage is not used.

Minimum requirements for a cold or frozen storage facility

- **prevent any leakage**
- **prevent all scavenging and insect activity**
- **conceal deadstock from public view**
- **maintain refrigeration (cold storage) or maintain the deadstock in a frozen state**

Mechanical Refrigeration

An on-farm refrigeration unit provides benefits to both the producer and the renderer. It will reduce the need for frequent disposal or pickups by a collector, who may be more accommodating in making a pickup because the refrigeration unit guarantees a larger quantity of better quality carcasses.

A refrigeration unit for producers with units larger than 500 sows farrow-to-finish or equivalent deadstock production would have exterior dimensions of about 2.4 m × 2.4 m × 2.2 m (8 ft × 8 ft × 7 ft 6 in.). Such a unit is quite large and provides great flexibility in moving deadstock within the unit.

Walk-in coolers are a high-cost yet effective method to store deadstock prior to disposal.

Walk-in Coolers

The use of a walk-in cooler or freezer is also possible, and may allow for the collection of deadstock in larger containers. This is likely the highest-cost option, but may provide excellent labour benefits as deadstock can be handled on pallets or in totes.

Commercial Freezer Units

Specialty commercial freezers are available. These units should be placed on an insulated slab of concrete, and ideally would enable mechanized emptying.

The operational cost is extremely variable and depends on the amount of deadstock, its temperature when placed, how frequently the freezer is opened, and the temperature at which the unit is maintained.

Household Chest Freezers

Commercial freezers may be too costly for the amount of deadstock generated. A household-sized freezer may be adequate.

The cost of purchasing and operating several household freezers may be more economical than the large units. They could be operated as necessary, depending on the number of deadstock. Larger household freezer units range from 0.71 to 0.76 cubic metres (25–27 ft^3).

The greatest problem with freezers is removing animals from the unit. A hand-operated crane of the type used for lifting engines can lift the deadstock out of a chest freezer.

Also required are tapered containers that fit into the freezer so that the entire contents will slide out more easily. An ideal container is a tapered, plastic recycling box or tapered plastic pail.

For most producers, only one freezer is necessary. Due to the density of deadstock, a freezer can only realistically accommodate 400 kg of carcass per cubic metre (25 lbs of carcass per ft^3) of stated volume capacity.

A freezer should be cleaned and disinfected each time it is emptied.

Commercial reefer bins ease the handling of frozen deadstock.

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

CLEANING

When deaths are attributed to or suspected to be caused by pathogens, cleaning and disinfecting the areas contacted by the animal is important in order to decrease the chance of spreading disease. Any equipment used to transport the deadstock and storage areas should also be cleaned and disinfected.

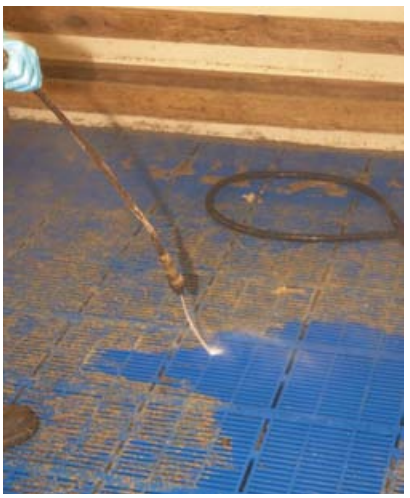
Here are some important cleaning tips:

- ► remove all manure and bedding
- ► clean and dust ceiling, walls, posts and equipment
- ► scrape and sweep floors
- ► clean out any leftover feed from feeders
- ► for best results, thoroughly wash area with a cleaning solution before disinfecting
- ► soak heavily soiled areas for 30 minutes, then scrape or brush off the organic matter.

Remove all manure and bedding if a death is suspected to be caused by pathogens that might spread a disease.

Clean and dust all surfaces.

Wash all surfaces prior to disinfection.



Disinfectants only work on surfaces that are clean and free of soil or organic debris.

Also note that:

- disinfectants cannot work in the presence of organic matter
- cleaning may get 85–95 % of the microbes.

Here are some common disinfectants:

- citric acid
- acetic acid (2%)
- chlorine (bleach)
- sulphamic acid
- Virkon® (potassium monopersulfate 21.4%)
- Germ Kill® (and other acidic iodophors).

BIOSECURITY

Deadstock can be a hazard to people and other animals. Diseased animals – if not isolated and handled carefully – can spread the pathogens to other animals. During decomposition, they have the potential to contaminate soil, air and water, and require special handling.

To minimize property contamination and risk of spreading disease:

- dispose of deadstock within 48 hours of death
- call a licensed collector to remove deadstock, or select an appropriate method of disposing of it on-farm
- clean and disinfect the area after deadstock removal
- wear protective clothing when handling deadstock
- secure deadstock in pest-proof container until disposal.

Biosecurity BMPs reduce mortality rates.