

Deadstock Disposal Methods

Options for the disposal of swine carcasses

September 2021



ONTARIO PORK



From time to time, Ontario Pork receives complaints from the public about improper deadstock management, including inappropriate handling or disposal, odour, and visual issues. Often the complaint centres around overflowing collection bins or bins with lids not closed.

Below are some options for deadstock management, based on information shared by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

Deadstock management

All deadstock should be disposed of immediately or within 48h of its death as putrefaction process starts.

There are several options for disposal of swine carcasses that meet regulatory requirements. See Ontario Regulation 106/09 Disposal of Dead Farm Animals. Contact your veterinarian if mortality increases suddenly.

For more information on all of the options and the specific requirements check out OMAFRA's Deadstock Regulations fact sheet (omafra.gov.on.ca/english/nm/regs/deadstock/summary.htm) or its fact sheet on Deadstock Disposal Options for On-farm (omafra.gov.on.ca/english/engineer/facts/09-025.htm).

Deadstock collection service

A common method for deadstock disposal is the use of a collection service.

Deadstock is placed in bins that are picked up on the farm. Deadstock may also be delivered by the producer to a collector or to a common container, where deadstock from multiple farms is temporarily stored for pick-up. Common containers can increase the efficiency of collection services.

Store any deadstock awaiting pick-up so that it is concealed from public view (Fig.1), and so that any liquids from the animal cannot escape onto the ground. Not only does improper storage of dead farm animals result in complaints from the public, it also attracts scavengers and predators and poses biosecurity risks for the farm and your neighbours. Make sure bins are not overloaded, carcasses are contained and lids are closed.

Disposal vessels

Another acceptable method of deadstock disposal involves the use of a disposal vessel. A disposal vessel is a scavenger-proof, leak-proof container installed under, partially, or above ground, into which deadstock are placed to decompose. Fig. 2 shows a steel disposal vessel.

Disposal vessels work best for operations with animals that individually weigh up to approximately 75 kg in size. The smaller carcass size allows these animals to decompose quickly. If the weight of deadstock is expected to exceed 65 kg/week, consider either using more than one disposal vessel, filling them concurrently, or other disposal options, such as pick-up by a Licensed Dead Animal Collector.

For more information on disposal vessels check out OMAFRA's fact sheet omafra.gov.on.ca/english/engineer/facts/09-027.htm



Fig. 1: Proper bin placement

An example of proper bin placement from an OMAFRA factsheet called Deadstock Disposal Options for On-farm. This bin is situated well away from the livestock barn but is still relatively close to the road, the pad is large enough to allow the truck to turn easily; it is screened by trees or shrubs and well out of site of a passing motorist.



Fig. 2: Vertical steel tank disposal vessel

Composting

Deadstock can be composted using various methods, such as bin composting, windrow composting or in-vessel composting. Composting is a natural process where microorganisms break down organic materials. Regulatory requirements for composting are covered under the *Nutrient Management Act*. Composting requires huge amounts of substrate such as sawdust, shavings, straw silage, or poultry litter. A number of regulatory setback distances from compost piles also apply.

a) Bin composting

A **three-bin** covered system (Fig. 3) works well for a medium-sized operation. To determine whether a three-bin composter is right for you visit the University of Missouri's website <https://extension.missouri.edu/publications/wq351>. A covered unit sometimes requires extra water to be added to aid in the composting process.

The **four-bin** compost system (Fig. 4) has filling, primary heating, secondary heating, and substrate storage. The bins are not normally filled to overflowing. The apron floor area at the front encourages clean-up and is sloped away from the bins in all directions. Bin floors are sloped slightly to the back

For more information on bin composting check out OMAFRA's fact sheet omafra.gov.on.ca/english/engineer/facts/09-031.htm

b) Windrow composting

For windrow composting (Fig. 5), the final pile should be cone shaped, 2.4–3.6 m (8–12 ft) wide at the base and 1.2–1.8 m (4–6 ft) tall at the highest point. The management of a compost pile involves periodically re-introducing oxygen into the materials by mixing the pile, maintaining aerobic conditions in the pile for the microorganisms. The mixing also ensures that the materials are reorganized within the pile to encourage rapid decomposition of the remaining organic material.

c) In-vessel composting

Some in-vessel composters (Fig. 6) can be relatively expensive to purchase but they work well. They minimize odours, are easy to operate and the composting process is quick and quite economical.



Fig. 3: Three-bin covered system



Fig. 4: Four-bin open system



Fig. 5: Windrow composting system



Fig. 6: In-vessel composting
Novid In-Vessel Composter

On-farm burial

On-farm burial is an acceptable method, but careful consideration must be given to location.

Selecting the Right Sites for Burying

Locating the burial site in the right place is critical for good carcass decomposition and protection of the environment. Generally, soil materials ranging from sandy loams to clays that are well-drained to imperfectly drained are suitable for burial. However, the regulation does not permit burial of deadstock in soils where there is a higher risk of polluting groundwater. The regulations around burial list many setbacks, including minimum distance requirements to the nearest highway, lot line, surface water, well, drainage tile, and neighbor's residence etc.

For more information check out OMAFRA's on-farm burial fact sheet omafra.gov.on.ca/english/engineer/facts/09-029.htm

Incineration

Presently, there are very few incinerators used on swine farms. Incinerators used for deadstock disposal must have a Verification Certificate issued by the Environmental Technology Verification Program (ETV Canada), certifying that it has a secondary chamber that is capable of maintaining the gases that enter it from the primary chamber at 1,000°C or higher for at least 1 second, or 850°C or higher for at least 2 seconds. High temperatures in the secondary chamber will decrease the contaminants in the emissions.



Fig. 7: Backhoe for digging burial trench



Fig. 8: Commercially available incineration unit

Be a good neighbour

Handle deadstock smartly to keep your herd safe and the industry's reputation strong.



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