

Composting Livestock Mortality

No matter how well you manage your dairy farming operation, it is inevitable that you will lose an animal. Due to such natural causes as illness, age or even weather, animal mortalities are inherent.

As “Downer” cows are no longer allowed to be processed in beef slaughter facilities, farmers will find themselves searching for a solution to the increased number of potential deadstock to get rid of. While there are several options, including the services of a rendering company (of which only two service Vermont), the Vermont Agency of Agriculture is promoting the use of livestock mortality composting. Done properly and with the right precautions, farmers will avoid the environmental and biosecurity risks associated with dead animals and they will also find use of an alternative disposal.

Of course, if your livestock’s death was the result of a highly infectious disease then you must check with State Veterinarian Dr. Kerry Rood about disposal options. Special methods may be required. Animals that exhibit neurological disorder behavior prior to death must have samples collected by your veterinarian for testing. Special disposal regulations apply.



A Building Pile in Washington County, New York

Eight reasons to compost deadstock

- 1. Composting kills most pathogens**
- 2. Can be done all year long**
- 3. You don’t need any new equipment**
- 4. Relatively odor free**
- 5. Composting fits all animal sizes**
- 6. Membranes and tissue can be composted**
- 7. Little management and labor needed**
- 8. Cost saving practice**

Composting deadstock

If you compost your deadstock, follow the steps listed below:

1. Decide what method to use.

- Composting methods include static piles, turned windrows, turned bins, and contained systems. Information on the first three methods is available on several websites listed on page 34.
- Static piles with minimum dimensions of 4 feet long, by 4 feet wide, by 4 feet deep are by far the simplest to use.
- Turned windrows may be an option for farmers already composting manure in windrows.
- Turned bin systems are more common for handling swine and poultry mortalities.
- The eco-pod is a contained system developed by Ag-Bag, which has been used to compost swine and poultry mortalities. (Information is available through Ag-Bag, 800-334-7432 or compost@ag-bag.com.)

2. Select an appropriate site.

- Well-drained with all-season accessibility.
- At least 3 feet above seasonal high ground water levels.
- At least 100 (preferably 200) feet from surface waterways, sinkholes, seasonal seeps, or ponds.
- At least 150 feet from roads or property lines—think about which way the wind blows.
- Outside any Class I groundwater, wetland or buffer, or Source Protection Area – contact NRCS for verification.

3. Using effective carbon sources.

- Use materials such as wood chips, wood shavings, coarse sawdust, chopped straw or dry heavily bedded horse or heifer manure as bulking materials. Co-compost materials for the base and cover must allow air to enter the pile.
- If the bulking materials are not very absorbent, cover them with a 6-inch layer of sawdust to prevent fluids from leaching from the pile.
- Cover the carcass 2 feet deep with high-carbon materials such as old silage, dry bedding (other than paper), sawdust, or compost from an old pile.
- Plan on a 12' x 12' base for an adult dairy or beef animal. The base should be at least 2 feet deep and should al-

low 2 feet on all sides around the carcass.

- When composting smaller carcasses, place them in layers separated by 2 feet of material.

4. Prepare the carcass.

- After placing the carcass on the base, lance the rumen of adult cattle. Forget this once and you'll never forget again! Explosive release of gasses may uncover the pile releasing odors and attracting scavengers.

5. Protect the from scavengers.

- Adequate depth of materials on top of the carcass should minimize odors and the risk of scavengers disturbing the pile.
- Scavengers may be deterred by the temperatures within the pile, but, if not, an inexpensive fence of upside down hog wire may be adequate to avoid problems.

6. Monitor the process.

- Keep a log of temperature, carcass weight, and co-compost materials when each pile is started. Weather and starting materials will affect the process.
- Measure pile temperature with a compost thermometer 6 to 8 inches from the top of the pile and deep within to check for proper heating. Check daily for the first week or two. Pile temperature should reach 131°F for 3 consecutive days to eliminate common pathogens.
- Record events or problems such as scavenging, odors, or liquid leaking from the pile.
- Wait. Most large carcasses will be fully degraded within 4-6 months. Smaller carcasses take less time. Turning the pile after 3 months can accelerate the process.

7. Use the materials carefully.

- Use as the base for a new pile. Bones add structure and will continue to decompose.
- Spread on fields growing animal feedstuffs.
- Avoid spreading material with large bones on fields as they may fragment and puncture tires.
- Do not spread skulls.

Resources on deadstock disposal

Procedure Addressing Disposal of Dead Animals, Solid Waste Management Division, Department of Environmental Conservation, State of Vermont Agency of Natural Resources, 802-241-3888

Natural Rendering Fact Sheet 2002, Cornell Waste Management Institute, available at <http://www.cfe.cornell.edu/wmi/Composting.html> or through the Natural Resource, Agriculture and Engineering Service (NRAES), 607-255-7654

Natural Rendering Video. Cornell Waste Management Institute. NRAES #163. This video describes mortality and butcher residual composting featuring eight operations. Available through NRAES, 607-255-7654

Farm Based Composting: Manure and More Video, NRAES #150. Video highlights 14 farm operations and six different composting technologies. Available through NRAES, 607-255-7654

Minnesota Department of Agriculture, <http://www.mda.state.mn.us/composting/default.htm>. Provides basic information on methods. Also describes legalities of composting mortalities in Minnesota.

Natural Rendering website. Penn State College of Agricultural Sciences. <http://composting.cas.psu.edu/NatRendering.htm>. Provides links to resources and shows pictures of the mortality composting process.

Sources: *Healthy Farms-Healthy Agriculture: Biosecurity Notebook*. Available from UVM-Extension.

"Natural Rendering: Composting Livestock Mortality and Butcher Waste" fact sheet.

This Composting Livestock Mortality fact sheet brought to by the Vermont Agency of Agriculture. This can be found in its entirety on the web at <http://www.vermontagriculture.com/composting.pdf>