

## Mortality Composting Guidelines and Resources

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<http://composting.cas.psu.edu>

- Change in Rendering for the Livestock Industry
- Basic Mortality Composting procedures
- Mortality Composting resources for more in-depth information

### 1. Rendering changes and the Livestock Industry

In a perfect world, every animal that we raised would live to the proper market time of the animal. But this is not a perfect world and mortality is part of nature. There is a saying; “If you are going to have Livestock, then you’re going to have Deadstock.” The rendering industry has seen a decrease in the price received for hides, tallow and meat/bone meal. This has related back to the dairy and veal industries with increased rendering service fees. Every farmer has a different mortality death rate but any rate is more costly now for pickup service. Do we have another option to the Rendering service?

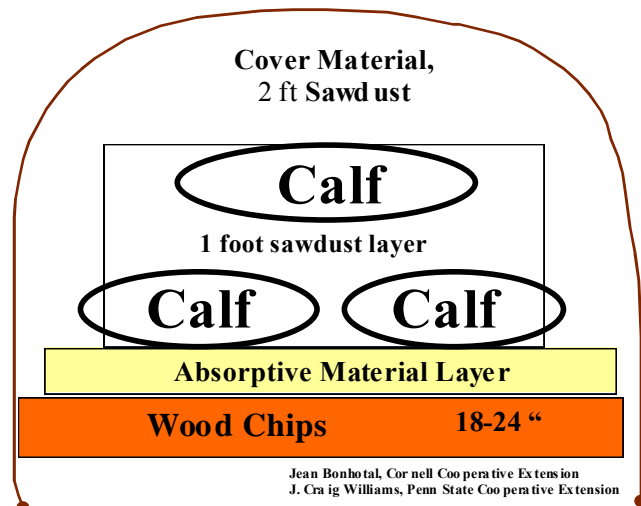
Every state has different options for handling on-farm mortality. It is important to check with your state Department of Agriculture or Environmental Protection, what are your options?

In Pennsylvania, the State Law says that any animal mortality needs to be properly disposed of in 48 hours. Our four options are render, bury, burn or compost. Render is a pick up for fee service. Bury needs to be done in the soil at a certain depth and away from any ground water sources. Proper burning needs special equipment. Compost is a process of natural heating and microbial action to compost the calf into organic matter. Please check with your state about your state’s regulations for composting mortality. The following process what is being used in NY and PA.

### 2. Basic Mortality Composting Procedure.

Composting is the mixing of a high carbon source (sawdust, woodchips, dry bed pack) with a nitrogen source (Animal). This will heat up to 130 –150 degrees very quickly and compost our nitrogen into carbon dioxide, water and organic matter. Penn State and Cornell Cooperative Extension have been composting pigs, calves and cows with this basic procedure.

- Select a site that is well drained and at least 200 feet away from any water source.
- Lay a 2-foot thick bottom layer of a bulky high carbon material in a windrow 5-7 feet wide. (woodchips or sawdust)



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# Composting

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- Layer the sawdust in the center of the windrow and the calves on the sawdust.
- Put 1 foot of sawdust between each calf and then layer the next calf until the pile is 5–6 feet tall
- 2 foot final cover with sawdust, bedpack, or recycled compost from an existing pile.
- Let sit for 3-5 months and then turn and check to see if calf is fully degraded.
- After 5 months the pile can be turned and more calves introduced or can be crop field applied depending on the condition of the carbon material.
- Plan on using a carbon /nitrogen ratio (sawdust/calf) of 25:1 and about 1-2 cubic yards of sawdust per calf.

The bottom layer is to let air enter the pile and soak up any moisture while the outside layer provides a home for the bacteria to live. Some bacteria work close to the calf while other bacteria digest the odors. Excessive odors come from a wet pile and adding more dry material to the mix and the cover should reduce them.

To add more calves, scope out a part of the pile and make a flat layer to put the calf on with more sawdust on top. Another method is to start a windrow from your pile and then continue to add sawdust and calves as needed.



### 3. Other Composting Resources via the Web and University press.

- **Penn State Composting Web Page** <http://composting.cas.psu.edu>
- **Cornell Waste Management Institute**, Composting information and videos <http://www.cfe.cornell.edu/wmi>
- **Composting information and videos from NRAES:**  
**Field Guide For On Farm Composting, NRAES Booklet # 114,**  
**On Farm Composting, NRAES –54** and the New Video from Cornell Composting.  
**Web Page** <http://www.nraes.org/publications/composting.html>
- **Composting Swine Mortality Principles and Operation, AEX-711-97** is an excellent factsheet written by Harold Keener, David Elwell and Terry Mescher of OHIO University about Basic Composting principles and procedures.  
**Web Page** <http://www.ag.ohio-state.edu/~ohioline/aex-fact/0711.html>
- **Composting Dead Livestock, a factsheet from the Leopold Center for Sustainable Agriculture in Iowa about composting.**  
**Web Page** <http://www.leopold.iastate.edu/pubs/other/files/SA8.pdf>