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Composting Large Animal Mortalities in Missouri

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Success in the composting of poultry and swine carcasses has led to an interest in composting large animal mortalities like bovine and equine carcasses. Composting animal mortalities has been an approved method of dead animal disposal in Missouri for a number of years. A discussion covering all approved methods for handling animal mortalities in Missouri can be found in MU Guidesheet WQ216 entitled “Dead Animal Disposal Laws in Missouri” and can be found at <http://extension.missouri.edu/explore/envqual/wq0216.htm> from University of Missouri Extension website. A number of MU Guidesheets have been published covering composting of poultry and swine mortalities. A foundation of information can be found in the MU Guidesheet WQ351 entitled “Composting Dead Swine” found at <http://extension.missouri.edu/explore/envqual/wq0351.htm> from University of Missouri Extension website. This foundation of information based on the success of swine mortality composting can be used to provide guidance for large animal mortality composting.

While experience is somewhat limited, the following notes and observations can serve as a guide in composting bovine and equine carcasses.

1. Locate composter on a suitable site as outlined in WQ351.
2. Perform composting in 3-sided bins or structures to confine material and facilitate cleanout. See composter details in WQ351.
3. Place carcasses in one layer only. Do not stack carcasses in composter.
4. Non-commercial composting of animal carcasses in Missouri is exempt from permit requirements if the composter is roofed and has an impermeable floor usually constructed using concrete. Composting in an outside pile or windrow can be successful but runoff from the pile or windrows will need to be collected, stored and land applied. Undesired moisture additions are possible due to rainfall water penetrating into the composting pile.
5. Place carcasses on a layer of sawdust at least one foot thick in the composter. Puncture the abdominal cavity after placing carcass on sawdust layer and before covering.
6. Cover carcasses with at least one foot of sawdust and maintain at least one foot of sawdust between adjacent carcasses. Use sufficient sawdust to completely cover all parts of each carcass. Leave no parts of any carcass exposed. Plan to use a minimum of 200 cubic feet of sawdust per 1,000 lbs of carcass to be composted.

7. Add more sawdust as carcasses compost and as pile “settles” to ensure no exposure of carcass during composting process.
8. Allow up to one year of composting time for large carcasses without turning. Only the skeletal remains are found at the end of a composting period when composting process proceeded correctly.
9. Up to 50% of fresh sawdust requirements may be fulfilled by recycling finished compost.

Review MU Guidesheet WQ351 for other general information on composting livestock carcasses.

Additional information about composting large animal mortalities can be found at <http://www3.abe.iastate.edu/cattlecomposting/index.asp> that is a webpage entitled “Emergency Livestock Mortality Composting in Iowa” from Iowa State University. However, one needs to be aware that the rainfall runoff will need to be addressed (See point #4) if an uncovered windrow compost system is being considered in Missouri.