



Emergency Disposal of Dead Animals

TN316

DEFINITION

Disposal of mortalities from poultry, swine, and other small animal operations as a result of catastrophic loss.

WHEN APPLICABLE

Each producer should have an established method to handle day-to-day disposal of mortalities. However, in the event of a catastrophic loss, a producer will need to immediately dispose of a large volume of mortalities. Each producer should have an emergency disposal plan in place. This plan should include a list of phone numbers of those to be contacted for approval and assistance.



Disposal by a rendering company is the preferred method of carcass disposal. Disposal at a landfill may be an option in Class I landfill locations. When these methods are not available, on-farm disposal methods to be considered include burial, composting, and incineration with large incinerators.

The State Veterinarian with the Tennessee Department of Agriculture should be notified when catastrophic losses are greater than 10,000 pounds. The Tennessee Department of Environment and Conservation will need to be contacted for a permit for disposal.

Whether burying or composting, the disposal site should be evaluated for the following:

- soil type
- depth to bedrock
- presence of fractured or cavernous bedrock
- depth to seasonal high water table
- flooding hazard
- proximity to waterbodies (rivers, streams, ponds, lakes, etc.)
- proximity to wells
- distance to public areas

If the potential exists for animals such as coyotes, dogs, possums, etc., to dig into the burial or composting site, either use more than the two feet of cover material recommended or use an appropriate fence to exclude these type animals.

BURIAL

Note: Burial of animals is not permitted for day-to-day mortalities, but should be used only in emergencies or on occasion to dispose of a large animal.

Site Approval

Contact the local NRCS office for an on-site assessment to establish a suitable burial site. In the event of a catastrophic loss greater than 10,000 pounds, notify the State Veterinarian for approval to use the burial site prior to disposal.

Site Evaluation Criteria

Dead animal burial sites should be:



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- at least 300 feet up gradient or 150 feet down gradient from any well
- at least 165 feet from a property line or public use area
- at least 100 feet from a water body, stream, or drainage way^{1/}
- no closer than 2 feet to bedrock or the seasonal high water table
- in soils with a permeability of less than 2.0 in/hr (soils with greater permeability will be avoided or will have a liner installed)

Burial Procedure

Burial sites are to be excavated an appropriate depth for the specific soil and geologic conditions. The maximum size of the burial excavation should be 0.1 acre (about 4,400 sq. ft.). Multiple excavations may be needed.

For small animals (poultry, nursery pigs, etc.) place carcasses in a layer no thicker than one foot and cover each layer with at least one foot of soil. Carcasses of large animals (hogs, cattle, etc.) should be placed in a layer one carcass thick and covered with a minimum of two feet of soil. For deep soils (where bedrock is not a concern), carcasses and soil can be placed in multiple layers up to a total depth of eight feet.

The burial site should be mounded with a covering of at least two feet of soil, and surface water should be diverted from the mound. The site should be vegetated immediately after completion to prevent erosion of the soil covering.

For pits that are four to five feet deep, a step or bench 18 inches wide and one foot deep will be dug around the perimeter of the main pit so the remaining vertical wall will not exceed four feet. For pits greater than five feet deep, the earthen wall shall be sloped at 1.5 horizontal to 1 vertical or flatter.

COMPOSTING

An alternative to burial is composting in windrows, bins made with large hay bales, or static piles. Composting must be done under a roof or other suitable cover to prevent runoff contamination. Plastic sheeting (minimum 6 mil thick) may be used if secured properly to remain in place in high wind, no outside runoff will contact the plastic, and runoff leaving the site passes through a filter strip.

Suitable bulking materials include chicken litter, sawdust, peanut hulls, straw, small wood chips, etc. Maximizing carcass contact with the bulking material will improve composting efficiency. Water may need to be added during the carcass and bulking material layering process when using dry bulking material.

All composting processes should begin by placing 12 inches of bulking material on the ground. All carcass layers should be no more than one carcass thick. After the layering process is complete, cover the last layer with a minimum of one foot of bulking material.

Windrows

Windrow composting is best suited for small animal carcasses and may require specialized equipment to turn the compost for subsequent stages. The base for windrowing should be approximately six feet wide. Place a layer of carcasses and cover with an equal thickness of bulking material. Add additional layers to a total depth of about three feet above ground



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Hay Bale Bins

Place the bales end-to-end to form walls for three-sided enclosures. Excessively large bins should be avoided. A layout of two to three bales deep and three bales wide is the suggested size. Each layer of carcasses should be covered with an equal depth of bulking material. Fill the bins with alternating layers of carcasses and bulking material.

Static Piles

Build the pile with alternating layers of carcasses and bulking material. Each layer of carcasses should be covered with an equal depth of bulking material.

OPERATION AND MAINTENANCE

Inspect the compost process daily for signs of cover damage, spillage, leaching, etc. Add bulking material for cover as the composting material settles.

The composting process will work best when the moisture content is 50% to 60% by weight (similar to a damp sponge with no free water present). Water may need to be added when compost is turned.

Daily temperature monitoring is recommended to ensure adequate temperatures of 130°-150°F have occurred. As the temperature reaches a peak between 130°-150°F and begins to decline, turn the compost for it to undergo a second composting stage. Any animal parts exposed in this process should be covered with additional bulking material. Allow two additional months before land applying this material. If raw animal parts are evident after the second composting stage, a third compost cycle will be required.

The compost should be land-applied at agronomic rates using appropriate guidelines and best management practices.

REFERENCES

NRCS TN Conservation Practice Standard
Code 316 - Animal Mortality Facility
Code 317 - Composting Facility
Code 393 - Filter Strip
Code 590 - Nutrient Management

TN Guide Sheets
TN 317 - Composting Poultry Mortality
TN 317A - Composting Swine Mortality

^{1/} Seasonal high water table is defined as a zone of saturation at the highest average depth during the wettest season

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