

Chapter 17 - DEAD BIRD DISPOSAL

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A. Introduction

“Diligent and conscientious management of dead animals is a safeguard to prevent groundwater or surface water pollution and odor nuisances.”

Kentucky Agricultural Water Quality plan, p. 181.

On farm disposal of dead birds continues to be a challenge from the standpoints of cost, environmental safety, biosecurity and practicality. While we, hopefully, have to deal with only a relatively small amount each day, disposal or preservation must also occur daily in order to meet the above challenges.

Management of dead animals at poultry facilities should be conducted in accordance with **KRS 257.160**. Based on the level of production at facilities using this plan and the limited acreage available on site, burial as a means of dead animal disposal is not an environmentally feasible alternative and is not included as an option for disposal in this plan. This section of the plan lists the approved methods for dead animal disposal and the specific requirements for those disposal options.

A practical and sanitary system for disposing of dead poultry will help you prevent the spread of disease, prevent odors and prevent fly breeding. Regardless of the method of disposal chosen, access to the carcasses by scavenger animals such as coyotes, dogs, birds, wolves, and bears must be prevented.

Within the guidelines of the different regulatory agencies, a disposal method that best fits the management system and location of the farm can be selected. The criteria a person should use to determine the most suitable disposal method needs to include:

- Compliance with local, state and/or federal regulations
- Economics of each method
 - Amount of mortality
 - Capital costs
 - Equipment availability
 - Cost of labor

- Reliability of each method
- Degree of biosecurity

The pattern of mortality is also important. Carcass mass is fairly consistent in a breeder operation but a growout operation will have increasing volumes as body size increases with age. Catastrophic losses can create havoc with any disposal method and alternative procedures should be in place in case of a severe disease outbreak or a management problem, such as ventilation failure which may cause high losses.

B. Composting

Composting of dead poultry became popular in 1988 when Dr. Dennis Murphy of the University of Maryland developed a successful method which utilized dead birds, straw, and litter. Composting is a natural process where beneficial bacteria and fungi, convert organic material – in this case, poultry carcasses – into a useful end product called compost. Dr. Murphy and others have demonstrated that composting will work during all seasons of the year. No offensive odor is created if properly done and the end product is safe and can be used as a fertilizer and soil amendment. The final composition of the compost can be highly variable, depending upon the management of the process.

Storage facility design and construction requirements:

- Must be properly designed and sized for the appropriate storage period.
- Must protect the composting material from water.
- Storage structure must be constructed according to the NRCS Conservation Practice Standard Composting Facility, Code 317.

Siting requirements:

- The composting facility must not be located within the 100 year flood plain.
- The composting facility must be located no less than 300 feet from water wells.
- Runoff from outside drainage areas must be diverted away from the compost facility.

The composting storage facility must be inspected yearly when the facility is empty. Maintenance of the storage facility is also required. The following maintenance practices must be observed:

- The compost storage facility must have a roof and concrete floors and curbs under the primary and secondary composting bins.
- Deteriorated wooden materials or hardware must be replaced.
- Concrete floors and curbs must be patched as necessary to maintain water-tightness.
- Roof structures must be checked to assure structural soundness and repaired if needed.

- Exposed metal must be inspected for corrosion and wire brushed and painted as needed.

The composting process must be conducted in accordance with NRCS Conservation Practice Standard Code 317 and including the following criteria:

- The composting facility must include a primary composting unit into which alternative layers of low moisture content manure, carbon source material (straw is common), and dead animal carcasses are placed.
- A minimum temperature of 130°F must be reached during the composting process (temperatures of 140°F to 160°F are ideal). If this temperature is not reached, the resulting compost must be re-composted by turning and adding moisture as needed.
- Moisture must be controlled. Initially, follow the parts by volume recipe of 1 part dead birds, 1.5 parts litter, 0.5 parts water, and 0.5-0.75 parts straw. An alternate recipe is 1 part dead birds and 2-3 parts litter when the litter has a high moisture content. Further addition of water following initial loading almost never needed.

C. Incineration

Incineration is probably the most biologically safe method of disposal. It creates only a small amount of benign waste (ash) that can be easily disposed of and does not attract rodents or pests. It may be the method of choice in areas having poor drainage and rocky soils. It does not have the potential to pollute groundwater and surface water. There are, however, concerns about odors, particulate emissions, and slow through-put. An incinerator is also costly to buy and operate. The cost of running an incinerator depends on its operating efficiency and the number and size of the birds to be disposed of. According to one report, an incinerator uses 0.083 gallons of propane per pound of dead bird. There has been some revival of interest in this method because of design improvements that have lowered fuel costs by more than half.

D. Rendering

The rendering option allows removal of carcasses from the farm and eliminates environmental pollution possibilities while recycling a troublesome waste material into a good feed ingredient. Renderers have been cooking, hydrolyzing and pressing processing plant wastes into by-product meal, feather meal and fat for years. The three major concerns related to this method of disposal are biosecurity, proper feather breakdown and a suitable on-farm storage method to reduce transportation cost.

The following are Best Management Practices (BMP) to be implemented for storing poultry destined for a rendering plant.

- Dead poultry must be held in a leak-proof container.
- Dead poultry not to be treated by refrigeration, fermentation, or acid preservation, must be delivered to, or be picked up by, a rendering company within 24 hours of death.