

Frequently Asked Questions About On-Farm Poultry Carcass Composting

What is essential during the poultry carcass composting cycle?

For the cycle to work properly, temperatures in excess of 130°F must be achieved and maintained for approximately 14 to 21 days. Exposure of carcasses to these temperature conditions requires a minimum of two 10- to 14-day composting cycles.

Are special ingredients required for composting?

The process described does not employ inoculants, chemicals, or other commercial additives. These may (or may not) improve the operation of a composter. The simple process and materials discussed will produce the required decomposition of carcasses.

Do composters produce an odor?

Except when moving compost, there should be no objectionable odor from the composter. Movement of compost from the primary to the secondary bin releases some odor. The odor is not that of decomposing carcasses, and it abates quickly after moving is completed.

Are flies a problem?

Fly breeding has not been a problem with composters. If the composter is operating properly, temperatures in excess of 130°F generated throughout primary and secondary masses are sufficient to kill maggots already in carcasses when they are placed into the composter. Covering the birds in primary bins with dry manure discourages flies.

Do composters fail, and why?

Occasionally, composters fail to reach an adequate temperature, or they may produce odors and seepage. Composting is a biological process that depends on providing nutrients in an environment favorable for microbiological decomposition. Common mistakes are failure to provide all the materials needed for food and aeration or sloppy loading of primary bins so that materials are not "sandwiched."

Too much water is also a common problem. Saturated compost piles are anaerobic and will not support the desired aerobic, thermophilic bacterial growth required for rapid, odorless decomposition of carcasses.

Compost materials can be amended. When primary compost is turned, dry manure or straw can be added to compost that is "too wet," water can be added to compost that is "too dry," and improperly mixed materials can be remixed. A little experience and perseverance usually give good results in a short time.

Are composters biologically safe?

A. Mode of operation: Composters are intended to deal with normal mortality on the farm. It is not recommended that carcasses be transported from the farm where they originate, either to another poultry farm or to a central processing facility.

B. Managing the process: Sloppy loading (piling carcasses against side-walls), careless layering of materials, and taking shortcuts such as skipping the second stage of composting will defeat the effectiveness as well as the safety of the method and should be avoided.

C. Structural design: Treated lumber, concrete, and a roof are all important biosecurity features of the composter and should not be compromised for the sake of economy. These combined features contain and maintain the compost mixture, and they minimize area contamination with manure, tissue, etc. Finally, they absolutely exclude vermin scavengers.

D. Research conducted in the Department of Poultry Science at Auburn University shows that conditions produced within a typical two-stage composter result in a decline of coliform bacteria to undetectable levels during the compost cycle. Findings indicate that composting effectively inactivates enteric bacteria.

Do large carcasses decompose?

Whole birds compost well, but long bones, keels, etc. do survive the process. Large turkeys compost just as well as broilers.

Are the roof and concrete floors needed?

A roof is necessary to ensure all-weather operation and to control moisture content of the compost. Concrete prevents soil contamination, excludes vermin, and most importantly, provides a good working surface for manure handling equipment.

What should be used as compost media if broiler litter is unavailable?

Several alternate carbon (bulking) ingredients can be used successfully, singly, or in combination. These may include, but are not limited to, corn stover, soybean pods and trash, poor quality hay, sawdust, grass clippings, leaves, "cake" (the wet compact crust that forms around feeders and waterers), or manure without litter that is found in layer operations and slatted-floor breeder houses. Substitution of carbon and nitrogen sources does require some analysis, recalculation of mix proportions, and on-site experimentation to ensure that mixtures provide C:N ratios between 20 and 35 and that sufficient moisture and bulking are provided to support vigorous aerobic fermentation.

Can poultry compost be recycled back into the primary compost bins?

Up to one-half of the manure and one-half of the straw used in primary composting can be substituted with recycled compost. Recycled compost produces a rapid start-up in primary boxes, and increased recycling produces a stable end product. Recycling also reduces material costs.

What are the costs of composting?

After construction costs are fulfilled, operational costs fall into two major categories—labor and materials. Labor required is approximately 1/2 hour per day, at whatever the prevailing rate may be. Material costs (straw, etc.) vary from nothing, where materials are available on the farm or are provided by a second party, to \$0.004 per pound of carcass disposed of, where wheat straw costs \$1.50 per bale and is used at the rate of 0.1 pound per pound of carcass.

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