

United States Department of Agriculture FY2016 HPAI Response Mortality Composting: Windrow Construction Protocol for Avian Influenza Infected Flocks May 9, 2016

Please note: These procedures may be revised as the situation develops.

TYPICAL WINDROW CONSTRUCTION PROTOCOL

Three critical elements of windrow construction are: 1) a porous base layer, 2) a uniformly mixed windrow core, and 3) an adequate cap (see Figure 1). These steps may be done concurrently or as separate steps.



Figure 1. Cross Section of Compost Windrow

WINDROW BASE CONSTRUCTION

Before in-house composting, clear carcasses and litter from the windrow location(s) of the poultry house to create a 12–15 foot wide work area for construction of the windrow base(s). Distribute the material from on either side of the pathway. (See *Appendix C* for in-house variations.)

Before outside composting, an adequate site must be identified (see *Appendix A*). Site modifications and approval from State and local agencies may be required.

Using the largest loader possible, begin building the windrow base.

The windrow base should be 12–15 feet wide with a depth of 10 to 15 inches. Base will compress over time.

Carbon material for the base should be porous and bulky enough to allow adequate air flow into and through the windrow. Ideal materials for the base include bark mulch or coarse wood chips. Other acceptable materials include: straw, wood shavings, active compost, small grain hulls, and corn stover. Also, coarse woody material in excess of 2 inches in size should be avoided to ensure that the resulting compost can be land applied as a soil amendment.



If these materials are not available, poultry litter may be used for the windrow base if it is sufficiently dry, porous, and bulky.

To maintain the base's porosity and to avoid compaction, do not drive equipment on the base.

CONSTRUCTION OF THE CORE

The windrow core should consist of a uniform mix of carcasses and litter. The easiest way to get a uniform mix throughout the windrow is to scoop litter and birds together in each bucket load and add it to the windrow in a manner that thoroughly mixes the contents of the bucket. If additional carbon material is needed, the material should support heat generation (i.e., composting). Suitable materials include fresh wood shavings, active compost, poultry litter, straw, corn stover, and small grain hulls. In many instances this material may need to be blended with the existing litter and carcasses to be suitable.



Any remaining feed should be blended and mixed

with the carcasses and litter before windrow construction. Be sure to move infected material as little as possible.

The mix of carcasses and litter should be added from both sides of the windrow. This allows the operators to reach the center of the windrow and avoid compacting the base with the tires or tracks of the loader.

The windrow core should be constructed such that 1 foot of base material is exposed on both sides of the windrow.

Add water as needed.

The core should be dome-shaped and of sufficient height to include the litter and carcass mix from the area adjacent to the windrow. At this stage, the windrow height should not exceed 6 feet.

Continue building the core until all of the litter and carcasses have been placed on the base.

CAPPING THE WINDROW

Prior to capping the windrow, remove any carcasses that are near the edge of the windrow base and include them in the core of the windrow.

Cap the windrow with 8 to 12 inches of a suitable carbon material. Carbon material for the cap should prevent flies from contacting carcasses, serve as an insulating blanket, and allow air to flow out of the piles. This material may be finer in texture than the base. Suitable material includes poultry litter, small grain hulls, sawdust, new bedding, and wood chips. Straw, corn fodder, or similar material may also be suitable; however, experience has shown that these products can



blow off the windrow and may need to be thicker to serve this purpose than other materials.

Ensure that the entire core is uniformly covered with cap material with no carcasses exposed.

Avoid compacting the windrow. Do not operate the loader's tires or tracks onto the sides of the windrow while capping.

The completed windrow should be approximately 6 to 8 feet high.