Department of Biosystems Engineering and Soil Science

DISPOSAL OPTIONS FOR BACKYARD POULTRY FLOCKS POTENTIALLY AFFECTED BY AVIAN INFLUENZA

March 2017
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On Sunday, March 5, 2017, a news release by the Tennessee Department of Agriculture documented detection of highly pathogenic avian influenza (HPAI) at a commercial broiler breeder farm in Lincoln County, Tennessee (tn.gov/agriculture/news/48946). This fact sheet is designed to help backyard poultry owners understand how to respond to a suspected case of avian influenza, and particularly the options available for disposing of birds that have died with influenza symptoms.

First things first. It is important to understand certain characteristics of this HPAI outbreak. First, there is no risk to the human food supply and very low risk of transmission to humans. Second, to control the spread of HPAI in both backyard and commercial poultry flocks, it is important to quickly identify and euthanize affected birds and properly dispose of their remains. If you suspect that your poultry flock is infected with avian influenza, visit the University of Tennessee avian influenza website (extension.tennessee.edu/Pages/ANR-CED-Livestock-Avian-Influenza.aspx) for more information. Also, USDA offers a very good resource for backyard poultry owners (www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian-influenza-disease/birdbiosecurity), particularly with respect to identifying HPAI and the necessary biosecurity measures that should be undertaken to protect a backyard poultry flock. After reviewing this information, if you suspect that your birds are affected by avian influenza, notify the Tennessee Department of Agriculture immediately, and specifically Dr. Charles Hatcher, Tennessee State Veterinarian, at 615-837-5120.

Burial. The best option for disposal of small numbers (up to 100) of backyard birds is typically burial. With the recent outbreak of avian influenza documented, it is wise to locate an appropriate burial site now by digging a test pit with a shovel or a small piece of equipment. The bottom of the burial pit should be 2 feet above the seasonal high water table or bedrock. Soils that are yellowish or greyish in color, or have mottling, should be avoided. Make sure the birds are covered by a minimum of 2 feet of soil to limit scavenging. **Site selection is important to**

protect ground and surface water, so observe the following setbacks from sensitive areas:

- 300 feet or more from wells (150 feet if the burial site is clearly down-gradient).
- 50 feet or more from property lines (the burial site should be discretely located).
- 100 feet or more from surface water (wetlands, streams and ponds).

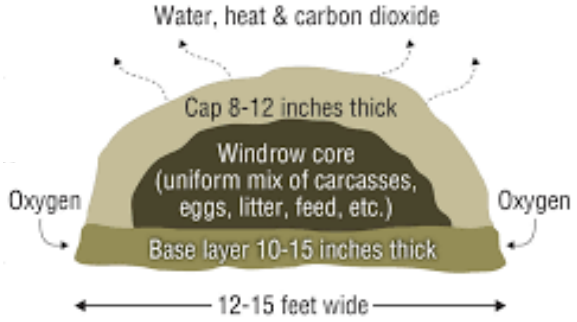

Figure 1. Simplified diagram of a backyard mortality compost pile (credit USDA).

Composting. Composting is a planned and managed process to promote the aerobic (with oxygen) degradation of organic matter. This process generates heat, which can effectively kill the avian influenza virus. It is important to select a flat, well-drained surface or site to do the composting on. If outdoors, the site should not be adjacent to nearby streams, river, ditches or known sinkholes to prevent any runoff or leachate from impacting water quality. **To compost dead birds, you need to add high carbon organic matter material such as wood chips, wood shavings, sawdust or mulch to the dead poultry as illustrated in Figure 1.** Start by creating a 12-inch base of the wood chips, wood shavings, sawdust or mulch. The surface area should be large enough to accommodate all mortalities plus any feed, soiled bedding and eggs that must also be discarded. Three or four layers of birds can be composted in the same pile, as long as each layer is separated by a similar-sized layer (by volume) of the **wood shavings, sawdust or mulch.** In any case, the top of the pile must be covered with at least 12 inches of additional bedding material to avoid attracting flies, which act as vectors to spread the disease.

The **organic matter material you use** should be moist so that it forms a cohesive ball when it is squeezed. If you can drain free liquid, it is too wet, but it is likely you will need to add water to bagged shavings. Ideally the center of the compost pile should be monitored with a thermometer to verify temperatures reach a minimum 131 degrees F for three days. After the compost temperature falls to 100 degrees F (about 1 week), the compost should be mixed and turned. Optionally, the turned pile can be covered again with 6 inches of fresh bedding. If the compost does not heat, it is likely that that the moisture content is too wet or dry. In rare cases compost piles will overheat, which is indicated by temperature greater than 160 degrees F. Although the risk of combustion is low, the piles should be located a safe distance away from structures.

Final Comments. Once disposal is complete, your poultry facilities must be thoroughly disinfected, ideally with a bleach water scrub down. Repopulation of the flock should only occur after your feeding and watering facilities are disinfected, otherwise reinfection is likely.