Rendering and Avian Influenza

During the 2014–2015 outbreak of highly pathogenic avian influenza (HPAI), the U.S. Department of Agriculture’s (USDA) Animal and Plant Health Inspection Service (APHIS) conducted several epidemiological studies to identify potential transmission pathways. While these studies did not determine exactly how the outbreak spread, they identified potential risk factors for being affected by the HPAI virus, such as sharing equipment between farms, proximity to other affected farms, and rendering dead birds.

In light of these findings and some confusion about using rendering as a routine mortality management practice, APHIS is clarifying how its findings relate to rendering. There is a distinction between the widely accepted practice of rendering itself and failures to properly manage that practice in connection with storage, transportation, and/or personnel.

Rendering Basics

Rendering is the process of converting byproducts of the farming and food processing industries into safe, useable products. These products include both edible and inedible products, including feed for livestock or pets, soaps, and biofuels. Materials to be rendered typically come from slaughter plants, but may also include restaurant waste and on-farm mortalities.

During the rendering process, pressure and heat raise the temperature of the materials to approximately 245° to 290° F (115° to 145° C) for 40 to 90 minutes, while evaporating moisture and separating fat, protein, and bone. This process also kills bacteria, protozoa, parasitic organisms, and viruses, including highly pathogenic and low pathogenic avian influenza virus.

To protect livestock health and ensure that feed from rendered materials is safe, the rendering industry established a voluntary feed safety program. The program is based on good manufacturing practices and process controls. Certified renderers who follow these guidelines produce safe, quality feed ingredients.

The Role of Biosecurity

Epidemiological studies show an association between avian influenza (AI) presence on poultry farms and the use of rendering to dispose of daily mortality. An APHIS study of table egg farms, conducted during the 2014–2015 HPAI outbreak, found two risk factors for farm infection related to rendering—having the dead bird disposal area near barns and allowing rendering trucks to come near the barns.

APHIS determined the cause of this association between AI and rendering is most likely biosecurity breaches during the movements of dead birds, trucks, and people between poultry operations, NOT the use of rendering as a mortality disposal process itself.

There are several practices that can substantially reduce the risk of spreading germs and diseases. Renderers and producers alike should work together to implement the following:

- cleaning and disinfecting rendering trucks
- picking up dead birds at a location that’s not near production areas
- reducing the frequency of dead bird pick-up by increasing on-farm dead bird storage capacity
- ensuring that on-farm dead bird storage is operated in a biosecure manner (i.e., closed/sealed to prevent access by animals and insects)
- preventing contamination of trucks and personnel (either at the rendering facility or at previously visited farms)
- using dedicated storage bins at each location that do not leave that location and are not shared by multiple facilities

For More Information

If you have questions, contact APHIS’ Centers for Epidemiology and Animal Health at (970) 494-7200 or ceah@aphis.usda.gov.