

Highly-Pathogenic Avian Influenza

Landfill Frequently Asked Questions

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Frequently Asked Questions

Q: What are the options for disposal options?

A: There are a variety of safe methods for carcass disposal. These methods include composting, on-site burial, incineration, rendering, and landfilling. When necessary, USDA takes an integrated approach and uses a combination of some or all of these methods.

Q: How do animal health officials decide which disposal method to use?

A: USDA, Iowa DNR, and IDALS evaluate disposal methods based on a variety of factors, including the size of the flock, space requirements, associated costs, local conditions, and applicable laws/regulations.

There are benefits and limitations to using each method:

Composting - contains the virus to the farm and produces a soil amendment/fertilizer product. However, composting requires wide-open spaces and may not be feasible for all farming operations, such as egg layer facilities or other facilities where space is limited.

Burial - must be approved by Iowa DNR and may not be permitted if the water table is close to the ground surface.

Incineration - can be safely used to dispose of carcasses. The limitation of this method is that the fuel requirements are substantial and costly.

Landfilling - allows safe and efficient disposal of large quantities of waste. Requires biosecure carcass transportation, which can be more costly.

Rendering involves processing carcasses until they are reduced to water, fat or tallow, and meat or bone meal. Requires additional safety precautions to ensure the virus does not become aerosolized during the rendering process and transported throughout the plant. It also necessitates disruption of the plant's normal operations.

Q: Is landfilling an environmentally safe option for HPAI carcass disposal?

A: Yes. Landfills are highly regulated by the Environmental Protection Agency (EPA) and Iowa DNR to ensure that disposed materials do not present a risk to human health and the environment. Under EPA and Iowa regulations, landfills are located, designed, operated, and monitored to ensure protection of the environment from contaminants that might be present. Landfills are designed and regulated for the purpose of this type of disposal.

Q: What measures are in place at the landfill to protect the environment?

A: There are numerous, overlapping safety controls in place to protect the environment. For example, per EPA and Iowa DNR requirements, municipal solid waste landfills must include an impermeable Leachate Liner overlaying two feet of clay soil along the bottom and sides of the landfill. This protects groundwater and soil from water that trickles through the landfill and absorbs some of its materials known as leachate. In addition, a collection and removal system sits on top of the liner system and removes leachate from the landfill for treatment and disposal.

Q: Will the carcasses in the landfill pose a threat to human health?

A: No. The CDC considers the risk to people from these HPAI H5 infections to be low. No human cases of HPAI H5 viruses have been identified.

Q: How will the carcasses be safely moved to the landfill?

A: A clean trailer is brought on-site by State-licensed haulers and is fitted with a biosecure containment bag. The carcasses are then loaded into the biosecure containment bag, which is sealed, and the truck and trailer—including the exterior of the biosecure containment bag—are disinfected with EPA-registered products labeled for this use. Upon arrival at the landfill, the biosecure containment bag slides out and is immediately buried. The truck and trailer are then cleaned and disinfected again prior to leaving the landfill. A copy of the Specific Waste Acceptance Criteria (SWAC) for landfill disposal is available from the Iowa DNR and IDALS.

Q: Will moving the carcasses spread the virus to new locations or farms?

A: No. USDA, IDNR, and IDALS have conducted a thorough assessment of the risks associated with transporting such carcasses. The risk assessment found that, when transporting the carcasses is necessary, the movement can be done safely and will not spread the disease if the protocols described are followed. In addition, several layers of redundant safety measures are employed to carefully monitor all cleanup and disposal activities to ensure they are done in compliance with USDA protocols.

Q: Who will be transporting the carcasses?

A: Carcasses are transported under the jurisdiction of USDA by State-licensed haulers. These individuals are required to follow all applicable safety protocols.

Q: Who is ultimately responsible for ensuring this transport is done safely?

A: USDA is responsible for ensuring that carcasses are transported safely. Each truck carrying infected carcasses is issued a permit by USDA which allows it to move outside of the quarantine zone. USDA also establishes the requirements that must be met to allow such movement.

Q: Has this been done successfully in previous disease outbreaks?

A: Yes. USDA has successfully used landfilling in several major disease situations over the years. In 2002, USDA used landfills to dispose of turkeys infected with low pathogenic avian influenza in Virginia. Northeast Iowa and Wisconsin have used landfilling in the last several years to dispose of cervid carcasses infected with chronic wasting disease.

Q: Will the AI virus survive in landfills in Iowa?

A: The AI virus is heat-sensitive and does not survive more than six days in carcasses held at room temperature. There have also been scientific studies on survivability of the virus that show the pH and conductivity levels in the landfill leachate destroy the virus at a rate much higher than water. In addition, IDNR would instruct landfill operators to place carcasses toward the top of the solid waste piles, to ensure any biological waste would take longer to reach the leachate liner.