

# HPAI Response

## Response Goals & Depopulation Policy

January 2022

**Note: This policy may be revised as the situation develops or more information becomes available.**

### USDA HPAI RESPONSE GOALS AND POLICY (STAMPING-OUT)

The USDA Animal and Plant Health Inspection Service (APHIS) goals for a highly pathogenic avian influenza (HPAI) response are to (1) detect, control, and contain HPAI in poultry as quickly as possible; (2) eradicate HPAI virus using strategies to protect public health and the environment, and stabilize animal agriculture, the food supply, and the economy; and (3) provide science- and risk-based approaches and systems to facilitate continuity of business for non-infected animals and non-contaminated animal products.

Achieving these three goals will allow individual poultry facilities, States, Tribes, regions, and industries to resume normal production as rapidly as possible. The objective is to allow the United States to regain disease-free status without the response effort causing more disruption and damage than the disease outbreak itself.

The United States' primary control and eradication strategy for HPAI in domestic poultry, as defined by international standards and the World Organisation for Animal Health (OIE), is "stamping-out."

"Stamping-out" is defined in the OIE Terrestrial Animal Health Code (2019) as the "killing of animals which are affected and those suspected of being affected in the herd or flock and, where appropriate, those in other herds or flocks which have been exposed to infection by direct animal to animal contact, or by indirect contact with the causal pathogen; animals should be killed in accordance with OIE Chapter 7.6."

The USDA will continue to evaluate with States, producers, and industry the potential use of HPAI vaccine. However, stamping-out of HPAI-infected poultry will always be part of any HPAI response policy, even if a protective vaccination strategy is implemented.

### USDA-APHIS EPIDEMIOLOGICAL PRINCIPLES OF AN HPAI RESPONSE

Three basic epidemiological principles form the foundation to contain, control, and eradicate HPAI in the U.S. poultry population:

1. *Prevent contact between the HPAI virus and susceptible poultry.*
  - a. This is accomplished through quarantine of infected poultry and movement controls in the Infected Zone(s) and Buffer Zone(s) (which comprise the Control Areas), along with biosecurity procedures to protect non-infected poultry.

- b. Certain circumstances may warrant accelerating the depopulation or euthanasia of poultry at risk for exposure to HPAI to decrease the population density of susceptible poultry.
  - c. There is a serious transmission risk posed by people, material, conveyances, and animals that may have been in contact with HPAI and serve as mechanical vectors. Contact between poultry and these items should be prevented, and transmission risk mitigated through stringent biosecurity and cleaning and disinfection measures.
2. *Stop the production of HPAI virus by infected or exposed animals.* This is accomplished by rapid mass depopulation (and disposal) of infected and potentially infected poultry.
  3. *Increase the disease resistance of susceptible poultry to the HPAI virus or reduce the shedding of HPAI in infected or exposed poultry.* This may be accomplished by strategic emergency vaccination if a suitable vaccine is available and can be administered in a timely manner.

## MASS DEPOPULATION AND EUTHANASIA AS DEFINED BY AVMA

Mass depopulation and euthanasia are not synonymous, and APHIS recognizes a clear distinction. Euthanasia involves transitioning an animal to death as painlessly and stress-free as possible.<sup>1</sup> Mass depopulation is a method by which large numbers of animals must be destroyed quickly and efficiently with as much consideration given to the welfare of animals as practicable, given extenuating circumstances.

Mass depopulation is employed in an HPAI outbreak as a response measure to prevent or mitigate the spread of HPAI through the elimination of infected or potentially infected poultry. As stated by the American Veterinary Medical Association (AVMA)<sup>2</sup>,

...depopulation refers to the rapid destruction of a population of animals in response to urgent circumstances with as much consideration given to the welfare of the animals as practicable. Urgent circumstances may include emergency situations, such as the need for immediate disease control or a response to natural or human-made disasters.

Therefore, the emergency destruction of animals through depopulation techniques may not guarantee that the deaths the animals face are painless and distress free. However, acceptable depopulation methods must ensure that every effort is taken in the planning and response phases of an emergency to ensure that animals designated for depopulation experience rapid loss of consciousness or loss of brain function under the prevailing conditions, and that they are handled in a humane manner before and during their depopulation.

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<sup>1</sup> The American Veterinary Medical Association. (2020). AVMA guidelines for the Euthanasia of Animals. Retrieved from <https://www.avma.org/sites/default/files/2020-01/2020-Euthanasia-Final-1-17-20.pdf>.

<sup>2</sup> The American Veterinary Medical Association. (2019). AVMA guidelines for the Depopulation of Animals. Retrieved from <https://www.avma.org/sites/default/files/resources/AVMA-Guidelines-for-the-Depopulation-of-Animals.pdf>.

In any event, euthanasia or mass depopulation should be provided to affected poultry as safely, quickly, efficiently, and humanely as possible. In addition, the emotional and psychological impact on animal owners, caretakers, their families, and other personnel should be minimized.

## USDA-APHIS STAMPING-OUT AND DEPOPULATION POLICY

When criteria for a presumptive positive have been met (per the [HPAI case definition](#)), the APHIS Administrator or Veterinary Services Deputy Administrator (Chief Veterinary Officer of the United States) or their designee will authorize APHIS personnel—in conjunction with State and Tribal officials, and Incident Command personnel—to initiate depopulation on the Infected Premises. Investigation of Contact Premises is also authorized at this time. Depopulation of poultry on Contact Premises, or poultry meeting the suspect case definition, may also be authorized by APHIS officials—in coordination with State and Tribal officials and Incident Command—depending on epidemiological information and outbreak characteristics. Preemptive depopulation of poultry on other premises in the Infected Zone (typically 3 kilometers around the index case, also known as the Infected Premises) may also be authorized.

Indemnity for depopulated poultry is authorized by APHIS as funds are available. The final determination to depopulate entire Infected Premises, or specific houses/barns on Infected Premises, or depopulate Contact Premises, is made by State or Tribal officials and APHIS.

Best practices for containment and eradication of HPAI require rapid depopulation of infected poultry. Swift stamping-out is required to prevent the amplification of HPAI virus and subsequent environmental contamination. In all cases, depopulation activities must incorporate effective biosecurity practices<sup>3</sup> to control the HPAI virus and prevent further transmission.

## USDA-APHIS DEPOPULATION GOAL

Due to the risk of virus amplification in infected poultry, poultry that meet the HPAI presumptive positive case definition are depopulated as soon as possible, with the depopulation goal within 24 – 48-hours or less; this goal is supported by the AVMA<sup>4</sup>. Poultry on Contact Premises, or those meeting the suspect case definition, may also be depopulated as soon as possible, if such depopulation is determined necessary by State/Tribal and APHIS officials. Again, the final determination to depopulate the entire Infected Premises, or specific houses on Infected Premises, or to depopulate Contact Premises will be made by State Animal Health Officials, or Tribal officials, and APHIS.

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<sup>3</sup> The National Poultry Improvement Plan is a voluntary State-Federal cooperative testing and certification program to enhance biosecurity and improve poultry and poultry products.

<sup>4</sup> The American Veterinary Medical Association. (2019). AVMA guidelines for the Depopulation of Animals. Section (pp. 51). Retrieved from <https://www.avma.org/sites/default/files/resources/AVMA-Guidelines-for-the-Depopulation-of-Animals.pdf>.

## AVMA APPROVED DEPOPULATION METHODS FOR POULTRY

In 2019, the AVMA published the AVMA Guidelines for the Depopulation of Animals. In almost all cases, water-based foam, carbon dioxide, or alternative methods will be the depopulation methods available to rapidly “stamp-out” the HPAI virus in poultry. Each premises are evaluated individually, considering epidemiological information, housing and environmental conditions, currently available resources and personnel, and other relevant factors.

However, to meet the goal of depopulation within 24-48 hours and halt virus production, other alternative methods may also be considered by State and APHIS officials.

[Appendix A](#) (attached) provides a summary table for AVMA Approved Depopulation Methods with specific recommendations for methods preferred, methods permitted in constrained circumstances, and methods not recommended. Chapter 6 describes in detail the depopulation methods for different types of poultry in different farm type settings for floor reared, confined poultry, including aviary style housing and caged-housed poultry.

When no other preferred or alternative methods can be implemented to meet the 24-48 depopulation goal, the AVMA Depopulation Guidelines permits Ventilation Shutdown Plus (+) in constrained circumstances. This policy is further elaborated in the HPAI Response: *Ventilation Shutdown Plus (+) Policy*, posted at [www.aphis.usda.gov/fadprep](http://www.aphis.usda.gov/fadprep).

## APPENDIX A: AVMA DEPOPULATION METHODS IN POULTRY

**Table I—Depopulation methods by species. (continued)**

<b>Species and setting</b>	<b>Preferred</b>	<b>Permitted in constrained circumstances</b>	<b>Not recommended</b>
Chapter 6: Poultry	POE and POHS		
Floor-reared, confined poultry, including aviary-style housing	Water-based foam generators Water-based foam nozzles Whole-house gassing Partial-house gassing Containerized gassing Cervical dislocation Mechanically assisted cervical dislocation Captive bolt gun	Gunshot VSD+ Exsanguination Controlled demolition Decapitation	VSD alone
Cage-housed poultry	Whole-house gassing Partial-house gassing Containerized gassing	Compressed air foam Cervical dislocation Mechanically assisted cervical dislocation Captive bolt gun VSD+ Decapitation	Water-based foam generators Water-based foam nozzles Gunshot VSD alone
Outdoor-access poultry	Captive bolt gun Cervical dislocation Mechanically assisted cervical dislocation Containerized gassing	Water-based foam generators Water-based foam nozzles Partial-house gassing Gunshot via firearm or pellet gun Exsanguination Controlled demolition Decapitation Cervical dislocation	Whole-house gassing VSD alone