

HPAI Response

Surveillance Sampling of Commercial Premises in a Control Area

May 4, 2022

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

DEFINITIONS

Contact Premises: Premises with susceptible poultry¹ that may have been exposed to highly pathogenic avian influenza (HPAI), either directly or indirectly, including but not limited to exposure to animals, animal products, fomites, or people from Infected Premises.

Suspect Premises: Premises under investigation due to the presence of susceptible poultry¹ reported to have clinical signs compatible with HPAI. This is intended to be a short-term premises designation.

At-Risk Premises: Premises that have susceptible poultry¹, but none of those susceptible animals have clinical signs compatible with HPAI. Premises objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises. At-Risk Premises may seek to move susceptible animals or products within the Control Area by permit. Only At-Risk Premises are eligible to become Monitored Premises.

Monitored Premises: Premises objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises. Only At-Risk Premises are eligible to become Monitored Premises. Monitored Premises meet a set of defined criteria in seeking to move susceptible animals or products out of the Control Area by permit.

Infected Zone: Zone that immediately surrounds an Infected Premises; the perimeter should be at least 3 km (~1.86 miles) beyond the perimeters of the presumptive or confirmed Infected Premises. This zone may be redefined as the outbreak continues.

Buffer Zone: Zone that immediately surrounds an Infected Premises; this is the area that is at least 7 km (~4.35 miles) beyond the perimeter of the Infected Zone (10 km beyond the Infected Premises). This zone may be redefined as the outbreak continues.

Surveillance Zone: Zone outside and along the border of a Control Area. A Surveillance Zone may also be formed immediately surrounding a non-poultry infected premises. The perimeter of the zone should be at least 10 km (~6.21 miles). The Surveillance Zone is part of the Free Area.

Control Area: Consists of an Infected Zone and a Buffer Zone; the perimeter of the Control Area should be at least 10 km (~6.21 miles) beyond the perimeter of the closest Infected Premises. This area may be redefined as the outbreak continues.

Foreign Animal Disease Investigation: An investigation conducted according to *VS Guidance Document 12001* (Ready Reference Guide for investigations is [here](#)).

INTRODUCTION

An Infected Zone and Buffer Zone (Control Area) will be created around an HPAI poultry¹ Infected Premises. This document provides surveillance guidance for commercial poultry premises within a

¹ Poultry is defined as: all birds reared or kept in captivity for the production of any commercial animal products or for breeding for this purpose, fighting cocks used for any purpose, and all birds used for restocking supplies of game or for breeding for this purpose, until they are released from captivity.

Control Area. Surveillance activities and associated testing should be based on recommendations of the Unified (State-Federal) Incident Command; this guidance may require further modification based on epidemiological and situational information.

This document reflects the epidemiological information known about the behavior of currently circulating viruses and experiences from previous outbreaks. For example, there is no evidence that the circulating viruses cause sub-clinical infection in gallinaceous poultry species; clinical signs and mortality are apparent.

COMMUNICATION

It is critical to ensure that HPAI information, as well as recommended biosecurity measures, is clearly communicated to all commercial premises in a Control Area. APHIS and State/Tribal officials must ensure that instructions are provided to owners/producers to report clinical signs and abnormal mortality; there are transparent procedures for managing reports of clinical signs or unusual mortality from commercial producers (also known as sick bird calls).

VISITING PREMISES

While it is important to locate commercial poultry premises within a Control Area, responders should not enter premises unless instructed to do so by the Incident Management Team (IMT). It is critical to remember that any real or perceived belief that responders are spreading HPAI is incredibly detrimental to the response effort. As with any premises, if a visit is necessary, appropriate biosecurity and cleaning and disinfection measures should be observed, and all guidance provided by Incident Command should be followed.

SURVEILLANCE PLAN

Passive Surveillance

Start and Duration

Passive surveillance is conducted consistently in the United States through foreign animal disease investigations (per *VS Guidance Document 12001*). In the event of an HPAI detection, passive surveillance is intensified through rapid and clear communication to all producers in the Control Area.

Procedures

Mortality threshold levels that signal the need for investigation have been established for the different commercial poultry sectors. Commercial flocks within the control area that exceed the mortality thresholds² listed below are investigated and sampled as rapidly as possible for avian influenza.

- ◆ Commercial broilers: mortality exceeding 3.5 birds/1,000 per day.
- ◆ Commercial layers: mortality exceeding 3 times the normal daily mortality per day (normal: 0.13 birds/1,000 per day for layers from 2 to 50 weeks, and 0.43 birds/1,000 per day for layers over 50 weeks); OR 5 percent drop in egg production for 3 consecutive days.
- ◆ Commercial turkeys: mortality exceeding 2 birds/1,000 per day.

² Per the H5/H7 avian influenza case definition.

- ◆ Broiler breeders: mortality exceeding 2 birds/1,000 per day.
- ◆ Layer breeders: mortality exceeding 3 times the normal daily mortality per day (normal: 0.2 birds/1,000 per day up to 50 weeks, and 0.37 birds/1,000 per day after 50 weeks).
- ◆ Turkey breeders: mortality exceeding 2 birds/1,000 per day; OR a decrease in egg production of 15 percent occurring over a 2-day period.
- ◆ Small-volume high-value commercial poultry flocks and other commercial flocks not listed here: any sudden and significant mortality event or sudden drop in egg production should be investigated.

At the State's discretion, investigation, and sampling of flocks which exceed the mortality thresholds can be performed by a company veterinarian, a Foreign Animal Disease Diagnostician, or other IMT-designated response personnel.

1. Schedule an appointment to collect samples as quickly as possible.
2. Conduct sampling according to the recommended sampling scheme below and submit samples to the designated National Animal Health Laboratory Network (NAHLN) lab as indicated by the IMT.
3. Record all relevant information in the Emergency Management Response System (EMRS). Follow IMT guidance on any additional information to enter.

Routine Active Surveillance

General Guidance

In addition to passive surveillance, routine active surveillance is conducted to provide evidence that HPAI is not present. Active surveillance in commercial premises is composed of two components: pre-movement surveillance and routine active surveillance. This document describes routine active surveillance activities only and is meant to complement any surveillance conducted in preparation to move product. Please refer to the Secure Poultry Supply Plans for additional pre-movement surveillance guidelines or refer to the document [Testing Requirements for Movement from the Control Area](#).

Start and Duration

APHIS and/or State officials will determine the time length for active surveillance. Active surveillance may continue after the Control Area has been released for international or bilateral trading partners.

Procedures

1. Determine if the premises is, or will be, engaged in pre-movement surveillance:
 - a. If yes, use samples collected from pre-movement surveillance to count towards routine active surveillance requirements where possible. Do not duplicate surveillance efforts.
 - b. If no, continue with frequency and sampling guidelines as described below.
2. Frequency of sampling is determined by classification of premises.
 - a. Suspect Premises (SP) is a temporary designation. Disposition of SP is determined by State Animal Health Official, APHIS, and/or Incident Management Team (IMT).
 - Immediately investigate and collect samples following sampling scheme below.
 - SP should be reclassified expeditiously, after investigation and results from

- testing are received.
- b. Contact Premises (CP):
 - Collect samples on each premises every other day for 14 days.
 - CP that tests negative in the above sampling regime should then be sampled as described for the MP and ARP (below).
 - c. At Risk Premises (ARP):
 - Collect samples on each premises once every 5-7 days for the duration of the quarantine, or similar sampling frequency depending on the resources available and guidance provided by the IMT.
 - ARP may be sampled more frequently depending on pre-movement surveillance guidelines.
 - d. Monitored Premises (MP):
 - Collect samples once every 5-7 days for the duration of the quarantine, or similar sampling frequency depending on the resources available and guidance provided by the IMT.
 - MP may be sampled more frequently depending on pre-movement surveillance guidelines/requirements for movement.
3. If HPAI compatible clinical signs, mortality, or epidemiological links are reported on a CP, ARP, or MP, conduct sampling immediately according to the sampling scheme below, and submit samples to designated NAHLN lab as indicated by IMT.
 4. Record all relevant information in EMRS. Follow IMT guidance on additional information to enter.

RECOMMENDED SAMPLING SCHEME

Select birds to sample as follows and in line with the current version of *Avian Sample Collection for Influenza A and Newcastle Disease* (WI-AV-0020 available [here](#)):

1. Commercial flocks:
 - a. For premises with gallinaceous birds, swab and pool samples collected by the same sampling route and from the same species according to Section 3 “Pooling procedures” of WI-AV-0020.
 - i. Collect up to 5 swabs in 3 mls of acceptable virus transport media (VTM) for any species, and up to 11 swabs (for gallinaceous poultry only) in 5.5 mls VTM; refer to WI-AV-0020 for options on collection of 11 swab pools.
 - ii. Sample 5 to 11 birds per each group of 50 (or less) daily dead or euthanized sick gallinaceous birds from each house on the premises. A minimum of two 11-bird pools or three 5-bird pools is required. If there are not enough daily dead or euthanized sick birds to fill the required minimum number of pools, evenly distribute the sick and dead between the required number of pools. This sampling scheme is designed to detect HPAI with 95 percent confidence (when accumulated over repeat testing) as described in detail in [Secure Food Supply Plans](#).
 - iii. Random sampling of apparently healthy birds provides negligible detection benefit.
 - b. For premises with domestic waterfowl only, follow guidance in 1(a)ii if moribunds are available, otherwise sample 34 birds per house as domestic waterfowl may not show clinical signs of infection. A 34-bird sample (maximum of 5 swabs per pool) is sufficient to detect HPAI with approximately 95 percent confidence if within-flock prevalence is 10 percent.

- c. Always prioritize the collection of samples from sick and dead birds.

Collect swabs according to the current version of *Avian Sample Collection for Influenza A and Newcastle Disease* (WI-AV-0020 available [here](#)):

1. Oropharyngeal swabs are preferred for gallinaceous birds.
2. Cloacal swabs are preferred for waterfowl.
3. Do not combine swabs from different species nor different sampling routes.
4. If pooling is conducted, only pool samples collected by the same sampling route from the same species according to Section 3 “Pooling procedures” of WI-AV-0020.
 - a. Collect up to 5 swabs in 3 mls of acceptable virus transport media (VTM) for any species, and up to 11 swabs (for gallinaceous poultry only) in 5.5 mls VTM; refer to WI-AV-0020 for options on collection of 11 swab pools.
5. Prepare, package, and process swabs for laboratory submission according to the guidance found in the *FAD Investigation Manual*.

DOCUMENTATION

As with all surveillance activities, documentation is critically important. EMRS is the system of record for all HPAI outbreaks in the United States. Relevant data regarding backyard surveillance activities must be entered into EMRS in as close to real-time as possible. This data may be reported internally and externally through situation or close-out reports or other means.

At a minimum, the following items are important to maintain and report:

- ◆ Number of commercial premises in Control Area.
- ◆ Number premises contacted, and means of contact, for passive surveillance.
- ◆ Number premises visited and sampled (including dates) for active surveillance.
- ◆ Total birds sampled at each premises and visit.
- ◆ Laboratory results for all submissions.

Include data from pre-movement surveillance that is used to meet routine active surveillance requirements. Refer to IMT guidance for how to appropriately record these and other data.

FOR MORE INFORMATION

USDA APHIS VS. Testing Requirements for Movement from the Control Area.
www.aphis.usda.gov/fadprep.

USDA APHIS VS. Surveillance of Backyard Flocks around Infected Premises.
www.aphis.usda.gov/fadprep.

H5/H7 Avian Influenza Case Definition. www.aphis.usda.gov/fadprep.

USDA APHIS VS. Draft August 2017. *Highly Pathogenic Avian Influenza (HPAI) Response Plan: The Red Book*. www.aphis.usda.gov/fadprep.

Secure Food Supply Plans. www.aphis.usda.gov/fadprep.

Avian Sample Collection for Influenza A and Newcastle Disease (NVSL WI-AV-0020)
https://www.aphis.usda.gov/animal_health/lab_info_services/downloads/WIAV0020.pdf

USDA APHIS VS. 2022. *Foreign Animal Disease Investigation Manual (FAD PReP Manual 4-0)*.
www.aphis.usda.gov/fadprep.