

<p style="text-align: center;"><b>Vermont Agency of Agriculture, Food &amp; Markets</b> <b>LPAI Initial Response and Containment Plan</b></p>
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**Updated January 2013**

**I. JUSTIFICATION**

- (A) Avian influenza (AI) is a disease of increasing worldwide importance with ongoing implications as a zoonotic disease threat.
- (B) Low pathogenic (LP) varieties of AI have the potential to mutate to highly pathogenic (HP) strains, and the potential impact on domestic poultry is significant.
- (C) Additional driving forces for a national H5/H7 avian influenza control plan consist of:
  - 1. Decision made by the World Organization for Animal Health (OIE) to re-define notifiable avian influenza to include H5 and H7 subtype viruses of low virulence in addition to the highly virulent ones; and
  - 2. Influence of international markets on the economic viability of our nation's poultry industry. It is in the best interest of state and federal government, human health professionals, and poultry industry members to prevent and control all H5/H7 avian influenza virus infections.
- (D) H5/H7 avian influenza is a disease reportable to the State Veterinarian's office by all licensed or otherwise legally practicing veterinarians in the State and by all laboratories.
- (E) The Vermont LPAI Response and Containment Plan is subordinate to the federal Highly Pathogenic Avian Influenza Response Plan (Red Book). As per the Red Book, USDA-APHIS would be involved, at the invitation of the State Veterinarian, in making decisions regarding the cost and control efforts of a Vermont-origin outbreak.
- (F) The Voluntary Cooperative State-Federal Program to control and eradicate H5/H7 avian influenza infections of commercial poultry is state-based and coordinated. The plan will provide for stakeholder input and participation, establishment of passive and active surveillance programs, and planning for a coordinated, pre-planned response in the event of an AI outbreak in the state. This plan will provide a level of assurance to Vermont poultry producers and trading

partners and will ensure an adequate level of surveillance and response preparedness for state and federal animal health officials.

## **II. AVIAN INFLUENZA ADVISORY COMMITTEE**

The state advisory committee, consisting of representatives from the Vermont Agency of Agriculture, Food & Markets (VAAF), USDA-APHIS, Vermont Department of Health, and various producer groups, may provide important input to this plan. Since 2006, this advisory committee has not been active. Nonetheless, the AI Advisory Committee in Vermont is comprised of the following participants:

- (1) State Veterinarian – or representative
- (2) USDA-APHIS Area Veterinarian in Charge (AVIC) or representative
- (3) Vermont Department of Health representative
- (4) Vermont Agriculture Laboratory representative
- (5) University of Vermont Cooperative Extension representative
- (6) NPIP contact representative
- (7) Vermont egg producer representative and/or consultant
- (8) Turkey and broiler industry representative
- (9) Game bird representative (pheasant, chukar, quail, etc.)
- (10) Vermont Bird Fanciers Club/Pigeon Breeders representative
- (11) Vermont Department of Fish and Wildlife representative
- (12) Department of Environmental Conservation representative

## **III. MONITORING PLAN**

- (A) The State will maintain “U.S. H5/H7 Avian Influenza Monitored State” status under the National Poultry Improvement Plan (NPIP) program for avian influenza (see Appendix #1).
- (B) The AI Advisory Committee may institute an ongoing Avian Influenza Awareness Program for all accredited veterinarians and poultry producers in the

state and may organize exercises in the training and preparation of personnel (biosecurity, use of PPE, proper disinfection and containment).

(C) Assumptions and expectations:

- (1) No liability shall accrue to VAAFMM for damages, losses, or injuries incidental to or arising by virtue of participation in this plan.
- (2) The flock owner has the responsibility to adopt and implement the biosecurity measures set forth in Appendix #4 of this agreement.
- (3) The flock owner has the responsibility of maintaining records of flock morbidity, mortality, and production and shall make such records available for review by the VAAFMM as requested.

(D) Testing

(1) **Monitoring**

- (a) Real-time reverse transcriptase polymerase chain reaction (RRT-PCR) and serologic testing may be used as screening tests for monitoring purposes. Routine screening for type A avian influenza virus in poultry will be performed using RRT-PCR. Serologic screening for type A avian influenza virus in poultry will be performed using either agar gel immunodiffusion (AGID) or enzyme-linked immunosorbent assay (ELISA). The AGID test is to be performed according to the “National Poultry Improvement Plan and Auxiliary Provisions” §147.91; ELISA test is performed using only federally licensed kits and following the manufacturer’s instructions.
- (b) A premises or flock will be considered suspect based on the clinical case definition in consultation with the State Veterinarian and AVIC; OR positive laboratory samples taken during routine surveillance with or without the presence of clinical criteria.
- (c) A premises or flock will be considered presumptive positive if it meets one of the following criteria:
  - Detection of antibodies to influenza A in sera as determined by AGID serological tests that cannot be explained by vaccination and subsequent subtyping by hemagglutination-inhibition and neuraminidase-inhibition and identification as H5 or H7 with any NA subtype; OR,
  - Identification of influenza A RNA by rRT-PCR and determination of the subtype as H5/H7.

- (d) A premises or flock will be considered confirmed positive if  
1)influenza A virus is isolated; 2)virus is subsequently identified as an H5 or H7 subtype; and 3)virus is determined by USDA’s NVSL to be pathogenic (H5/H7 LPNAI)
- (e) Positive test results of any type will be reported immediately to the State Veterinarian, who will then notify USDA-APHIS through the AVIC. In the case of a positive serologic test, the State Veterinarian may issue a quarantine and prescribe certain bio-security measures to be implemented until virus identification is completed and/or assessment of the clinical symptoms exhibited by the flock is made.
- (f) Laboratories:
  - 1. USDA-APHIS-VS-NVSL  
1920DaytonAve.  
Ames, IA 50010
  - 2. Connecticut Veterinary Medical Diagnostic Laboratory  
University of Connecticut  
61 North Eagleville Road  
Storrs, CT 06269-3203

**(2) Passive Surveillance**

- (a) All laboratories that perform diagnostic procedures on avian species (private, State-Federal Cooperative, public health, and university laboratories) will examine all submitted cases of severe, atypical, or otherwise unexplained respiratory disease, gastrointestinal disease, neurologic disease, egg production drops, and high mortality, for avian influenza by both a USDA-approved serologic test and a USDA-approved influenza virus detection test. Positive tests will be reported immediately.

**(3) Active Surveillance**

- (a) VAAF, in conjunction with USDA-APHIS-VS, Connecticut Veterinary Medical Diagnostic Laboratory, and commercial producer organizations, has implemented a backyard and commercial poultry surveillance program.

- (b) Active surveillance includes RRT-PCR on tracheal/cloacal swabs or serologic samples.
- (c) The number of sampling units required (i.e., flocks to be monitored) will depend on geographic location and other relevant circumstances, such as proximity to wild waterfowl, cross-traffic potential, etc. In the event that LPAI is detected in Vermont or neighboring states, the frequency and number of tests to be performed as part of an active surveillance plan will be determined by the State Veterinarian, in consultation with the AVIC.
- (d) State and federally inspected slaughterhouses in Vermont utilize inspectors trained by USDA-FSIS to recognize avian influenza on ante mortem and post mortem inspection. All commercial birds slaughtered and/or processed in these facilities are viewed by an inspector.

#### **IV. RESPONSE PLAN**

The State Veterinarian and the AVIC will administer this Initial Response and Containment Plan developed in conjunction with the Advisory Committee. The Secretary of Agriculture may request that the Governor declare a state of emergency once state resources have been exhausted or are determined to be inadequate. USDA-APHIS-VS will be invited to establish a Joint Incident Command Center to implement the deployment of necessary state and federal resources to respond to the emergency outbreak.

##### **(A) Trace back/ Trace forward**

VAAFM animal health officials, with assistance from the USDA-APHIS AVIC and Regional Epidemiologist will conduct rapid trace back and trace forward investigations of all infected and potential contact (exposed) flocks to identify the origin of disease and identify all infected and exposed flocks. Tracing will include all movements to and from premises under investigation, including movement of susceptible and non-susceptible animals, products, equipment, vehicles, and people. The actual index premises will be identified if possible

##### **(B) Criteria for declaring premises suspect for HP/LP AI during a confirmed outbreak**

In all cases during a confirmed outbreak, premises containing flocks/birds showing clinical signs of respiratory disease, sudden unexplained drop in egg production, or lesions consistent with AI (i.e., edema of the head, comb, or

wattles; subcutaneous hemorrhage of feet or shanks; hemorrhage/necrosis of comb, wattles, trachea, heart, and/or gut) should be considered suspicious for AI until confirmed or ruled out by appropriate diagnostic tests. Because of the possibility of false positives using ELISA, all ELISA-positive sera shall be re-tested using AGID.

(1) Epidemiologic link with an AI suspect flock or premises. An epidemiologic link is considered to be established if one or more of the following occur(s):

- (a) Poultry operation(s) employ workers who reside in the same household as person(s) associated with a confirmed AI outbreak elsewhere.
- (b) Farm premises are within the same business organization that the AI outbreak occurs, particularly if there is sharing of equipment and/or personnel, or if close geographic ties exist.
- (c) Poultry farms, companies, or personnel use common facilities or equipment, such as breaker plant, feed mill, egg flats, trucking company, vaccination crews, or other equipment.

(2) Flock/bird with no clinical signs, no lesions compatible with AI, and no epidemiologic link but AI-positive by one of the following tests:

- (a) AGID
- (b) ELISA<sub>3</sub>
- (c) RRT-PCR

**(C) Criteria for declaring premises positive for HP/LP AI during a confirmed AI outbreak:**

(1) Premises inside surveillance zones are considered positive if birds exhibit clinical signs and/or gross lesions consistent with low or highly pathogenic avian influenza virus plus one of the following laboratory tests.

- (a) Isolation and identification of AIV
- (b) Positive RRT-PCR with H5 or H7 AIV specific primer/probe set
- (c) Presence of H5 or H7 AIV subtype-specific serum antibodies

- (2) Premises inside surveillance zones without clinical signs and/or gross lesions must meet two of the following conditions to be declared positive.
- (a) Directigen-positive (cannot be only criterion to designate a premises as positive even with an epidemiologic link)
  - (b) Isolation and identification of H5 or H7 subtypes of AIV
  - (c) Positive RRT-PCR with H5 or H7 AIV specific primer/probe set
  - (d) Presence of H5 or H7 AIV subtype-specific serum antibodies
  - (e) Epidemiologic link. An epidemiologic link is considered to be established if one or more of the following occur(s):
    - (i) Poultry operations employ workers who reside in the same household as person(s) associated with a confirmed AI outbreak elsewhere.
    - (ii) Farms are within the same organization that the AI outbreak occurs, particularly if there is sharing of equipment and/or personnel, or if close geographic ties exist.
    - (iii) Poultry farms, companies, or personnel use common facilities or equipment, such as breaker plant, feed mill, egg flats, trucking company, vaccination crews, or other equipment.

**(D) Initial response plan for an AI-positive flock or premises**

A flock plan will be developed for all premises with confirmed LPAI infection or exposure. Templates are available from VS and may be utilized in the development of the flock plan. A flock plan is a written flock management agreement developed by APHIS-VS and VAAFM with input from the flock owner and other affected parties. A flock plan sets out the steps to be taken to eradicate H5/H7 LPAI from a positive flock, or to prevent introduction of H5/H7 LPAI into another flock. A flock plan shall include, but is not limited to, poultry and poultry product movement controls and geographically appropriate infected and control/monitoring zones. Control measures in the flock plan should include detailed plans for safe handling of conveyances, containers, and other associated materials that could serve as fomites; disposal of flocks; cleaning and disinfection; depopulation and subsequent downtime; and repopulation.

- (1) Positive AI test (PCR or serology) without increased mortality or other clinical signs

- (a) The flock or premises will be placed under quarantine and strict biosecurity measures will be met in accordance with Appendix 4 of this Plan.
  - (b) All commercial poultry flock owners will be informed of the status of the quarantine.
  - (c) If RRT-PCR is positive for either H5 or H7, swabs will be immediately forwarded to the National Veterinary Services Laboratories (NVSL) for subtyping. NVSL will carry out virus isolation for characterization and pathogenicity testing. Initial subtype results should be obtained within 24 to 48 hours. Pathogenicity of the isolate is normally determined within 5 to 20 days.
- (2) Positive AI test (PCR or serology) accompanied by significant unexplained on-farm mortality or other clinical signs that could be consistent with LPAI
- (a) The flock or premises will be quarantined and strict biosecurity measures will be met in accordance with Appendix 4.
  - (b) A quarantine zone around the affected premises will be imposed, and other company-owned or related flocks will be assessed for risk based on levels of biosecurity in place at the time of the outbreak.
  - (c) Pooled (up to five birds per tube) pharyngeal and cloacal swabs will be collected according to Table 1 and submitted to NVSL for RT-PCR testing if flock positive on serology.
  - (d) Tissues (lung, spleen, brains, and/or intestines) from individual dead birds will be sent to VAL. Positive tissues will be forwarded to NVSL for virus isolation, characterization, and pathogenicity testing. All testing and collection of samples will be performed on-site using appropriate bio-security precautions.

| (E) **Response following definitive diagnosis of AI (subtype-dependent)**

- (1) LPAI - H5 or H7 subtypes
  - (a) The flock or premises will be quarantined and strict biosecurity measures will be met in accordance with Appendix 4 of this Plan
  - (b) Following consultation with APHIS-VS and industry parties involved, the State may make the decision to depopulate. This

depopulation may take place as much as two to four weeks after the initial outbreak in order to reduce the amount of virus spread by virus-shedding birds. Indemnity amounts will ultimately be determined by APHIS-VS, and depopulation for indemnity may only occur if the following conditions have been met:

- (i)** The potential need and eligibility of the affected flock for indemnity has been discussed with, and approved by, the Regional Epidemiology Officer and with the VS Headquarters Poultry Staff. The AVIC shall initiate these prerequisite discussions.
  - (ii)** Other options for disease containment/eradication have been discussed and exhausted, such as quarantine, controlled marketing, or quarantine/vaccination strategies
  - (iii)** A signed compliance agreement is on record in advance of the initiation of any work for which indemnity funds may be requested. A compliance agreement is a separate document from the flock plan. While the flock plan specifies the processes and procedures that must be completed in order for the premises to resume normal production, a compliance agreement is a document that indicates what tasks will be completed, who will be responsible for each task, and the expected associated costs of the work. The compliance plan would be compared to the statement of work produced for a contract.
- (c)** Spent laying hen, turkey breeder, or turkey meat flocks found to be serologically positive to LPAI H5/H7 but without the ability to infect sentinel birds or evidence of virus shedding may be moved to approved slaughter. Sequential depopulation by slaughter may occur once viral testing and sentinel birds indicate the flock is free of active infection for a period of at least three weeks.
  - (i)** If birds are going to approved slaughter there will be no indemnity.
- (d)** Limited and controlled vaccination of commercial laying hen, turkey breeder, or turkey meat flocks may be used as a method of eradicating the disease, provided that adequate biosecurity measures are in place with approval of the state veterinarian and according to provisions for APHIS approval (Appendix 5).
  - (i)** Cost of vaccination will be covered by the producer(s) implementing the vaccination program.

- (e) Surveillance of all flocks or farms surrounding an infected flock as per section V(A) of this Plan will be undertaken, and any other company-owned or other epidemiologically related flocks located outside the surveillance zone will be monitored. Surveillance will be by use of RRT-PCR for H5 or H7 AI.
- (i) Cost of testing other company-owned or related flocks will be covered by the producer(s); epidemiologically unrelated surrounding flocks will be tested at state/federal expense.
- (f) Serologic surveillance will continue weekly until the infected flock has been free of active infection for at least 30 days or until all surrounding and epidemiologically linked flocks or farms have been sufficiently tested and found free of active infection for a period of at least 30 days.
- (g) Flock or premises will be tested according to Table 1, taking into consideration special stipulations.
- (h) Pooled (up to five birds/tube) pharyngeal and cloacal swabs will be submitted to NVSL or other approved NAHLN laboratory for RRT-PCR testing. All testing and collection of samples will be performed on-site using appropriate biosecurity precautions.

**Table 1. Number of birds sampled for serology, PCR, and/or virus isolation on each premises.**

No. birds on premises	Minimum number of birds to be sampled *
15 or fewer.....	Sample all
16 to 49.....	15
50 or more.....	30

\*Assuming a 95% or greater sensitivity and 99% specificity for the diagnostic testing system used, sampling the indicated number of birds will result in a 95% certainty that at least one positive bird will be detected if at least a 25% prevalence of HPAI virus shedding exists among birds on the premises at the time of sample collection

- (2) **Highly Pathogenic Avian Influenza (HPAI)**
  - (a) The flock or premises will be quarantined and strict biosecurity measures will be met in accordance with Appendix 4 of this Plan.
  - (b) HPAI is a highly contagious disease with zoonotic potential, and disease spread from positive or epi-linked flocks or premises to naïve populations will be controlled using strict biosecurity measures, quarantine, stop movement orders and slaughter and/or

mass depopulation with appropriate disposal.

- (c) In the event of a HPAI outbreak, principles of disease control and containment established in APHIS-VS' The Red Book: Highly Pathogenic Avian Influenza Response Plan will be utilized in a Vermont response.

- (3) LPAI - other subtypes

- (a) Strict bio-security measures will be maintained throughout the life of the flock.
- (b) Control measures to be taken are to be presented in writing by poultry producers to state officials.
- (c) Surveillance shall be carried out in adjacent or epidemiologically linked flocks until the infection has been shown to no longer be active. This testing shall be in the form of serology, virus isolation, RT-PCR and/or sentinel birds
  - (i) Cost of testing will be covered by the producer(s).
  - (ii) The producer may be able to take samples, when under the direction of an accredited veterinarian.

## V. ZONE ESTABLISHMENT & QUARANTINE MEASURES

Quarantine authority resides with the Secretary of the Vermont Agency of Agriculture, Food and Markets and may be delegated to the State Veterinarian; quarantines on all movement of poultry within, into, and out of one or more of the designated Containment Regions will be imposed by the Secretary upon confirmation of the isolation of live AI virus. Appropriate quarantines may also be established prior to disease confirmation if warranted by clinical signs consistent with HPAI and in accordance with 6 V.S.A. Chapter 102, §1157. Quarantine restrictions will be enforced by local and state law enforcement officers with support from Agency of Agriculture, Food & Markets personnel.

### (A) Establishment of surveillance zones

- (1) Three distinct zones, with varying intensities of surveillance will be established:
  - (a) *Infected Zone* - perimeter should be at least 3 km (~1.86 miles) beyond perimeters of presumptive or confirmed Infected Premises. This zone may be redefined as the outbreak continues.

- (b) *Buffer Zone* - Perimeter should be at least 7 km (~4.35 miles) beyond the perimeter of the Infected Zone. Width is generally not less than the minimum radius of the associated Infected Zone, but may be much larger. This zone may be redefined as the outbreak continues
    - (i) *Control Area* (comprised of the Infected Zone + Buffer Zone) - Perimeter 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.
  - (c) *Surveillance Zone* - Width should be at least 10 km (~6.21 miles), but may be much larger.
- (2) In addition to Zone classification, the following potential epidemiologic links shall be rigorously assessed for risk based on levels of biosecurity in place at the time of the outbreak:
- (a) company-owned and other epidemiologically related flocks;
  - (b) common breaker plants;
  - (c) feed mills;
  - (d) vaccination crews;
  - (e) movement of other equipment and personnel;
  - (f) recently purchased breeder stock; or
  - (g) recent participation in exhibition shows or swap meets.
- (3) ***Infected Zone***
- (a) The Infected Zone generally includes the area within 5 miles (8 km) of the index flock. The target population to include in surveillance efforts will be all commercial and non-commercial poultry operations.
  - (b) ***Commercial poultry operations*** (defined as those operations which engage in any marketing of poultry or poultry products)
    - (i) Commercial poultry operations will conduct active serologic surveillance as required by this document.
    - (ii) Cloacal and tracheal swabs will be collected from poultry in each house, building, or flock located on the premises. Sick and freshly dead birds are targeted for sampling.
    - (iii) The total number of birds that will be sampled in each unit is presented in Table 1. Serologic surveillance shall continue weekly for a minimum of 30 days after the last

active case of influenza is depopulated, processed, or no longer shedding virus.

- (iv) Swab samples will be collected weekly for a minimum of 30 days after the last active case of influenza is depopulated, processed, or no longer shedding virus.
- (c) ***Non-commercial poultry operations*** (aka hobby farms; backyard farms). These operations do not engage in marketing of poultry or poultry products outside of bird swaps and fairs/exhibitions.
- (i) An inventory of at-risk, non-commercial operations will be developed by VAAFMM and USDA-APHIS-VS within the infected zone. The development of this inventory will be based on data held in USAHERDS and will be created with assistance from the Advisory Group. At-risk operations are defined as those with poultry, waterfowl, pigeons, or ratites.
  - (ii) All at-risk, non-commercial operations will have swab samples collected for RRT-PCR testing and/or virus isolation. Both cloacal and tracheal samples will be collected from gallinaceous birds and ratites; only cloacal samples will be collected from waterfowl.
  - (iii) The total number of birds that will be sampled in each unit is presented in Table1. Serologic surveillance shall continue weekly for a minimum of 30 days after the last active case of influenza is depopulated, processed, or no longer shedding virus.
  - (iv) Swab samples for RRT-PCR testing and/or virus isolation shall be collected weekly for a minimum of 30 days after the last active case of influenza is depopulated, processed, or no longer shedding virus.

**(4) *Buffer Zone***

- (a) The Buffer Zone generally includes the area between 5 and 10 miles (8 and 16 km) of the index flock. The target population to include in surveillance includes all commercial and non-commercial poultry operations. Surveillance should also include, when considered appropriate, any commercial or non-commercial flocks with epidemiologic links to the index flock that might be located outside of the Buffer Zone. Surveillance efforts in the Buffer Zone will be conducted simultaneously with those in the Infected Zone.

**(b) *Commercial poultry operations***

**(i)** Testing procedures for commercial poultry operations in the Buffer Zone will be identical to those applied in the Infected Zone.

**(c) *Non-commercial poultry operations***

**(i)** Testing procedures for non-commercial poultry operations in the Buffer Zone will be identical to those applied in the Infected Zone.

**(ii)** Cloacal and tracheal swabs samples for RRT-PCR testing and/or virus isolation will be collected from each non-commercial operation at the initiation of this surveillance plan and again 21 days following initial sampling. The total number of birds to be sampled on each operation is presented in [\(Table #1\)](#).

**(5) *Surveillance Zone***

**(a)** The Surveillance Zone generally includes the area between 10 and 30 miles (16 and 50 km) from the index flock if geographically possible. Surveillance is also to include, when considered appropriate, any commercial or non-commercial flocks with epidemiologic links to the index flock that might be located outside of the official Infected, Buffer, and Surveillance zones.

**(b)** An inventory of commercial and non-commercial poultry operations will be developed by VAAFM and USDA-APHIS-VS, with input from the Advisory Committee. In addition to testing performed under 1 and 2 below, all at-risk non-commercial poultry operations within 0.3 miles (0.5 km) of commercial poultry operations will be identified, and tracheal or cloacal swab samples collected once for RRT-PCR. The total number of birds to be sampled on each operation is presented in Table 1.

**(i)** Cloacal and tracheal swabs samples for RRT-PCR testing and/or virus isolation will be collected from all commercial operations at the initiation of this surveillance plan and again 21 days following initial sampling. The total number of birds to be sampled on each operation is presented in Table 1.

**(ii)** Cloacal and tracheal swabs samples for RRT-PCR testing and/or virus isolation will be collected from each non-commercial operation at the initiation of this surveillance plan and again 21 days following initial sampling. The total

number of birds to be sampled on each operation is presented in Table 1.

- (c) Commercial poultry operations will comply with all other requirements.

**(B) Movement and Biosecurity**

- (1) Movement controls will be implemented for live birds, dead birds, eggs, egg flats, litter, trucks, equipment, workers, etc., within the Control Area. These orders will remain in place until surveillance is completed.
  - (a) No avian species may be moved out of or into the quarantine area.
  - (b) No poultry products or supplies, *excluding properly washed and sanitized and/or monitored for AI: table eggs, egg products, or processed poultry products in properly sanitized containers and vehicles*, may be moved off an infected premises or out of the quarantine area. Eggs going to breaker must be transported in disposable non returnable flats.
  - (c) Trucks or vehicles entering an infected premises must be thoroughly disinfected prior to entering and again prior to leaving the infected premises.
  - (d) If testing within the Infected, Buffer or Surveillance Zones detects any additional positive flocks or premises, the Control Area will be extended accordingly.
  - (e) Only permitted movements will be allowed within the Control Area until surveillance is completed within all three Zones.

**VI. OPTIONS FOR POSITIVE FLOCKS**

**(A) Depopulation and Disposal**

(1) Infected avian populations will be humanely euthanized; only American Veterinary Medical Association-approved methods of euthanasia shall be employed. CO<sub>2</sub> gas, cervical dislocation and fire retardant foam for floor birds will be the primary methods of euthanasia utilized. Small populations will be disposed of via incineration, composting or burial on premises or in an appropriate landfill. Experience dictates that large numbers of birds can overwhelm incinerators and private arrangements for burial or composting. Larger populations may be disposed of by burial at an acceptable landfill with attention to transportation routes and disinfection of transport vehicles.

- (a) If depopulation is chosen as the preferred method of dealing with an LPAI outbreak, the following methods may be used for disposal of the birds.

- (i) In-house or approved on-site composting may be used for disposal of birds and is the desired method when practical. Composting must be performed in accordance with steps outlined in Appendix #2.

- (ii) Birds that are not able to be composted may be disposed of in an approved landfill in compliance with the Agency of Natural Resources, Department of Environmental Conservation's requirements. At a minimum, vehicles transporting carcasses to and from the landfill must be covered and sealed to prevent escape of liquid and airborne material, such as blood, feathers, and dander. (See Appendix # 3 for landfill locations, capacity, and availability.)

**(A) Controlled Marketing**

(1) At the discretion of VAAFM animal health officials and APHIS-VS, poultry that are infected with or exposed to H5/H7 LPAI may be allowed to move for controlled marketing in accordance with this Initial State Response and Containment Plan and in accordance with the following requirements:

- (a) Poultry infected with or exposed to H5/H7 LPAI must not be transported to a market for controlled marketing until 21 days after the acute phase of the infection has concluded, as determined by the Vermont Agency of Agriculture in accordance with the initial State response and containment plan described in § 56.10; and

- (b) Within 7 days prior to slaughter, each flock to be moved for controlled marketing must be found to be free of H5/H7 LPAI, using a test approved by the Vermont Agency of Agriculture.

(2) Poultry moved for controlled marketing will not be eligible for indemnity under 9 CFR, part 56.3.

**(C) Premises Decontamination and Disinfection**

(1) Manure and all organic material shall be completely removed from infected buildings. If taken to an approved off-site location, it must be transported in a covered and leak-proof container and in accordance with an approved transportation plan.

(2) The sides of the building shall be scraped to remove all residual organic

material that might harbor virus.

- (3) Manure removed from infected buildings shall be buried or composted on the premises or double bagged and taken to a designated landfill or incinerator in accordance with an approved transportation plan, and in a covered and leak-proof container.
- (4) After removal of all organic material, the physical facility and equipment shall be appropriately cleaned and disinfected with Virkon S® or other approved disinfectants.
- (5) Rodent and fly control measures must be intensified if necessary.
- (6) Poultry repopulation of the infected premises shall not occur until the disease is deemed to be eradicated by state and federal animal health officials plus two weeks.
- (7) Sentinel birds may be required prior to repopulation.

**(D) Biosecurity Practices**

- (1) All biosecurity practices are to be followed before, during and after outbreaks according to Appendix #4.

## **VII. PUBLIC RELATIONS RESPONSE/COMMUNICATION**

VAAFM and USDA-APHIS-VS will strive to keep industry partners and the public updated with regard to the status of any HPAI outbreak. Primary communication will be maintained via a contact list, including but not limited to, the AI Advisory Committee, accredited veterinarians, and other appropriate industry members/organizations.

(A) All media inquiries pertaining to serologic findings or other aspects of the outbreak, including actual or suspected cases of AI infection in Vermont, will be triaged by the VAAFM communications office or the Joint Information Center (JIC) if one is established during response to the outbreak. The VAAFM communications office and the JIC may utilize state and federal animal health officials for subject matter expertise when formulating media responses.

(B) Information released to the public should be timely and include the following general information:

- (1) Nature and extent of the emergency.
- (2) Impacted or potentially affected areas of the state.

- (3) Human health implications or lack thereof.
- (4) Activities being carried out by government officials and industry leaders to respond to the outbreak or mitigate its effects.
- (C) The use of radio and television may include prepared announcements, interviews, question and answer sessions, live footage, and so forth depending on the circumstances.
- (D) Information released may also include newspaper inserts or supplements which provide detailed information the public can use and information about the steps being taken by the state and industry to protect them.

## **Appendix #1**

### **NATIONAL POULTRY IMPROVEMENT PLAN (NPIP)**

National avian influenza surveillance under the NPIP is conducted at different levels. The NPIP awards an “Avian Influenza Clean” status to flocks that satisfy the requirements for avian influenza.

NPIP Requirements for “Avian Influenza Clean” status are the following:

**U.S. Avian Influenza Clean Egg-( $<75,000$  birds are exempt) and Meat-Type chicken**  
–Primary. A minimum of 30 birds must test negative for antibodies to avian influenza when the flock is more than 4 months of age to qualify. After qualification, a sample of at least 30 birds from the flock must test negative at intervals of 90 days to retain the classification.

**U.S. Avian Influenza Clean Egg-and Meat-Type chicken**  
–Multiplier. A minimum of 30 birds must test negative for antibodies to avian influenza when the flock is more than 4 months of age to qualify. After qualification, a sample of at least 30 birds from the flock must test negative at intervals of 180 days to retain the classification.

NPIP also grants an H5/H7 Avian Influenza Clean classification for turkey breeding flocks.

## **Appendix #2**

### **PROCEDURE FOR IN-HOUSE COMPOSTING**

Dead or euthanized birds infected with HPAI may be composted in a manner that is consistent with recommendations put forth by the Cornell Waste Management Institute. Their protocol is available for viewing at the following link:

<http://cwmi.css.cornell.edu/aifs.pdf>. Additionally, a more concise description of how to compost LPAI-infected birds put forth by the Maine Composting School may be viewed at <http://umaine.edu/publications/12e/>. Although these resources provide accurate information pertaining to the steps one must take to compost poultry effectively, all composting that is undertaken for purposes of carcass disposal during a Vermont HPAI outbreak must be done in consultation with VAAFMM animal health officials and with the Vermont Agency of Natural Resources, Department of Environmental Conservation to ensure that applicable state rules and laws are adhered to. In general, the steps below should be followed whenever composting infected poultry:

1. Twelve inches of litter, straw, shavings or other organic material should be used as a base. An eight to ten inch layer of bird carcasses is then piled on top of this and sprayed with enough water to saturate the feathers. Six inches of organic material is placed on top of the carcass layer. Successive alternating layers may be piled on each other to the height of six feet. The width of the windrow should be approximately twelve feet.
2. The house is heated to 100 degrees F for three days.
3. Windrow temperatures are monitored and should reach 135 degrees to 145degrees F within one week.
4. The windrow is turned at two weeks and the house is heated again for three days.
5. Windrow temperatures continue to be monitored.
6. Compost may be removed after one month as long as desired temperatures are obtained for minimum periods of time.

### Appendix #3

#### LOCATIONS AND AVAILABILITY OF VERMONT LANDFILLS

County	Landfill name	Physical Address	Potential capacity (tons/day)	Contact person Phone
Washington	Moretown Landfill	187 Palisades Pk, Moretown, VT 05660	600 ton	Tom Badowski 802-244-1100 Ext 226
Orleans	NY Waste Svc of VT dba: Waste USA	21LandFill Lane, Coventry, VT	2500 ton	Lenny Wing 802-334-8300 c-802-793-3141

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## **Appendix #4**

### **BIOSECURITY MEASURES**

Biosecurity is a critical component of a poultry company's poultry health program. Following strict biosecurity guidelines can reduce the chances that diseases such as avian influenza will come into contact with commercial poultry operations. The following recommendations were compiled by the Virginia Poultry Federation:

#### **Biosecurity Program for the Poultry Industry**

##### **1. SERVICE TECHS AND BREEDER SERVICING CREW**

- a. Park a minimum of 100' from first poultry house you approach when possible, unless onboard or hand disinfectant sprayers are used.
- b. Keep vehicle windows closed on farms.
- c. Service Technicians must put on clean coveralls, hairnets and boots (rubber or disposable) prior to entering poultry houses.
- d. Clean and disinfect all equipment before entering houses.
- e. Use hand sanitizer or disposable gloves before entering and when exiting houses
- f. Clean & disinfect vehicles inside daily, outside weekly

##### **2. FEED MILL**

- a. Wash trucks to remove mud and debris to the extent needed to allow effective operation of disinfectant sprayers.
- b. Clean and disinfect the cabs on feed trucks daily. Spray the floors and pedals with approved disinfectant.

##### **3. HATCHERY**

- a. All drivers are to wear boots (rubber or disposable). Egg, chick and poult trucks are to be cleaned and disinfected inside and outside daily. Spray insecticide inside trucks as needed to eliminate the transporting of flies from farm to farm.

- b. Egg racks and trays must be washed and disinfected before leaving hatchery.
- c. Wash chick/poultry boxes and delivery carts daily.
- d. Hatchery waste trucks going to rendering need to be cleaned and disinfected before returning. Load should be hauled at the end of the day. Sweep out the cab and spray pedals and floorboard with an approved disinfect. Spray insecticide as needed.
- e. Eggs brought to hatcheries should be from source flocks participating in NPIP or other disease monitoring programs. See paragraph above.

#### **4. LIVE HAUL (Single Age)**

- a. All equipment is to be cleaned and disinfected daily.

#### **5. LIVE HAUL (Multi Age)**

- a. All equipment is to be cleaned and disinfected between farms.

#### **6. DEAD BIRD DISPOSAL**

- a. Composting must be managed properly to ensure carcasses are covered to prevent exposure to wild animals and to maintain adequate temperatures for composting.
- b. When on-farm incineration is used, carcasses must be protected from exposure to wild animals.
- c. Farms should not share disposal facilities. Rendering can be used for daily mortality if approved by company management. Growers that use rendering must clean and disinfect vehicles prior to returning to their farm, and vehicles transporting carcasses should not travel from farm to farm to pick up daily mortality for delivery to the rendering plant.

#### **7. GROWERS, FARM MANAGERS, AND HIRED HELP**

- a. Biosecurity/Disease Control Area signs will be posted at farm entrance.
- b. Growers should keep limit visitors and not visit other poultry facilities.
- c. Minimize the number of vehicles entering the farm.
- d. Be sure that visitor guidelines are followed when a service call is needed.
- e. Do not allow pets, livestock or wild animals to enter poultry houses.

- f. Keep wild birds out of poultry houses.
- g. Practice effective rodent and insect control.
- h. Keep workrooms clean.
- i. No birds of any kind will be visited or kept by the Grower or hired help or Company personnel.
- j. Sharing equipment between Growers is not recommended. In the event that equipment must be shared, effective cleaning and disinfecting must take place between uses.
- k. Growers should wear clean protective clothing or clothing dedicated to the farm prior to entering poultry houses.
- l. Notify a company representative if you observe others not following good biosecurity.

## **8. GENERAL**

- a. Poultry company personnel and growers must avoid any contact with live bird markets and noncommercial poultry.
- b. Poultry companies will comply with applicable disease surveillance protocols.
- c. Poultry companies will hold annual training on biosecurity program for service technicians, hatchery personnel, feed mill personnel, live-haul personnel, and growers, or will train on a continuous basis.
- d. If there is an outbreak of a highly contagious disease refer to the prevention and rapid response plan and individual company policies for increased biosecurity measures.

### **Poultry Farm Biosecurity Measures for Visitors**

All poultry farms are biosecure areas and all traffic must be kept to a minimum. If any business can be conducted over the phone, please do so. If a visit **MUST** be made to a farm, coordinate it with the grower and/or the appropriate poultry company contact listed below and follow the steps below at all times.

- All vehicles entering a poultry farm must stop at the farm entrance and fill out the visitor log in the mailbox (for farms that have boxes). Please include your name, date, time, company association, reason for visit, and farms visited previously on that day.

- ALL vehicles must thoroughly disinfect their tires and floor mats before entering and before leaving a poultry farm. The acceptable disinfectants are the following: Virkon-S, DCR, and Phenols. Remember, surfaces must be adequately cleaned in order for disinfectants to work.
- Personnel driving or riding in a vehicle that goes on the farm must have protective boots. Either rubber or plastic boots must be put on before getting out of the vehicle. These boots must be worn the whole time on the farm, and be discarded or cleaned onsite before re-entering your vehicle.
- Vehicle windows should be rolled up at all times while on the poultry farm in order to prevent flies from getting into the vehicle.
- Entry into the poultry houses is strictly forbidden unless pre-authorized by the grower or the poultry company.
- Anyone who enters poultry houses must wear clean coveralls, hairnets, and boots and use the disinfect stations provided at the door.
- When exiting the farm, disposable boots should be put in a receptacle provided at the farm. Then spray shoes with disinfectant before entering your vehicle. Hands, rubber boots, and any tools used on the farm must be washed and disinfected.
- Vendor vehicles must be kept clean at all times.

### **Company Quarantine Requirements in the event of an outbreak of H5/H7 LPAI**

(Taken from Prevention and Rapid Response for Low Path Avian Influenza (H5/H7) in Virginia)

1. Eliminate all service and other visits to that farm except dedicated service technician
2. Service technician cannot visit a farm that is not under quarantine for 48 hours after leaving quarantined premise
3. Specifically restrict movement of grower and family individuals and employees to essential visits only
4. Notify vendors of quarantined premise and cease nonessential visits
5. Establish Cleaning & Disinfection station at entrance to farm and C & D all vehicles entering and leaving premise
6. Feed deliveries
  - a. Make delivery last stop
  - b. Driver must not enter poultry house

- c. Driver must wear plastic boots unless climbing feed tanks
  - d. Driver must use hand sanitizer before leaving farm
  - e. Driver must bathe and launder clothing after leaving farm
  - f. Truck must be thoroughly cleaned and disinfected after leaving farm
7. All dead birds should be disposed of on the farm in a biosecure manner
8. Properly sanitized eggs may be removed from a premise with LPAI without significant elevations in mortality. These eggs shall not be processed with eggs from other farms. Appropriate biosecurity measures shall be taken when moving the eggs off of the farm.

## **Appendix# 5**

### **VACCINATION FOR FLOCKS INFECTED WITH LPAI**

In instances where depopulation is not a viable option due to the fact that the producer or local economy will be negatively affected and unable to recover, or because the VAAFM and USDA are unable to compensate for the depopulation of millions of birds, vaccination may be used for the purposes of eradicating infection with LPAI. Vaccination can provide a barrier of immune birds to assist in area containment and protection of particularly valuable or genetically important populations of birds.

- If the aim is to establish a ring of vaccinated flocks, then the outer edge of the ring should be put in place first, in case the virus had already spread further than expected. The vaccination ring should extend 10 km or more from the infected premises or area according to the evaluated risks of propagation (illegal movements of animals or their products, high density of poultry population, low biosecurity level in farms).
- If the aim is to protect valuable flocks, then these should be vaccinated first.
- Vaccinating flocks from the perimeter to the center of a zone allows vaccination teams to move from low risk to high-risk flocks, as they normally should.
- Vaccination crew movement and sanitation must be strictly controlled to preclude the movement of disease with the crew.
- Where vaccine is used to establish a buffer of immune birds and the birds or premises do not become infected, the birds may be slaughtered and permitted to move to slaughter under controlled arrangements after following withdrawal time of the vaccine.
- Vaccinated birds must be kept in quarantine and a protocol established for detecting shedding of LPAI at which time they would be managed as an infected flock as described in the Plan.

The USDA grants the authorization for use of vaccine as a method for eradication of LPAI. Vaccination approval may be given for use in specified flocks under strict control of the Secretary of Agriculture and USDA-APHIS. Any AI vaccination program would require a Memorandum of Understanding (MOU) between the State, the poultry producer concerned, and USDA-APHIS-VS. The agreement would include adherence to an approved flock AI eradication plan, compliance agreement, monthly reports and an agreement to depopulate and dispose of spent hens. The MOU will include the following requirements:

1. Accurate records of all commercial vaccine purchased and used.
2. Confirmation that vaccine use is strictly limited to the specific, approved flock(s).
3. Confirmation that the accepted vaccination protocol is being followed.
4. Access to all production and mortality records.
5. A flock plan.
6. A compliance agreement for each premises regarding use of the H5/H7 inactivated vaccine.
7. GPS coordinates for each production premises.
8. Vaccine records showing that only vaccinated pullets are being used under an “all-in/all-out” house system on the affected premises.

**The authorization for vaccination may be withdrawn if:**

1. There is evidence that the isolate has mutated into a HPAI.
2. There is failure to follow the vaccination protocol.
3. It is apparent after 6 months of vaccination that the vaccine is failing to eradicate the infection.
4. The virus spreads to a new premises.
5. Trade bans are placed on the United States.

Enhanced biosecurity measures will be developed when the decision has been made to use a vaccination strategy for a flock on an infected premises.

**Purchase and Administration of the Vaccine:**

Vaccine will be purchased privately and will be permitted by VAAF. The Federal and State role in the vaccination process will be limited to oversight and monitoring. It is the responsibility of the private entity to administer the vaccine. Authorized personnel need to record the vaccines used, the protocols applied, the zones vaccinated, the dates of vaccination and the persons responsible for vaccination.

Vaccines will be administered by the appropriate route. Pullets should receive two injections, unless less than 90% of the flock is immunized two weeks following vaccination. If that is the case, then an additional vaccination will be performed. Previously infected layers, once recovered, should receive one injection.

### **Replacement Pullet Procedures:**

Replacement birds should be vaccinated a minimum of two weeks prior to moving to positive premises, so that there has been adequate time for antibody response.

A cohort of 75 replacement pullets will remain unvaccinated for AI to be placed as sentinels within the house. These birds will be tested negative for AI by RRT-PCR and individually banded at the time of placement onto the infected farm. Upon movement to the laying house, these unvaccinated sentinels will be randomly placed in 15 cleaned and disinfected plastic or metal cages throughout the laying house or commingled with cohorts in floor systems. Every two weeks, 30 of the sentinels will be sampled. The samples will be tested by RRT-PCR by NVSL or other NAHLN approved laboratory. Authorized agents of VAAF will collect these samples. Positive RRT-PCR results will be sent to NVSL for virus isolation. If the sentinels are positive for virus, the program will be terminated and the farm will be depopulated. Negative premises will continue to be monitored by serum or egg yolk antibody testing on a regular basis. The flock owner will monitor the flock health and mortality daily. Any increases in bird morbidity or mortality will be reported to VAAF so that additional diagnostic testing may be performed. Incoming pullets will continue to be vaccinated until the original infected flocks have been removed.

### **Manure Management:**

Movement controls to take manure off farm must be consistent with, and will be enforced by, VAAF in consultation with the Vermont Department of Environmental Conservation. Definitive biosecurity procedures must be established to minimize disease spread. Monitoring of daily bird mortality by swabbing or by dead bird pick up on a weekly basis for three to four weeks must be implemented to establish whether manure is safe for movement and disposal.

### **Goals and Timeframes:**

The following steps should also be taken:

- Vaccinated spent hens may be required to be depopulated, rather than marketed, after completing their production cycle;
- Review placement schedules and arrange for early push-outs. New placements indicate that a new group of replacement pullets will be of appropriate age for

vaccination (13-15 weeks) every 3-4 weeks. Sequential house-by-house depopulation to eradicate the H5/H7 virus, with “all-in all-out” movements, on the index farm should be completed in 15 months;

- After three months, VAAF and USDA-APHIS will review testing results and reevaluate the frequency of testing, making adjustments if necessary; after six months of negative sentinel results, the need to continue with vaccination will be reviewed.