The importance of public-private partnerships and work groups when conducting risk assessments for moving commercial pullets from a pullet farm during an HPAI outbreak

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In 2015, we learned some things...

• For every HPAI case, there are many non-case premises that will want/need to move product
  • That effort will require workforce and infrastructure

• On day 1 of an outbreak, regulators are not available to help with the movement of product, they are too busy with the outbreak
Continuity of Business (COB) Planning

• Minimize unintended negative effects of disease and disease response, while achieving response goals
  • Control or eradicate disease without “destroying” the industry

• Provide risk-based solutions derived from scientific data, national and international standards
  • Mitigate unintended consequences of FAD response on agriculture, food industries, consumers, and communities

• Provide a continuous supply of [safe and wholesome] food to consumers
Secure Poultry Supply Plan (SPS) is a translation of the science in the Secure Egg (SES), Turkey (STS) and Broiler (SBS) plans into a harmonized permitting approach that can be used in the event of a disease outbreak such as highly pathogenic avian influenza (HPAI). When a product is moved using the SPS, the permit guidance for that product, which comes from the SES, STS or SBS, spells out the criteria that must be met to meet the movement’s risk rating.
SPS Permit Guidance

Movement of Layer Hatching Eggs to Hatchery or Processing Plant

RISK ASSESSMENT FOR MOVEMENT: Completed; USDA reviewed September 2010

Layer hatching eggs originating from egg farms in an IPAI Control Area moving to a hatchery or processing represent a low risk, provided that the permit guidance below has been met. Layer hatching eggs moving to a hatchery or processing may move within or out of the Control Area by permit.

PERMIT GUIDANCE:

1. Hatching eggs are moving from a premises that meets the criteria for a Monitored Premises designation and has a national premises identification number.
2. Truck & driver biosecurity is implemented.
3. Product-specific biosecurity is implemented.
4. Eggs held for two days may move after two negative tests – either 2 PCRs collected on 1 day within 24 hours of move; or 1 PCR collected on 2 consecutive days prior to move where at least 1 PCR taken within 24 hours of move.

1. Hatching eggs are moving from a premises that meets the criteria for a Monitored Premises designation and has a national premises identification number.
   • A Monitored Premises (MP) 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. For the Secure Poultry Supply Plans, the following criteria must be met:
     o Pre-movement RT-PCR testing is negative,
     o Epidemiological questionnaire is completed,
     o No unexplained mortality, no unexplained clinical signs, and no unexplained changes in production parameters, and
     o Biosecurity measures are acceptable to state and federal authorities.
   • For permitted movement through EMRS, an accurate national premises identification number (i.e., 7 character alphanumeric code as described in 9 CFR § 71.1, not the state ID) or other acceptable ID system for movement is required.

2. Truck & driver biosecurity is implemented.
   • The risks of spreading virus to and from the premises associated with the truck (including possible transportation of insects) must be managed in accordance with specific industry and commodity recommendations.
     o The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
     o The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

3. Product-specific biosecurity is implemented.
   • The layer hatching eggs must be moved directly and only to a hatchery or a processing facility without poultry for breaking and further processing.
   • The transport vehicle shall be sealed by farm or company personnel under the authorization of the IC.
   • The layer hatching eggs must be packed in either new disposable materials or plastic materials that were previously cleaned and disinfected at the hatchery.
   • Egg-handling materials can be returned to the premises of origin after at least 24 hours have elapsed since these materials were moved from the farm and without contacting materials going to other premises.
   • New paper or fiber flaps must be used for hand gathered eggs.
   • The layer hatching eggs must be sanitized with an Environmental Protection Agency (EPA) registered disinfectant for avian influenza virus according to the manufacturer label directions for application on layer hatching eggs or by formaldehyde fumigation immediately after collection.
   • Hatchery loading docks, connecting passages, and receiving storage areas are to be cleaned and disinfected with an EPA registered disinfectant after receiving hatching eggs.
   • The transfer of hatching eggs into setters and movements of unwashed materials originating from the breeder flock must be conducted after the hatching or chick processing operations on the same day.
   • Egg contents leaked onto hatchery floors must be cleaned and disinfected according to hatchery standard operating procedure (SOP).
   • Employees must wash their hands with soap or apply a hand sanitizer before entering the hatchery room or chick processing room.
   • Employees must take precautions to prevent the transfer of microbial contamination into the chick processing room via shoes.
   • SAHO of the State of destination must receive a copy of the restricted movement permit within 24 hours of issuance.

4. Eggs held for two days may move after two negative tests – either 2 PCRs collected on 1 day within 24 hours of move; or 1 PCR collected on 2 consecutive days prior to move where at least 1 PCR taken within 24 hours of move.
Moving pullets to the layer farm

to the driveway
Public Private Partnership Approach to Continuity of Business (COB) Planning
Government – Industry – Academic

- Focus on shared interests and identify mutual benefits
- Understand perspectives, priorities and responsibilities
- Adapt to changing realities and needs
- Increase knowledge of risk and science-based approaches
- Prevention & management as well as control
- Recognize ‘acceptable risk’
Secure Poultry Supply Plan is a Partnership

• Industry assures all guidance criteria are met
  • They have to know the details of the engine

• State to see that appropriate assurances have been made
  • They have to drive the car
2017-18 SES Working Group Items of Business

• Primary focus: development of ‘moving pullets to the driveway’ risk assessment (RA)
  • Baseline information gathering from industry members: Common practices for crews, vaccination, biosecurity, production type, load-out
  • Review of potential pathways for virus spread with all members
  • Specific SME elicitation on areas where literature is lacking: aerosol spread
  • Discussion of specific mitigations for high-risk pathways reviewed-
    • Industry feedback on feasibility
    • Regulatory feedback on acceptability for permitting
  • Review of risk ratings and overall RA document which will serve as basis for permit guidance
Pullet Grower Survey: Vaccination Crews

• 46 respondents
• Representing single-age pullet farms, multi-age pullet farms, and farms with pullets and layers on same site
  • 74% of respondents represented at least one multi-age farm

• Crews:
  • Most are large (11-15 people; range 1-40 people)
  • Most are contracted (63%)
  • Most work with other types of poultry (not just pullets; whether contracted or not)
  • Most, but not all, are supervised (and/or are not supervised continually)

• Biosecurity practices vary
• Some reusable equipment used by vaccination crews is difficult to C&D
Pullet Grower Survey: Vaccination Crews Cont’d

• ID systems for vaccination crews may (60%) or may not be in place and/or verified

• Most, but not all, have vax crews change into farm-specific clothes and footwear upon arrival (86%)

• Most who handle birds to administer vaccines are trained or certified in biosecurity practices (89%)

• Tracing individual vaccination crewmembers beyond individual pullet farm/company would be difficult

• About half use only on-farm supplies and equipment; can verify C&D of equipment before crossing LOS

• Vaccination crew vehicles may or may not cross PBA; C&D of vehicles may or may not be verified
Evaluation of Pathways for HPAI Introduction to a Pullet Flock

• People, Vehicles, Equipment
  • Producers and social contacts
  • Company employees
  • Outside crews
  • Vaccination and beak trimming
  • Visitors
  • Feed delivery
  • Garbage
  • Manure
  • Mortality management

• Local Area Spread
  • Aerosols
  • Insects
  • Wild birds
  • Scavengers
  • Fomites from live-haul route

• Load-out crews, vehicles, equipment
Example 1: Local Area Spread expert survey

- Individuals with expertise and/or experience with influenza disease spread (not just poultry experts)
- 15-16 responses (depending on the question); 71% response rate
- WG supported survey to gain more info about spread specifically to pullet premises

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Likelihood of aerosol transmission to pullets (Scenario = layer source flock with no clinical signs; strictly indoor disposal; light winds)
Example 2: Pre-Movement Isolation Period (PMIP)

• 8 days for pullets

• Principle of PMIP is to eliminate as many transmission risks as possible in the days leading up to movement
  • Designed to reach 95% confidence that birds are not infected but undetected at the time of movement

• For broilers and turkeys this meant only allowing emergency visits and feed delivery (from stand alone feed mills).

• For pullets, added language to clarify:
  • Feed (or feed ingredient) delivery from premises with poultry on-site
  • LOS-specific biosecurity measures
  • Chick delivery
Review of RA Sections and Overall Conclusion

• “Assuming that PMIP enhanced biosecurity and Secure Poultry Supply Plan testing measures are utilized, and that additional premises-wide mitigation measures are in place for the duration of the load-out process, we estimate the likelihood of a pullet flock becoming infected with HPAI virus by the point in time it is loaded onto trucks in the driveway to range between low and high.”

• It is estimated that the likelihood of moving a large number of infectious pullets (>80) is likely to be low.
Example 3: Additional Mitigations Appendix

- For farms that can’t make PMIP (ex multi-age farms and vaccine crews), WG suggested mitigations which may be feasible only to some farms but may help regulators decide if permitted movement is possible (i.e., that risk is acceptable) on case-by-case basis.

- Mitigation measures are most targeted at decreasing the likelihood of moving a large number of infected birds, and consequently decreasing risk of infecting other premises along the transportation route.
Conclusion

• Incorporating the WG feedback into a risk assessment and eventually into permitted movement guidance documents is challenging but necessary to ensure the documents are relevant and broadly applicable.

• When representing a highly variable industry such as commercial pullet growers, ensuring diverse stakeholder membership is key to ensuring buy-in.

• Beginning this process before an outbreak allows participants to become familiar with other stakeholders and create a common knowledge base from which to work if HPAI occurs.