

Could you survive a stop movement order in the case of a highly pathogenic avian influenza virus outbreak?

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The U.S. has one of the most robust foreign animal disease (FAD) preparedness and response programs in the world; much time, money, and effort are invested in defense against diseases such as highly pathogenic avian influenza (HPAI), foot and mouth disease, and recently, African swine fever.¹ The first priority during an FAD event is prevention of disease spread. This is accomplished by imposing a quarantine on the infected site and restricting animal and product movements from other uninfected^a sites. The details of movement restriction (a “stop movement order”) depend on the commodity, pathogen, and pathways for introduction and spread. If your farm was issued a “stop movement order” during an HPAI outbreak, would you know what to do to maintain continuity of business?



Figure 1. Diagram of a Control Area showing premises status

When a flock is diagnosed with HPAI, the infected premises is immediately quarantined and prepared for depopulation within 24 hours.² Other premises within the 10 km Control Area (CA) are labeled “at risk” until their status is established as either a contact, suspect, or monitored premises (**Figure 1**). Farms that have no epidemiological links, have normal production parameters, and are negative on molecular testing are defined as monitored premises. Only monitored premises can apply to Incident Command (IC) for permitted movement of poultry and poultry products out of and within the CA.

One approach an IC may follow for permit considerations is the use of the USDA-APHIS reviewed and approved Secure Poultry Supply (SPS) plans.³ SPS plans are generated from science-based risk assessments (RA) and provide permit guidances (PG) for the movement of poultry and poultry products from uninfected^a premises within a CA. PGs are found at <https://securepoultrysupply.umn.edu/> for the turkey, egg layer and broiler industries. **Figure 2** shows how to navigate the SPS site to get to turkey PGs. SPS PGs tell a producer *what needs to get done* for permit consideration *and how to do it*. PGs are harmonized; they contain similar content and ordering, making navigation



Figure 2 a) Choose to view by species type. **b)** Click on “Turkeys”. **c)** Choose the PG for the movement you need.

easier for states and permitters regardless of the species and product whose movement is requested. Each PG details what surveillance must be done, when, and how often, and also details strict biosecurity measures that a farm must adhere to during a specified *pre-movement isolation period (PMIP)*.

Each person on the farm team may have one or more roles during an outbreak – implementing enhanced biosecurity; initiating biosecurity training; applying for the permit; or overseeing emergency operations. These roles should be clearly delineated prior to an outbreak.

Two examples of live bird movements for which permits may be needed and requested include moving turkeys to market (TTM) and poults from brood to grow-out (BTG). Although these may seem similar, the overall risks for movement are different. Movement **risks** are determined by the overall **likelihoods** of moving infected,

- a. “Not known to be infected” is more accurate wording

undetected birds and the **consequences** of doing so. **Figure 3** depicts likelihood pathways for virus introduction and spread for both TTM and BTG scenarios. Because the destination for moving turkeys to market is a “dead-end”, the consequence of moving a few infected, undetected birds is less than moving a few infected, undetected birds to a site where the birds continue to live and grow.

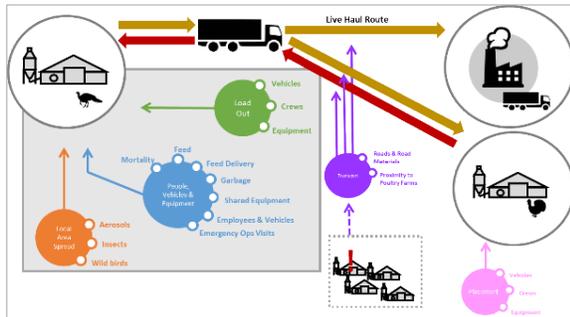


Figure 3. TTM and BTG pathways

Criteria for the destination premises may lower the consequences for BTG movements, but the producer can also implement enhanced practices at the origin brood site prior to (i.e., during the PMIP) and during load-out to help lower the likelihood of moving infected, undetected birds to a grow-out site.

What should a producer focus on for maximum benefit? The TTM RA Workgroup determined the relative contribution of biosecurity tactics in reducing the risk of HPAI in market age turkeys during an outbreak, **Figure 4**. Notice how by focusing on the first four tactics, almost 50% of biosecurity concerns for virus infection and spread can be addressed. It may be assumed that these categories remain top priority mitigations for BTG movements as well. However, even stricter protocols may be warranted for this higher consequence movement.

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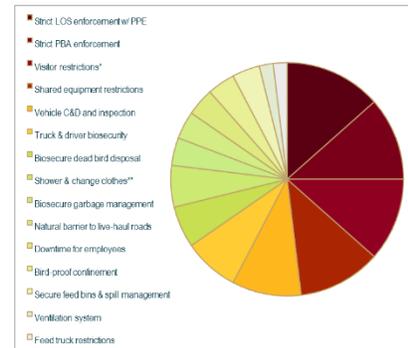


Figure 4. Relative contribution of biosecurity tactics in reducing the risk of HPAI in market age turkeys during an outbreak (from STS TTM)

A comparative example using the most important biosecurity tactic – strict LOS (line of separation) enforcement using PPE during load out- illustrates how TTM PG requirements can be enhanced to lower the risk for moving infected, undetected birds during BTG movements, **Table 1**.

| TABLE 1. Strict LOS Enforcement During Load-Out | | |
|---|--|--|
| TTM PG | BTG* | Diagram of Enhanced Biosecurity Measures |
| Crews must shower and change to clean clothes and footwear between farms | Designated inside (blue) and outside (red) workers with color-coded uniforms | |
| Turkey loading crews are prohibited from entering other turkey houses on the same farm. | Expansion and/or Encroachment of LOS protocols | |
| All persons entering a barn must use barn-specific footwear and farm-specific clothing | Strict biosecurity oversight (green) | |

*enhanced biosecurity measures suggested by the Cross Commodity Workgroup

An accompanying worksheet acquaints you with the TTM PG requirements for the next three important biosecurity tactics (**Figure 4**) during load-out and asks you to brainstorm enhanced mitigation measures that may be feasible for the high consequence movement of poult to the grow-out barn. Can you meet the demands for lowest risk movement of TTM and the recommended enhanced measures for a BTG movement from an uninfected^a premises out of a CA during an outbreak? Use “best practice” biosecurity and be prepared for what may be lurking over the horizon!

References:

1. USDA APHIS Veterinary Services. “Foreign Animal Disease (FAD) Response Ready Reference ...” *Foreign Animal Disease (FAD) Response Ready Reference Guide: Critical Activities & Tools during an FAD Response*, May 2020, https://www.aphis.usda.gov/animal_health/emergency_management/downloads/generic_critical_activities_rrg.pdf.
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3. USDA APHIS Veterinary Services. “Foreign Animal Disease (FAD) Response Ready Reference ...” *Foreign Animal Disease (FAD) Response Ready Reference Guide— Overview of Continuity of Business and the Secure Food Supply Plans*, Dec. 2016, https://www.aphis.usda.gov/animal_health/emergency_management/downloads/fad_prep_rrg_sfs_cob.pdf.

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