Kentucky H7N9 2017 LPAI
Kentucky H7N9 LPAI Chronology

- **Wednesday, March 15, 2017**: Breathitt Veterinary Center (BVC) in Hopkinsville, KY detected antibody by ELISA and AGID in 100% of samples collected as part of a pre-slaughter surveillance test
  - Subjects were “spent” hens at a two house commercial broiler breeder facility housing ~22,000 hens.

- **March 16-17, 2017**: Viral RNA detected by IAV-M at BVC
  - Presence of viral RNA confirmed by PCR at NVSL

- **March 17, 2017**: Company elected to proceed with depopulation without confirmatory testing at NVSL.
  - Depopulation of the infected premises by company completed at 2200 CDT on March 17, 2017
  - Disposal via on site burial
  - The company completed initial round of surveillance (PCR only) of their facilities within a 10 km radius of the index premises on March 18, 2017
Kentucky H7N9 LPAI Chronology

- March 17, 2017: VS personnel initiated surveillance **Backyard** *(initially commercial)* layer operations within the 10 km initial round of surveillance of these operations completed March 18, 2017

- March 20, 2017: ICS activated, forward ICP established.

- March 20, 2017: NAHLN lab reported a positive on AGID **serology** for a **backyard** layer flock in the 10 km surveillance zone of the index premises
  - originally classified as commercial layer flock, reclassified as backyard layer flock on March 22, 2017
  - 2,700 free range layers.
  - flock was exhibiting clinical respiratory signs (nasal discharge, dyspnea) at time of sampling
  - Testing by NAHLN lab by matrix (qPCR) reported negative for this flock. Non-negative serum samples forwarded to NVSL for confirmatory testing, confirmed to be HI/NI positive for H7N9 on serology
Kentucky H7N9 LPAI Chronology

- March 20, 2017: Backyard surveillance began, 1 - 2 person contact team, 3 – 2 person testing teams.

- March 20, 2017: Public commingled sales events (stockyards/ swap meets) restricted.

- March 22, 2017: Backyard initial surveillance sampling completed, 31 of 32 backyard premises tested.

Kentucky H7N9 LPAI Chronology

- March 27, 2017: Second round of commercial surveillance in 10K surveillance zone initiated
  - completed on March 29, 2017

- March 29, 2017: Second round of backyard premises surveillance completed on selected backyard premises for purpose of egg movement

- April 6, 2017: Third round of commercial surveillance in 10 km zone completed

- April 12, 2017: Second round of BY surveillance completed

- April 13, 2017: Surveillance zones released following negative test results for commercial and backyard poultry operations (3 – rounds commercial; 2 – rounds backyard surveillance).
Kentucky H7N9 LPAI Chronology

- May 9, 2017: Commercial premises (index premises) completed
- May 10, 2017: Commercial premises disinfection completed
- May 12, 2017: Environmental swabs of commercial premises collected & submitted
- May 31, 2017: Environmental sample of commercial premises negative
- June 1, 2017: Quarantine on commercial premises released
Kentucky H7N9 LPAI Chronology

- June 2, 2017: Backyard layer operation C&D completed & inspected by VS VMO
  - The backyard layer producer never completed litter removal from house
  - Trade implications for this discussed by VS KY, KDA, poultry health and KY Poultry Federation.
  - SAHO elected to release after 90 day fallow period with appropriate environmental conditions and environmental testing.

- June 8, 2017: Backyard layer environmental swabs collected by VS VMO

- June 9, 2017: Backyard environmental swabs PCR positive.

- June 16, 2017: Backyard environmental swabs VI negative.

- June 20, 2017: Backyard layer operation quarantine released.
Kentucky H7N9 LPAI Location
Kentucky H7N9 LPAI
Kentucky H7N9 LPAI

- **Incident Resources:**
  - Veterinary Services: 3 - Field VMOs/ 5 - Field AHTs; 1 - AD, 1 - VMO Epi, 1 – Admin Support
  - Kentucky Dept. of Ag: 5 – Livestock Inspectors, 3 – State Program Managers, 1 – Emergency Manager, 1 – State Veterinarian

- **Samples and birds tested by production type and zone**

<table>
<thead>
<tr>
<th>Production Type</th>
<th>Control Zone</th>
<th>Number of samples</th>
<th>Number of birds tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>3 km Radius</td>
<td>24</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>10 km Radius</td>
<td>132</td>
<td>660</td>
</tr>
<tr>
<td>Backyard</td>
<td>3 km Radius</td>
<td>94</td>
<td>455</td>
</tr>
<tr>
<td></td>
<td>10 km Radius</td>
<td>60</td>
<td>300</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>310</td>
<td>1,535</td>
</tr>
</tbody>
</table>
Kentucky H7N9 LPAI Challenges

- Commercial vs Backyard designation
  - No clear definition based on business model or commerce type
    - 9 CFR Part 146.22 “Participation” ref. 75,000
    - Caused considerable confusion for trade implications

- Use of serology during response
  - Used for pre-slaughter surveillance
  - Indicates previous exposure
  - Impact could be extensive expansion of surveillance zones

- Free Range business model
  - Increases chance of exposure
  - Potentiated on-premises biosecurity breaches
Kentucky H7N9 LPAI

• **AAR: The Ups, The Downs, and where to go**

• **Ups**
  • Quick depopulation response by industry
  • Contact Team – Test Team model
  • Surveillance testing
  • Social Media messaging for poultry sales restrictions

• **Downs**
  • KDA personnel respirator fit test
  • Follow through on indemnity paperwork
    • Despite indications that no indemnity to be paid
  • Establish single POC for each entity involved, i.e. corporate, KDA, USDA

• **Going Forward**
  • Contact Local EM immediately
  • Review, update, and activate State LPAI plan
  • Pre-planned stakeholder and disease/incident information letters (unified messaging)
Kentucky’s 2017 LPAI incident, while smaller than some other AI incidents, was revealing. While it demonstrated industry’s willingness to act quickly to decrease virus and work quickly with regulatory officials, it revealed areas that need attention such as farm designation as commercial versus backyard and surveillance test protocol conflict. It also reinforced the need to update State LPAI Response Plans and to allow the SAHO flexibility in deviation from the plan.