AVIAN INFLUENZA
What You Need to Know

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Really Important Facts

• AI cannot be transmitted through safely handled and properly cooked products.
• HPAI flocks don’t enter food supply.
• Excellent surveillance programs (NPIP) with quick actions to control.
• Virus is easy to detect.
• Risk to people low.
Agenda for Today

- Effect on Export
- What Do The Names Mean
- Risk to People
- Vaccination
- Current Situation
- Are eggs and meat infected
- Low Path
- High Path
- Spread
- Control
- What are the Rules
Seasonal Flu: Types A and B
- >200,000 hospitalized
- Deaths last 30 yrs = 3,000 – 49,000
Highly Pathogenic

- Severe disease
- High mortality 95% in 5 days
- Usually H5 or H7 types

Low Pathogenic

- Mild disease
- Low mortality (secondary bacteria)
- H1, H3, H5, H6, H7, H9 ....

Specific laboratory diagnostic tests at NVSL determine whether the virus is HIGH path or LOW path.
Sources and Spread of AI Viruses

100 days 63°F
Can AI be Spread by Wind?

- Dust and feathers may be vectors
- Prevailing wind direction, speed, temperature
- Must exclude other links: wild birds, dead bird disposal, shared equipment, service or sales persons. Check visitor log
## Survival of Influenza Viruses

<table>
<thead>
<tr>
<th>Source</th>
<th>Survival (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid manure</td>
<td>105 winter</td>
</tr>
<tr>
<td>Feces 40°F</td>
<td>30 - 35</td>
</tr>
<tr>
<td>Feces 70°F</td>
<td>7</td>
</tr>
<tr>
<td>Feces 90°F</td>
<td>4</td>
</tr>
<tr>
<td>Water 66°F</td>
<td>94 – 160</td>
</tr>
<tr>
<td>Water 88°F</td>
<td>26 – 30</td>
</tr>
<tr>
<td>Compost</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Surface Material</td>
<td>2</td>
</tr>
</tbody>
</table>
• Cold temps / Freezing
• Fresh / Brackish water
• Susceptible hosts
• Waterfowl: numbers plus natural host
• Grain fields / Open water near poultry
• Inadequate biosecurity
• Strong winds?

• Warm weather
• Dryness / Sunshine
• Salt water
• Most disinfectants
• No susceptible birds
• Frozen lakes/rivers
• Surveillance and stamping out programs
• High level biosecurity
Missouri River Nov 2014  SD Game, Fish & Parks.
Over 1 million ducks and geese, (840,000 mallards).
15% increase over 2013.
Surveillance and Control Programs

- Testing of flocks preslaughter
- HPAI eradication and/or vaccination
- Control programs for H5 or H7 LPAI due to concern over mutation to HPAI
Control of Avian Influenza

**Biosecurity**
- Level depends on challenge in the area
- Enhancements needed especially entry procedures
- Extremely infectious
- Flocks NO immunity
- Risk assessment and Biosecurity Audits

**Vaccination**
- Vaccination for low path
- Have a potential seed strain. Working on vaccine Effectiveness ??
- Routine for HPAI, part of USDA mandate
- Decision to vaccinate dependent on eradication plan and progress (APHIS)
Business Continuity During an Outbreak

• Agreed to plan PRIOR to outbreak
• Incident command centers
Current Situation HPAI since Dec 2014

- Wild birds, backyard poultry or commercial poultry
- Total cases = 78 in 13 states
- 49 cases in Minnesota
- Turkey cases = 59 in 8 states
- 9.7 million birds total destroyed
- 3.3 million turkeys (1.4%)
  6.4 million broilers and layers (~1%)

Largest break in USA since Pennsylvania 1983-84
  (17 million birds)
WHY TURKEYS ??

- No more range turkeys still AI, not just migratory waterfowl exposure
- Individual virus strain and host species eg VA 2002
- Took 100–250 X less virus to infect turkeys than chickens
- Similar differences in species susceptibility, also been identified with H5N1 viruses
- Age susceptibility
Risk to People = **LOW**

- **No infections in people** anywhere due to this type of H5 virus. **No illness, no spread.**
- **However,** precautions with in contact workers. Monitor (conjunctivitis) and giving anti-viral drugs

![Map showing different H5 virus cases and deaths](image)
Risk to Products

• The WHO has determined that HPAI viruses can survive in raw poultry, so it is possible to spread them via fresh or frozen products.
• Remember: HPAI flocks do NOT enter food supply

SOLUTION = COOK PRODUCT PROPERLY
Export: What is Suppose to Happen

- OIE guidelines require trading partners to base government restrictions on sound science and limit trade restrictions to a defined region or area that is at risk of spreading the disease.
  - 1st step: Country wide ban
  - 2nd step: Restrict ban to State
  - 3rd step: Restrict to zone, region, county.
- How quickly the above steps occur depends on the government putting a control zone in place, results of surveillance within the zone, continued outbreaks
What Actually Happened

1. Trading partners who suspended all product, entire country = 11 including: China, S. Korea, S. Africa, Russia
   12% of global trade
   Note: Russian market lost prior to HPAI ban

2. Trading partners that regionalized = 39
   67% of 2014 trade value. These countries could be doing more but not in violation.

3. Trading partners no restrictions = 110
   23% of our trade based on 2014 values.

90% of export markets remain open.
Final Thoughts

• AI not transmitted through safely handled/properly cooked products. No HPAI flocks.
• Excellent surveillance programs (NPIP) with actions to control. Virus is easy to detect.
• Risk to people low.
• Impact to Industry Undetermined
• NOT OVER YET
Questions or Comments

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