5th International Symposium

Managing Animal Mortalities, Products, By-Products, & Associated Health Risk: Connecting Research, Regulations, & Responses

September 28 – October 1, 2015
Lancaster, Pennsylvania

Avian Influenza
Emergency Exercise

October 1, 2015
08:00 to 12:00
• 08:00 to 08:50 Moderators
  – Welcome and opening statements
  – Instructions of table participants
  – Objectives:
    • Humane depopulation
    • Disposal of carcasses, products and by-products
    • Cleaning and decontamination
    • Continuation of operation
  – The scenario
• 08:50 to 09:10 Eve Pleydell - Large scale, emergency carcass disposal
• 09:10 to 09:30 Edward Malek - No two are Alike!
• 09:30 to 10:15 Table discussion 1 - Disease response at the state level and what are the plans for each objective?
• Coffee break during table discussion.

• 10:15 to 10:35 Jean Bonhotal & Josh Payne - Response to HPAI Outbreak
• 10:35 to 10:55 Lori Miller - 3D Issues Associated with Response to Highly Pathogenic Avian Influenza Frustrations and Lessons Learned
• 10:55 to 11:30 Table discussion 2 - Next steps for prevention, mitigation, and preparedness.
• 11:30 to 12:00 Closing comments.
Keep In Mind - What If?

December 2014
Eastern poultry producers brace for avian flu this fall as waterfowl migrate

July 21, 2015

Right now, in the vast prairie pothole region of southern Canada and the United States' upper Midwest, waterfowl are mingling, raising their young and instinctively preparing to migrate, some leaving as early as August. All spring and summer these wild birds have shared aquatic habitats, food supplies, brood-rearing responsibilities and likely something ominous—avian flu.
Pillars of Emergency Management

It's time to ask What if?

"PLANS ARE NOTHING; PLANNING IS EVERYTHING."

Dwight D. Eisenhower
H5 May Linger - Breeding season may further spread the virus in wild bird population

Jun 2015 Canadian Poultry

USDA scientists have been studying avian flu viruses to determine which birds are most susceptible to them. Mallard ducks are highly vulnerable to the virus. They are not visibly sick when they are infected, but they do emit viruses so can contribute to its spread.

The H5 bird flu viruses crossing North America may be around for a while, avian influenza experts warn. The nesting season, which will see wild birds converge on breeding grounds in Northern Canada and Alaska, could further spread the virus in wild bird populations, and produce a new wave of outbreaks in poultry operations when the birds fly south in the fall, they suggested in late April.

“So if the viruses weren’t there to begin with, there’s a good bet that these wild birds will migrate north and bring those viruses there again, and then potentially see a second wave of reintroduction,” said Dr. Tom DeLiberto, assistant director of the national wildlife research centre of the U.S. Department of Agriculture’s animal and plant health inspection service.

Bird flu threat escalates as virus mutates

Controlling avian influenza, both locally and globally, is becoming increasingly difficult, with the virus keeping one step ahead of scientific understanding.

According to Prof Ian Brown, head of virology at the Animal and Plant Health Agency "despite massive investment, there are still some key gaps in our knowledge. We have endemic infection in six regions of the world – China, Vietnam, Indonesia, parts of India, Bangladesh and Egypt – where we can no longer track and monitor effectively the spread of this infection. We cannot bring it under control." he told the Global Alliance for Research on Avian Diseases conference at King's College, London.

Even in places like Europe and Japan, where huge efforts had been made to contain AI, it still had a habit of coming back.
Thank You

Introductions

• Workshop is a discussion based exercise to understand plans & build consensus
• Using knowledge of the HPAI Response Plan (Red Book) discuss a hypothetical response to a confirmation(s) of HPAI H5N2 in Pennsylvania
Fictional Scenario

- Moderator will narrate a hypothetical scenario of a disease outbreak
- Outbreak will be limited to Lancaster County but will address a response that is scalable and grows in complexity

Workshop Outcome

- The outcome of the discussion will be documented with the table questionnaires for the symposium white paper.
White Paper

To identify opportunities in:
- Research
- Education/training
- Response capability
- Policy

Goal: to improve the effectiveness and efficiency of future livestock and poultry emergency response.

White Paper

- Staff will come to your table to gather comments regarding opportunities;
- Opportunities will be transcribed onto sheets of paper;
- During breaks or at the end of exercise, please rank the opportunities for priority.
Exercise Objectives

• To discuss and identify response priorities and resource needs, processes to leverage them, and related opportunities for improvement in:
  – Humane depopulation
  – Disposal of carcasses, products and by-products
  – Cleaning and decontamination
  – Continuation of operations

Exercise Participants

• Players respond to the questions based off experience, authority, and knowledge of HPAI Response Plan

• Evaluators record and document discussions and lessons learned for planning purposes

• Facilitator moderates the discussion
Exercise Assumptions

- The real response may be scalable in complexity depending on the circumstances (manageable to very complex)
- If there is more than one statutory authority involved in the response, by order of the Governor and President, Unified Command must be implemented

Exercise Assumptions

- Townships and Counties have local resources that may help us (they all have emergency coordinators)
- The affected county may have an Incident Command Post for our operational and liaison needs (they may decide to activate on their own)
- We may want to liaise with counties if they activate
Workshop Conduct

• Facilitator will walk the participans through two modules and at the end of each, there will be targeted questions intended to elicit discussion/decisions
• This will be a open table group format

Past Outbreaks – Lessons Learned

According to the HPAI Response Plan

• Provide a unified State/Federal/Industry planning process that respects local knowledge
• Ensure that Unified Command sets clear, obtainable, and unified goals
• Have a Unified Command with a clear and proper delegation of authority that acts with speed and certainty
Module 1 – Infected Flocks Identified

Day 1

• Backyard producer in Lancaster County calls PADLS lab for help determining why her birds have had unusual mortality over the last two days
• 50 birds in mixed flock
• Birds housed in outdoor pens with sheds
• Domestic ducks mingle with wild waterfowl on nearby pond
• Turkeys, chickens found dead with no previous clinical signs noticed, ducks are healthy
• Dead birds sent to lab for necropsy/testing
Module 1 – Infected Flocks Identified

Day 1
- H5 identified by PCR testing at PADLS
- HPAI suspected due to high mortality
- Sample sent to NVSL immediately-Priority 1
- Flock quarantined by PDA
- Epidemiological investigation initiated, inventory taken
- Owner education
- Quarantine zones established around flock

Module 1 – Infected Flocks Identified

Day 1
- 12 miles away in Lancaster Co, a mature turkey flock is sampled by CPT on farm for pre-slaughter NPIP AI program (PCR) - 11 samples submitted to PADLS
- CPT noticed a few birds with torticollis when sampling, very mild increased mortality in flock
- Before results are reported, flock mortality is increasing and company reports concerns to PDA
- Based on suspicion, PDA quarantines flock of 8,000 turkeys
Module 1 – Infected Flocks Identified

Day 2

- NVSL confirms HPAI H5N2 in backyard flock
- PADLS reports 8/11 turkey samples PCR positive for H5 & samples sent to NVSL
- Since HPAI already confirmed in PA, this flock is considered to be infected with HPAI H5
- Epi investigation, inventory taken for indemnity purposes based on production records

Day 2

- One large table egg layer complex is located 5 miles from the turkey flock
- 250,000 hens/house, 10 houses, in-line processing plant on site
- Producer has noticed blood coming from the mouths of caged birds in 6 cages located by exhaust fans in one house
- PDA notified
- Based on suspicion, PDA quarantines flock
- Company asked to place some dead birds in double bags/cans at end of lane for PDA to swab (5 pools/50 dead per house)
- 5 or 11 swabs/tube
Module 1 – Infected Flocks Identified

Day 2
• H5 identified in 90% of layers sampled by PCR at PADLS lab-samples sent to NVSL
• Quarantine zones established around this new flock
• Mortality is increasing rapidly in infected house and several other houses
• Workers move freely between houses
• Late in the day-NVSL confirms H5N2 in turkey flock

Module 1 – Response Priorities

Personal Protective Equipment
• Gloves
• Protective Clothing
  — Tyvek
• Shoe Covers or Boots
• Hair cover
• Eye protection
• Respiratory protection
Large Scale, Emergency Carcass Disposal

Eve Pleydell
New Zealand
Ministry of Primary Industries.

No two are Alike!

Edward Malek
Canada
Canadian Food Inspection Agency
### Summary of Cases – Lancaster County

#### Day 2
- Outdoor backyard flock confirmed HP H5N2, high mortality continues (50 birds)
- Turkey flock confirmed H5N2, suspected HP, high mortality continues (30,000)
- Caged table egg layer flock presumptive positive for H5 at PADLS, NVSL results pending, HP suspected, mortality increasing with other houses involved (2.5 Million)

### Depopulation
- Foam
- CO$_2$ gas
  - Whole barn
  - Containerized gassing
  - Euthanasia carts
  - Tenting
- Non penetrating captive bolt
- Other?
Disposal

- On site / off site?
- In house / out of house?
- Burial
- Composting
- Rendering
- Landfill
- Incineration
- Other?

C & D

- Protocols
- Methods
- Equipment
- Chemicals
- PPE
- Time for completion
Continuation of operations (COOP) ensures that departments, agencies or organizations are able to continue operation of their essential functions under a broad range of circumstances including all-hazard emergencies, and disease control zoning.

Table Discussion 1
09:30 to 10:15

Please have a coffee and break during the discussions.

- For each table to discuss the objective for the 3 infected flocks.
- Objective specific questions have been delivered to each table.
- White paper opportunities to be gathered on boards for rating of importance by participants.
Response to HPAI Outbreak

Jean Bonhotal & Josh Payne
USA

3D Issues Associated with Response to Highly Pathogenic Avian Influenza – Frustrations and Lessons Learned

Lori Miller
USA
Module 2

• It time to ask What if?
  – Multi county outbreak?
  – Multi state outbreak?
  – Multi country outbreak?
  – Zoonotic outbreak?

Pandemic Influenza

Influenza type A is distributed worldwide and usually causes a mild respiratory disease in humans and animals. Human influenza epidemics due to new epidemic strains occur at regular intervals of 2 to 3 years and affect mainly elderly people. However, influenza is a potentially devastating disease in both humans and animals thereby very important for both human and veterinary medicine.

Pandemics are major epidemics characterized by the rapid spread of a novel type of virus to all areas of the world resulting in an unusually high number of illnesses and deaths in humans in most age groups. Three pandemics of human influenza have affected the world population (1918, 1957 and 1968). The most infamous pandemic was “Spanish Flu” which is thought to have killed at least 40 million people in 1918-1919.
Module 2 – Response Priorities

Questions/Considerations
• What are the respiratory protection needs for zoonotic influenza and are we fit testing?
• Are human flu vaccines required for responders?
• Who is developing maps for zoning?

Module 2 – Response Priorities

Personal Protective Equipment
• Gloves
• Protective Clothing
  — Tyvek
• Shoe Covers or Boots
• Hair cover
• Eye protection
• Respiratory protection
• Vaccination / Tamiflu?
Table Discussion 2
10:55 to 11:30

New items for discussion:
• Moving into a multi-state, multi-country disease outbreak this fall?
• Planning for other highly transmissible diseases, e.g. FMD?
• What if the current strain of AI becomes zoonotic?

End of Workshop

Table Discussion 1 Comments:
• Depopulation
  •
• Disposal
  •
• C & D
  •
• COOP
  •
End of Workshop

Table Discussion 2 Comments:
• Depopulation
  •
• Disposal
  •
• C & D
  •
• COOP
  •

Closing Comments

Thank you to Pennsylvania Agriculture for the use of their slides for the exercise.
It is the set of the sails, not the direction of the wind that determines which way we will go.  ~ Jim Rohn

Thank You