



Executive Summary Conclusions and Recommendations

June 22-24, 2015

Holiday Inn Inner Harbor

Baltimore, Maryland, USA

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Additional information can be found at the conference website at:

[Avian Influenza International Conference site](http://www.aphis.usda.gov/animal-health/ai-conference)
<http://www.aphis.usda.gov/animal-health/ai-conference>

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Executive Summary

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS) and the U.S. poultry industry co-hosted the International Conference on Avian Influenza and Poultry Trade on June 22-24, 2015, in Baltimore, Maryland, USA. The goals of the conference were to review the risks of introduction of avian influenza (AI) viruses through global trade in poultry and poultry products, and to discuss appropriate measures to mitigate these risks.

Among the 200 participants were personnel from APHIS and other USDA and Federal agencies; State Animal Health Officials from Alabama, Arkansas, and Indiana; representatives from the European Union, the World Organization for Animal Health (OIE), the Food and Agriculture Organization of the United Nations (FAO); Chief Veterinary Officers and subject matter experts from 37 countries around the world; and representatives from the United States and international poultry industry.

Emerging from the conversation were seven key issues or themes common to trading partners affected by avian influenza: 1) complying with international standards; 2) accepting zoning or compartmentalization; 3) ensuring biosecurity; 4) accepting vaccination as an eradication tool; 5) applying appropriate movement restrictions and risk mitigations to commodities moved from or through AI-affected regions; 6) performing adequate surveillance and developing feasible control strategies for AI; and 7) exploring options for AI control in wild bird reservoirs.

Conference participants concluded that the current worldwide highly pathogenic avian influenza (HPAI) event is unique, requiring reassessment of prevention, control, and eradication strategies. Participants generally agreed that there is no single answer to AI prevention and control, and that multiple tools, novel approaches, and case-specific strategies are needed to deal with this global event. Because of the worldwide distribution of AI and wild bird reservoirs, regional (multi-national), or perhaps global coordination of private and public entities will be necessary to detect, prevent, and control AI infections.

In the short term, research is crucial to find new, more efficient ways to rapidly and humanely euthanize and dispose of the very large populations (millions) of birds housed on some modern commercial poultry farms. In the long term, participants hope resources will be made available to researchers to develop methods to enhance the immunity of wild birds and domestic poultry against AI infection.

Delegates from several countries shared their experiences of recent AI outbreaks, and generally agreed that stamping out policies have been largely successful and remain the best response. Vaccination has been used successfully by a few countries as a measure to control spread of infection, protect public health, and mitigate the domestic economic impact of AI; however, many countries currently have policies that do not allow imports from countries that vaccinate. Several delegates, including the U.S. Chief Veterinary Officer, indicated a willingness to re-examine general prohibitions against importing products from countries that practice AI vaccination, in favor of aligning with OIE standards. Zoning and bilateral or multilateral agreements have been useful for continuity of trade, although zoning in accord with OIE standards has not been uniformly adopted. On the other hand, compartmentalization has not reaped significant benefits or achieved wide acceptance by trading partners.

Participants recommended that OIE review the Terrestrial Code chapters on AI and on zoning and compartmentalization to ensure that the chapters are internally consistent, particularly with regard to the timing for an affected region to regain free status. The group also proposed that OIE develop new chapters on biosecurity standards and avian influenza-specific zoning practices; these additional chapters may provide more consistency for trading partners applying international standards to import decisions.

Proceedings

Note: Full proceedings detailing all the presentations, questions and answers, and panel discussions are under final review by the Organizing Committee and will be published as part of a complete meeting report.

Conclusions

In order to facilitate discussion and debate during the final “recommendations” session, meeting organizers outlined the following key issues and themes that were raised by speakers, panelists, or meeting participants throughout the International Conference.

□ Key Issues and themes that emerged during the conference:

- International Standards
- Acceptance of a zone or compartment
- Biosecurity
- Vaccination
- Risk-based mitigations for commodity trade and transit
- Surveillance and control Strategies
- Wild birds

Many countries worldwide are experiencing an unprecedented HPAI event that is threatening animal health and welfare, agriculture productivity, food security, farming community livelihood, economics, and global trade. The current situation is described as an ongoing series of worldwide transboundary disease events with rapid spread with global implications. Spread continues and new viruses continue to emerge as a result of complex interactions of host, agent, and environment. Wild bird reservoirs complicate prevention and control, as well as trade decisions.

Worldwide, this HPAI event is unique, requiring reassessment of prevention, control, and eradication strategies. There is no one answer to prevention and control. Stamping-out remains the best response and has been largely successful.

- Animal health and veterinary medical sectors have a unique and critical role in monitoring and response.
- All countries and stakeholders have a role and obligation with disease detection, reporting, and transparency.
- Response to an animal health situation in addition to facilitating safe trade is critical to global food security.

□ Regarding international standards:

- WTO and 1995 SPS Agreement provided legal weight to the long-established science-based OIE Standards.
- The standard setting process was developed by experts from across the globe, including experts from Reference and Collaborating Centers, Member countries, and international organizations.
- These standards evolve and are revised in response to contemporary issues. It is essential to use science and integrated risk-management to make decisions to continue safe trade.
- The standards recognize zoning, compartmentalization, and commodity-specific risk, which are universally adopted by Member countries. OIE Member countries have an obligation to adhere to, and follow standards and guidelines.
- Continued circulation of these AI viruses and the recent upsurge in outbreaks worldwide reaffirms the need for better implementation of the intergovernmental standards adopted by the OIE’s 180 Member countries.
- Conference attendees recognize that implementation, interpretation, and consensus among Member countries are not universal.

□ The responsibilities and roles of the private sector are:

- Collaborative communication with animal health and public sectors, including producer education and industry partnerships.
- Public awareness and engagement during "peacetime" and during incidents/events.
- Preparedness and contingency plans (e.g. Secure Egg Supply) and activities allow for safe movement in the face of an outbreak.
- Early disease detection with prompt, mandatory reporting to the National Veterinary Authority.
- Independent evaluation/validation of biosecurity protocols.
- Preventative plan that incorporates occupational health, safety and the environment (including zoonotic considerations with potential human pathogens) and simulation exercises.
- Contribute to international standard setting.
- Participate in regional associations, which are important for controlling transboundary diseases.
- Support research into genomics, immunity, vaccines, and diagnostics.
- These activities require investment and commitment.

□ The responsibilities and roles are of the public sector are similar to the private sector', plus:

- Effective legislation necessary to undertake surveillance and control; zone or compartment control, etc.
- Compensation for depopulation supports surveillance and control programs.
- Promote international commerce, negotiate trade agreements, and provide oversight for certification programs.
- Establish zoning or compartmentalization arrangements during "peacetime."

□ Collaboration between private and public sectors:

- Public-private partnership is essential during "peacetime" and during incidents.
- Sharing expertise, collaboration, and lessons learned from outbreaks are critical.
- Each major event is an educational moment, and new information, such as epidemiological findings, can inform preparedness and response/control strategies.
- Working together, reciprocation, and building trust are crucial to trade negotiations and safe import and export of poultry and poultry products. Bilateral or regional agreements are examples of successful collaborations.
- Success depends on science, communication, and relationships.
- Conference attendees universally recognized the significant socio-economic impacts of this disease.
- We share common goals – animal health and global food security – therefore, there is a need for a coordinated global health strategy for AI.

□ Regarding biosecurity:

- Along with zoning, biosecurity is the second most frequently mentioned issue during the conference. Biosecurity is the top priority and the first line of defense to prevent introduction of AI virus into flocks.
- Consider the role of shared equipment, fomites, vehicles, and other human activities, and look beyond the premises or the next-door neighbor for potential sources of virus.
- Audit and test biosecurity plans, and continuously re-evaluate processes.

- Animal health management practices, such as mixed species farms, live bird markets, free-range birds, high-density commercial poultry, and backyard flocks, present challenges to traditional control methods and strategies.
- Biosecurity needs to be reassessed at the global level.
- Conference attendees discussed and questioned the appropriate level of government oversight for compliance with biosecurity standards.

□ Regarding surveillance:

- Surveillance objectives include early detection of mutations; gathering information to better understand epidemiology, risk factors, transmissibility and pathogenicity; and monitoring that will lead to improved diagnostics.
- Comprehensive surveillance (syndromic, passive, serologic, risk-based) is needed for rapid containment and control, acquisition of genetic information for diagnostics and biological response, so that vaccines are better matched to field strains and differentiating infected animals from vaccinated animals (DIVA) is possible.
- Compensation for depopulation supports surveillance in most countries.
- Surveillance is critical for zoning, regionalization, and compartmentalization decisions and to demonstrate freedom, although interpretation of zone size and application differs among trading partners.

□ Regarding response and control:

- This topic was not the primary focus of the conference.
- Conference attendees reiterated the importance of rapid depopulation and contingency plans for disposal, cleaning and disinfection.
- Although successful in many cases, stamping out programs need assessment given the current global situation (e.g. very large farms) and tools available (e.g. effective vaccines)

□ Regarding trade risk mitigation:

- Risk varies by commodity.
- Trade in genetics/breeding stock is vital for global animal health and production.
- Safe trade in poultry and poultry products (including permitting) is possible.
- Transit restrictions complicate safe movement.
- Isolation of infectious low pathogenicity avian influenza (LPAI) virus in poultry muscle is rare; therefore, trade in poultry meat is low risk with respect to LPAI transmission. Experimentally, pasteurization and cooking eliminate virus from the product; yet, trade restrictions on heat-treated poultry meat remain.

□ Regarding research:

- Identification of multifactorial determinants of animal health risk is needed to support production, risk assessment, surveillance, and intervention strategies.
- Integrated approaches to influenza research, surveillance, and control across species are needed. Researchers should share results rapidly and widely.
- Improved technologies are needed. Newer technologies and practices can provide new tools in surveillance and response, through improved genetics, diagnostics, laboratory networks, genomic sequencing, recombinant vaccines, and DIVA strategies.

□ Regarding vaccination, which was the most commonly mentioned topic throughout the conference:

- Conference attendees hold diverse opinions about the use of vaccination to control an AI outbreak.

- Generally, we agree that vaccination should not be considered as a permanent solution. In contrast, vaccination can serve as a key risk reduction strategy and a valuable tool.
- Dogma is that vaccine use precludes trade. However, tools such as targeted or emergency vaccination programs, allow vaccine to be used to successfully control disease and trade safely.
- The need or risk/benefit analysis for vaccination should be reviewed regularly and an exit strategy developed as a condition of use.
- Some cases support vaccination as a tool to reduce economic impact (when trade is not a consideration) or reduce risk of human infection.
- Vaccine might not be available or might be poorly matched with field virus. Vaccine deployment challenges exist.

Recommendations

The following recommendations were presented by meeting participants during a facilitated discussion at the conclusion of the conference:

☐ Recommendations and considerations for updating International Standards

1. To update and clarify some of its recommended standards and concepts, the World Organization for Animal Health (OIE) should consider reviewing the *Terrestrial Code Chapter 10.4: Infection with Avian Influenza Viruses*. Specifically, it is recommended that the OIE:
 - a. Clearly differentiate commercial poultry flocks (whose products, such as hatching eggs, day-old chicks, fresh or frozen poultry meat, enter into international commerce) from non-commercial poultry flocks (such as backyard chickens) by revising the OIE definition of “poultry”. Specifically, a clear epidemiological distinction between commercial and non-commercial poultry and related appropriate trade restrictions should be made. Findings of AI introduced by wild birds into non-commercial flocks should not affect trade.
 - b. Consider reducing the time period to regain freedom when the epidemiologic investigations demonstrate that wild birds were likely the source of introduction in an outbreak, and spread between commercial poultry flocks is not occurring (no secondary lateral spread).
 - c. Provide clear recommendations for the appropriate application of vaccine as an outbreak management tool. These recommendations need to clearly state that such use of the vaccine should not impede or prohibit safe trade.
 - d. The OIE Code provides standards for the establishment and maintenance of zones for the purpose of animal disease control in general. Consider developing AI-specific standards for the establishment and maintenance of zones for the purposes of AI control and trade continuity. Also clearly define the conditions for zones where vaccination is practiced.
 - e. Given the number of methods that are applied for stamping out and disinfection, provide clear guidance on time to regain freedom after an AI outbreak. For example, when does the 3 month “clock” start when composting, fallowing, or barn heating techniques are employed as disinfection tools?
2. Convene an ad hoc Group of subject matter experts to develop a specific chapter on biosecurity principles and practices. While biosecurity is referenced in many chapters, and several of the recommendations within a code chapter may include some biosecurity recommendations, currently the Code does not have a dedicated chapter on biosecurity.
3. Display more prominently, or make more accessible on its public website, the link to the database or other information so that trading partners can easily verify disease freedom.

4. Considering avian influenza will remain a global issue and concern, encourage Member countries to share surveillance data, information related to successful response efforts, and experiences on the successful application of OIE standards that allow trade.

Recommendations for trading partners and OIE Member countries

Member Countries who trade should:

1. Hold each other accountable for their compliance with international standards. When Member countries have proposed, discussed, and adopted such standards, domestic regulations should be changed accordingly to meet international commitments and obligations.
2. Find ways to maintain trade in certain commodities when the risk is appropriately addressed. Even in outbreak situations, trade in certain poultry commodities presents a negligible risk of introducing AI. Examples include day-old chicks and hatching eggs for breeding stock, and cooked poultry meat. These commodities are important for the economy and food security of importing countries and domestic poultry industries rely on imported breeding stock.
3. Be encouraged to establish bilateral or multilateral agreements during “peacetime” which recognize each other’s zones. As evidenced by many examples presented at this conference, zoning has been successfully applied for poultry trade between OIE Member countries. Mutual recognition is essential to this success. Share surveillance data between animal health authorities, the private sector, and trading partners.
4. Encourage animal health authorities, the private sector, and trading partners to share surveillance data.

Recommendations for animal health authorities

Authorities should:

1. Link compensation for producers to compliance with biosecurity standards. Numerous examples presented throughout this conference have demonstrated how compensation practices have contributed to successful response and eradication efforts.
2. Closely supervise all parties, such as contract workers, that are recruited to assist official workers in a response to ensure they are complying with biosecurity measures.
3. Consider establishing regulatory requirements for commercial poultry farm biosecurity to prevent the introduction of AI, by enhancing existing good agricultural practices intended to protect public health (e.g. *Salmonella spp.* control programs).
4. Ensure to trading partners the safety of products exported from and through regions where vaccination is practiced by demonstrating adequate oversight of zones, good surveillance, and verification of vaccine safety and efficacy where vaccination is practiced.
5. Not prohibit the transit of poultry or poultry products through airports in or near affected zones, where commodities can transit safely without risk, and be encouraged to develop contingency plans to keep airports open to poultry trade during an outbreak, and base any restrictions on grounded science.
6. Base ground transit restrictions for poultry and poultry products on science-based risk assessment. Generally, the risk of transmission during ground transit is very low, can be mitigated, and should not result in trade restrictions.
7. Share surveillance data between animal health authorities, the private sector, and trading partners.
8. Conduct active wild bird surveillance to track and monitor AI viruses in the wild bird population.

☐ Recommendations for the poultry industry worldwide

The private industry sector should:

1. Use an adaptive approach to biosecurity plans, which is beneficial to the industry at all times, regardless of whether an AI outbreak is occurring. Biosecurity plans should be developed and practiced before an outbreak occurs, not as a reaction to an outbreak.
2. Maintain continuous awareness of the level of risk, and not become fatigued during outbreaks or complacent between them.
3. Implement biosecurity plans, which should include continuous monitoring for compliance and effectiveness through inspections and audits.
4. Together with animal health authorities, develop contingency plans for disease control activities, such as carcass disposal. Share surveillance data between animal health authorities, the private sector, and trading partners.

AGENDA

Monday, June 22, 2015: Registration, Keynote Address, and Reception

3:00 pm	Registration
6:00 pm	Welcome and Introductions (Dr. John Clifford, U.S. CVO and Mr. Jim Sumner, International Poultry Council President)
6:15 pm	Opening remarks by the APHIS Associate Administrator (Dr. Jere Dick, USDA APHIS)
6:30 pm	Keynote Address: Risk of introducing avian influenza through trade in live poultry and poultry products (Dr. David Swayne, USDA ARS)
7:30 pm	Reception

Tuesday, June 23, 2015: Presentations and Panel Discussions

7:00 am	Registration
8:00 am	Presentation: 2015 U.S. HPAI Outbreak Situation Report (Dr. Brian McCluskey, USDA APHIS)
8:30 am	Presentation: Reflecting on influenza prevention and control (Dr. Carol Cardona, University of Minnesota)
9:00 am	Presentation: International standards for HPAI risk mitigation (Dr. Brian Evans, OIE)
9:30 am	Presentation: FAO's role in global HPAI control (Dr. Subhash Morzaria, FAO)
10:00 am	Break and group photo
10:30 am	Panel discussion: Recent HPAI experiences and perspectives (Africa and Asia 1) (CVOs or delegates from Africa and Asia, led by Dr. Jack Shere)
12:00 pm	Lunch
1:00 pm	Panel discussion: Recent HPAI experience and perspectives panel (Asia 2) (CVOs or delegates from Asia, led by Dr. T.J. Myers)
2:30 pm	Break
3:00 pm	Presentation: H5/H7 risk analysis update (Dr. Takehiko Saito, Japan MAFF)
3:30 pm	Presentation: Use of the Canada/U.S. zoning arrangement during the 2015 HPAI outbreaks (Dr. Abed Harchaoui, CFIA)
4:00 pm	Presentation: Official oversight of ostrich compartments (Dr. Julie-Anne Koch, South Africa MAFF)
4:30 pm	Presentation: Avian Influenza control strategy: the EU experience (Dr. Riviriego-Gordejo, European Commission)
5:00 pm	Summarize Tuesday activities; preview Wednesday agenda (Dr. Brian McCluskey, USDA APHIS)
6:30 pm	Reception

Wednesday, June 24, 2015: Presentations and Panel Discussions

8:00 am	Panel discussion: Recent HPAI experience and perspectives panel (European Union) (CVOs or delegates from European Union, led by Dr. John Glisson)
9:30 am	Presentation: HPAI in the Netherlands and consequences for the poultry industry (Dr. Christianne Brusckke, CVO of the Netherlands)
10:00 am	Break
10:30 am	Panel discussion: HPAI experience and perspectives panel (North America) (CVOs or delegates from North America, led by Dr. Gregorio Rosales)
12:00 pm	Lunch
1:00 pm	Presentation: Biosecurity for live poultry in transit (Dr. Alberto Torres, U.S. Poultry and Egg Association)
1:30 pm	Presentation: U.S. avian influenza surveillance programs (Dr. T.J. Myers, USDA APHIS)
2:00 pm	Break
2:30 pm	Presentation: Trade consequences of the Yorkshire HPAI outbreak (Dr. Simon Hall, UK APHA)
3:00 pm	Moderated discussion session to collect summary conclusions and recommendations from the group (Dr. Rick Hill, USDA APHIS)
4:30 pm	Concluding remarks (Dr. John Clifford, U.S. CVO and Mr. Jim Sumner, USAPEEC President)

A collaborative effort from around-the-world
to share experiences and perspectives about HPAI

