SUMMARY

Session 1: Arjan Stegeman and Gounalan Pavade

Introduction to the meeting including objectives and expected outcomes

- Between 2023 and 2024, the H5Nx Gs/GD lineage of HPAI has seen substantive changes in ecology and epidemiology including spread across six continents; negatively impacting a diverse and large number of wild birds and mammal species including mainly carnivores and also dairy cattle; mammal-to-mammal transmission in dairy cattle, sea lions and elephant seals; and genetic changes indicating increased risk to mammals including humans
- Biosecurity and stamping-out have not been fully effective at preventing and controlling the panzootic
- WOAH Code supports use of vaccination as a complementary tool in prevention and control of HPAI, and should not impact HPAI freedom when supported by appropriate surveillance
- The primary barriers to increasing uptake of vaccines include the potential for non-acceptance of poultry and poultry products by importing countries, the undefined requirements in the WOAH Code for appropriate surveillance to demonstrated HPAI freedom in vaccinated populations and limited global availability of vaccines

SUMMARY

Session 2: Timm Harder and Isabella Monne

Tools for monitoring and surveillance in vaccinated poultry populations

- Molecular diagnostics, primarily quantitative RT-PCR (qRT-PCR), will continue to be the primary test for sensitive, specific detection of HPAIV infections during the period of active infection in both vaccinated and non-vaccinated poultry.
- Sero-surveillance, including DIVA-compatible vaccines, can at best only be part of a carefully balanced surveillance strategy in vaccinated poultry.
- The continuous evolution of HPAI viruses requires robust genomic and antigenic surveillance to track changes in real-time. Strengthening international collaboration, as well as data and virus and genomic sequence sharing, will facilitate development and deployment of efficacious vaccines and timely updates to vaccine formulations and programs.
- Targeted sampling of dead or moribund birds in a virological surveillance strategy using qRT-PCR is an established, sensitive surveillance system for detecting early infection and confirming HPAI freedom in vaccinated poultry.

SUMMARY

Session 2: Timm Harder and Isabella Monne

Tools for monitoring and surveillance in vaccinated poultry populations

- Sampling of environmental matrices (e.g. dust, aerosols, water, etc.), for virological surveillance, if found suitable in validation studies, presents potentially sensitive and cost-effective opportunities for early HPAI detection in vaccinated flocks.

Conclusions

Session 3: Sjaak de Wit and Jeremy Ho

Field experiences on surveillance in vaccinated populations

1. Based on the experience of several countries or regions, HPAI vaccination with appropriate surveillance can be an effective and successful tool in controlling HPAI outbreaks and stopping transmission.
2. Second and third doses of vaccines (i.e. booster vaccinations) may be required for protection over the long production cycle of some poultry species and production systems
3. Risk-based virological surveillance (e.g. targeting clinically-affected or dead birds) is a more cost-effective and efficient surveillance approach than random sampling of healthy birds.
4. Serological surveillance for demonstration of HPAI virus freedom may not be useful under certain situation; e.g. presence of H5/H7 LPAI viruses in the field, the concurrent use of LPAI vaccines, inactivated whole virus vaccine being used, etc. In addition, even with a highly specific DIVA serological test, false positive will regularly appear leading to unnecessary suspicion of infection which would need further testing by other serological tests or qRT-PCR of additional samples.

Conclusions

Session 3: Sjaak de Wit and Jeremy Ho

Field experiences on surveillance in vaccinated populations

5. For detection of potential HPAI infection and demonstration of freedom from HPAI virus infection in vaccinated populations, a suitable surveillance programme may adopt a multi-layer approach combining risk-based surveillance (e.g. routine dead or clinically-affected birds) and when appropriate environmental surveillance (e.g. drinker biofilm, boot swabs, wastewater samples, etc.).
6. Serological monitoring can inform the success of the vaccination process by determining if the vaccinated birds have a uniform, protective immune response
7. Surveillance for identifying antigenic changes in circulating HPAI virus strains, in particular via wild bird and poultry surveillance, and using such information for timely updating of vaccines are crucial for a successful HPAI vaccination programme in domestic poultry.
8. While considering the use of non-vaccinated sentinel birds in a surveillance programme of vaccinated populations, the potential drawbacks and practical concerns with managing sentinel birds shall be taken into careful consideration based on the previous country's experiences.
9. Vaccination shall not be the sole measure for prevention and control of HPAI, which should also be accompanied by biosecurity measures, movement controls and stamping-out of infected flocks.

Recommendations

Session 3: Sjaak de Wit and Jeremy Ho

Field experiences on surveillance in vaccinated populations

1. Countries/regions implementing HPAI vaccination should conduct ongoing virological surveillance to obtain HPAI virus strains for assessing antigenic match between vaccines and field viruses. Inactivated HPAI vaccine seed strains should antigenically match field viruses to optimize vaccine protection and be updated in a timely manner if no longer protective.
2. Serological monitoring should be considered for vaccinated populations to monitor immune response to the vaccines to determine the success of the HPAI vaccination process.

Conclusions

Session 4: Barbara Storck and Khaled Hussein

Surveillance and Trade: Risk Assessment

- The effectiveness of methods for surveillance needs to be reconsidered:
  - Non-vaccinated sentinels are no longer a useful surveillance tool in vaccinated populations.
  - Surveillance using molecular diagnostics on environmental material needs to be more fully developed and validated
- Surveillance must take into account the requirements of health certificates necessary for trading of day-old chicks, hatching eggs and meat
- Because of a shortage of government personnel, surveillance samples collected by private field veterinarians or trained people should be accepted under an accreditation program
- The registration of vaccines should be based on dossiers including quality, safety and efficacy data. Extrapolation of data for minor species should be considered, as the avoidance of repetition of clinical trials already completed elsewhere
- Field viruses from surveillance should be shared with the national and WOAH reference laboratories for genomic and antigenic analysis to assess protection of available inactivated vaccines, and update as needed
- WOAH guidelines are well-developed and implemented for HPAI-free compartments, especially for poultry genetics, but importing country acceptance needs additional transparency and communication on the process

Recommendations

Session 4: Barbara Storck and Khaled Hussein

Surveillance and Trade: Risk Assessment

- The requirements in the WOAH Code for appropriate surveillance to demonstrated HPAI freedom in vaccinated populations should be clearly defined
- EFSA Recommendation is to take up to 15 dead birds for testing from vaccinated flocks no more than 72 h before movement, the discussion indicated that we need to have different surveillance programs, including sample types, for different poultry species and production types
- Surveillance must be quick, sensitive, personnel efficient, and cost effective
- Surveillance must include vaccinated and nonvaccinated flocks to obtain field viruses for genomic and antigenic analysis for assuring vaccines are effective
- Surveillance Programs must be flexible for developing and adopting new methods, including easier sample collection.
- Because of shortage of government personnel, private laboratories should be approved by the competent authorities in the member state for testing and utilizing a certification and auditing program.

Recommendations

Session 4: Barbara Storck and Khaled Hussein

Surveillance and Trade: Risk Assessment

- The potential to create vaccination compartments whose existence would reduce inhibition of trade in non-vaccinated poultry and poultry products, needs to be further explored

Recommendations

Session 5

Surveillance and Trade: Risk Management

Risk Management

- Provide assurance for science-based control strategies
  - Use WOAH international standards
  - Interact with scientists, establish mechanisms, relationships
- Ensure separation between risk management and risk assessment
- Continue to define the right levels of control based on outcomes
- Undertake/ increase targeted research addressing uncertainty in surveillance and biosecurity to reassure trade partners
- Requirement for a platform developed by WOAH and its partners on new tools and effective vaccines approved by members
- WOAH and its partners to review and, where necessary, develop guidelines to support countries in biosecurity, surveillance and vaccination standards in support of safe trade

Recommendations

Session 5

Surveillance and Trade: Risk Management

Compartments

- Engage in international coordination mechanisms
- Increased sharing of experience and approaches- importance of learning from others on issues of compartments
- Accelerate re-certification processes
- Promote innovation in biosecurity technology
- Increase communication with trade partners
- Provide clear guidance and compliance standards

Other

- Ensure continuity in vaccine supply so that ambitions in vaccinations can be realized.

SUMMARY

Session 6: Arjan Stegeman and David Swayne

Conclusions and recommendations

- Conclusions and recommendations from the meeting will be developed and published on the IABS website and disseminated to partners
- IABS commissions the writing of a concepts paper for surveillance of vaccinated populations against HPAI to be published in the peer-reviewed journal Biologicals
- Based on the outcome of the concepts paper, IABS, in consultation with OFFLU experts, will propose WOAH update the current WOAH Standards, and if appropriate, guidelines should be developed to assist countries in establishing surveillance programs
- Consider convening future workshop on vaccination for prevention and control of high pathogenicity avian influenza, with updates on progress in surveillance development and implementation and utilization of vaccination in 2 years