

Update on the Avian Influenza situation (As of 16/09/2004) – Issue no. 22



Free range cocks stand on caged birds- Poultry farming in Bangli, Bali - (Photo: Dr. I. Douglas)

The information summarized below is gathered from official and non official sources, which are quoted in the text. AIDE news is prepared by the FAO Technical Task Force on Avian Influenza.

1. Latest information on Avian Influenza

Further outbreaks of H5N1 Highly Pathogenic Avian Influenza (HPAI) were suspected in Malaysia, near the border with Thailand. Additional HPAI cases in poultry were reported in Thailand and Viet Nam reported new infected areas. To understand the factors related to HPAI epidemics and to improve the quality of diagnostic and surveillance information, FAO is launching sub-regional surveillance and diagnosis networks with national and international partners.

Country situation

Thailand: Suspected cases of HPAI infection were reported on 16/09/04 in ducks in Supan buri; native chickens in Chaceangsao, Kalasin, Lopburi and Udonthani; and ducks and native chickens in Sakaew Provinces. An outbreak in broilers was confirmed in Nong nangnual, Uthai thani Province, on 16/09/04 and 14,459 birds were culled. Outbreaks were also reported during August in Narathiwat Province, which is adjacent to the Malaysian State of Kelantan.

On 09/09/04 the Thai Ministry of Public Health announced the death of an 18 year old man in Prachinburi Province due to H5N1 infection. The man was a fighting cock breeder whose farm had been infected with H5N1 HPAI. As of 08/09/04, a total of 27 outbreaks in 11 provinces are subject to the 21 day-surveillance period imposed by the Department of Livestock Development (DLD), Ministry of Agriculture and Cooperatives. The National Committee on Avian Influenza eradication reviewed the results of a two-month study on the use of vaccines, and on 15/09/04, the National AI Task Force announced that it will maintain the ban on vaccination of all kinds of poultry. The Ministry of Agriculture and Cooperatives launched a training programme on AI control strategies, including compensation for destroyed fowl, for Ministry officials throughout Thailand. (16/09/04, Source: Government, FAO, media website)

Viet Nam: Quang Tri Province in the centre (Aug. 19), Hai Duong Province in the north (Aug. 20) and Ho Chi Minh City (Sep. 15) reported new H5N1 infections, for a total of 13 provinces that have reported H5N1 HPAI since July. Some 2,500 quail in Hai Duong and 100 chickens in Quang Tri were culled. In Ho Chi Minh City, samples from 35 flocks, with a total of 34,900 ducks, tested positive for H5 AI virus but all the fowl were found to be healthy. These ducks were located in Cu Chi, Nha Be, Thu Duc and No. 9 districts of Ho Chi Minh city. Veterinary Authorities isolated the infected flocks and made arrangements for the birds to be culled. In Ho Chi Minh City, 421 households raise more than 881,000 poultry, of which 53% are quail; 32% chickens and 15% ducks. The death of 180 ducks in a flock of 2,000 was also reported in Phan Rang, Ninh Thuan Province. (15/09/04 Source: Government, FAO, media website).

Malaysia: A total of eight H5N1 HPAI outbreaks were reported in northern Kelantan state. One of the latest outbreaks was identified in Kampung Laut in Bachok district, which is 5km outside the 10 km quarantine zone. (15/09/04, Source: media website)

South Africa: On 09/09/04, South Africa reported culling 2,237 ostriches in two additional farms that had a link with the farms initially identified as affected, via sharing workers or exchanging birds with these farms. (09/09/04, Source: media website)

2. Surveillance and Post-epidemic rehabilitation activities – What next?

➤ Enhanced biosecurity at poultry farms and associated premises

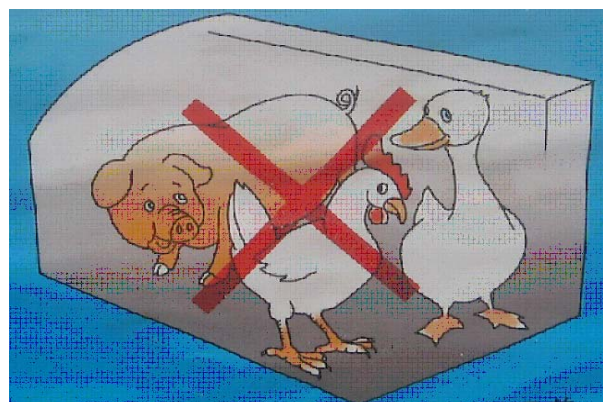
Biosecurity comprises two elements — biocontainment and bioexclusion. Biocontainment means the prevention of spread of virus from infected premises. Bioexclusion refers to measures to exclude infectious agents from uninfected premises.

Good biosecurity depends on the formation of a barrier between farms and the outside environment. This sounds simple but can be difficult to implement successfully in practice. Many items and people routinely enter poultry farms, including replacement birds, feed, water, farm workers, veterinarians, poultry buyers and catchers, and vaccination crews. It is difficult to entirely exclude free ranging animals (e.g. vermin, pet animals, wild birds) from farms but steps should be taken to prevent their entry into poultry sheds.

The exclusion of wild birds from farms merits particular mention because of the potential for wild birds (especially waterfowl) to harbour AI viruses. Wild birds may come into contact with farmed poultry directly (especially if the farmed birds are free-ranging) or indirectly (via contamination of feed and water). The latter pathway is especially important for farmed ducks reared on ponds and for farmed chickens whose drinking water is obtained from ponds. Influenza viruses target the gastrointestinal tract of waterfowl and ducks can shed virus for as long as 30 days. Influenza viruses can persist and retain infectivity in water (more than 30 days at 0°C and up to 4 days at 22°C). Wild waterfowl should be excluded from ponds or, if this cannot be done, drinking water for poultry that is obtained from these sources should be treated, e.g. with ultraviolet radiation or chlorination.

The main goal of a biosecurity programme is to manage the risk posed by people and items that cross the barriers erected to protect the farm. This is achieved through careful planning and design of farms, use of movement restrictions, appropriate disinfection and use of protective clothing. All commercial poultry farms should develop and implement a formal biosecurity plan as appropriate to the farm. It is helpful to document the biosecurity plan and specify those responsible for its maintenance.

The usefulness of biosecurity plans depends on compliance by farmers and farm workers, who must have a basic understanding of the purpose of the measures. Breaches of biosecurity can occur no matter how stringently the measures are implemented. The risk of biosecurity breaches is higher the more people and items routinely enter the farm.



From the leaflet used for the awareness campaign in Cambodia

The effectiveness of biosecurity in precluding virus entry also depends on the quantity of virus circulating in the vicinity. Obviously, the more virus that is present, the greater the likelihood that breaches of biosecurity will result in entry of the virus. Where the challenge is sufficiently high that biosecurity cannot prevent the entry of virus, the use of vaccination should be considered.

Based on biosecurity and the likelihood of spread of viruses via marketing systems, poultry farming enterprises can be classified into four broad groups, as described in the "Guiding Principles for diagnosis and surveillance of HPAI in Asia" (report of the Expert meeting, 21-23 July 2004, Bangkok, Thailand*):

Sector 1: Industrial integrated system with a high level of biosecurity and birds/products marketed commercially (e.g. farms that are part of an integrated broiler production enterprise with clearly defined and implemented standard operating procedures for biosecurity).

Sector 2: Commercial poultry production system with moderate to high biosecurity and birds/products usually marketed commercially (e.g. farms with birds kept indoors continuously; strictly preventing contact with other poultry or wildlife).

Sector 3: Commercial poultry production system with low to minimal biosecurity and birds/products entering live bird markets (e.g. a caged layer farm with birds in open sheds; a farm with poultry spending time outside the shed; a farm producing chickens and waterfowl).

Sector 4: Village or backyard production with minimal biosecurity and birds/products consumed locally.

By definition, production sectors 3 and 4 are not biosecure. Although attempts should be made to improve biosecurity, it is not feasible to prevent the entry of AI in these types of farms where there is a continuing source of infection in commercial poultry, domestic ducks or, potentially, in wild birds. In situations of high viral challenge, targeted vaccination may be the most appropriate means of 'dampening down' an HPAI outbreak. The decision to use vaccine must be considered in light of many other issues and will be the subject of further discussion.

** The Guiding Principles provide minimum requirements for HPAI (H5N1) surveillance and diagnosis that can be applied by countries and regional networks. The full text of the Guiding Principles is available on: http://www.fao.org/ag/AGA/AGAH/EMPRES/tadinfo/e_tadAVI.htm*

➤ **What can farmers do to protect their birds? - Biosecurity practice**

Biosecurity is a concept for prevention of disease entry/escape that must be practiced by all farmers, cooperatives, abattoirs etc. Lack of biosecurity measures increases the risk for disease or infection entry to the production unit, market, or any commercial operation.

- Prevent contamination via people: Reduce person movements to an absolute minimum, provide protective clothing and provide footbaths with disinfectant for boots. Keep a log book of all visitors;
- Prevent contamination via materials: Clean and disinfect equipment, use equipment which can easily be cleaned and decontaminated;
- Prevent contamination via animals: Ensure the animals to be introduced to the farm/flock are healthy. Where possible, practice 'all in-all out' systems of farming.

More information is available on:

http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian_qa.html#8

➤ **Trace back study in the Republic of Korea**

A study in the Republic of Korea revealed that the HPAI H5N1 strain first infected ducks in Cheonan, South Chungcheong Province in October 2003, as reported by the Government Veterinary Service. The virus may have spread to other duck and

chicken farms in the nation via chicks and eggs, since Cheonan is a centre of the country's duck industry and supplies chicks and eggs to more than 70% of the duck farms nationwide. The first case was reported in December 2003 at a chicken farm in Eumseong, North Chungcheong Province. (02/09/04, source: media website)

3. Actions taken – follow-up

➤ **HPAI Diagnosis and Surveillance Networks**

FAO is implementing three Technical Cooperation Programme (TCP) projects to establish sub-Regional HPAI Diagnosis and Surveillance Networks covering Southeast Asia, East Asia and South Asia respectively. The Networks are built upon the concept that countries within a sub-Region adopt minimum, standardized requirements for diagnosis and surveillance of HPAI. The overall goal is to improve collaboration and epidemiological analysis at the sub-Regional and Regional level. FAO will collaborate with several international organizations and research institutes to provide epidemiology and diagnostic laboratory training and technical support to the networks.

➤ **FAO Regional Animal Production and Health Commission for Asia, the Far east and the Southwest Pacific (APHCA) 28th Session** (26/09–1/10/2004, Chiang Mai, Thailand)

➤ **Recent Missions (August – September):**

[Region]

- Dr. F. Dolberg (Denmark) FAO consultant (Poultry Production Expert), Ongoing (Mission to Cambodia, Indonesia, Lao PDR and Thailand).
- Dr. L. Sims (Australia), FAO consultant (Avian Influenza Disease Management), 11/07–20/08/04 (Mission to China, Mongolia and The Democratic People's Republic of Korea).
- Dr. Wantanee Kalpravidh, FAO RAP (Bangkok), Project Co-ordinator, Ongoing (Mission to Cambodia, Viet Nam, Lao PDR, Chiang Mai/Thailand)
- Dr. C. Benigno, FAO RAP (Bangkok) Animal Health Officer, Ongoing (Mission to Cambodia, Viet Nam, Lao PDR, Indonesia)

[Cambodia]

- Dr. A. McLeod, FAO AGAL (Rome) Senior Officer (Livestock Policy). 1-3/09/04
- Dr. Y. Froehlich (France) FAO consultant (Project Technical Adviser), Ongoing.
- Dr. S. Desvaux (France) FAO consultant (Veterinary Epidemiologist), 10/05-09/08/04

[Indonesia]

- Mr. Y. Endo, Director, FAO Liaison Office with Japan (Yokohama) 17-22/08/04
- Dr. S. Morzaria, Consultant TCI, 15 – 20/09/04
- Dr. J. Lubroth, FAO AGAH (Rome) Senior Officer (EMPRES). To commence in the week of 13/09/04

[Lao PDR]

- Ms. E. Bautista (Philippines) FAO TCDC Consultant (Project finance & administration officer), 28/04 – 27/08/04

[Malaysia]

- Dr. H. Wagner, FAO RAP (Bangkok), Senior Officer, RAP, 6–8/09/04

[Singapore]

- Dr. S. Morzaria, Consultant TCI, WHO Expert Consultation on Outbreak Communications, 21-23/09/04

[Thailand]

- Dr. J. Lubroth, FAO AGAH (Rome) Senior Officer (EMPRES). To commence in the week of 27/09/04

[Viet Nam]

- Dr. A. McLeod, FAO AGAL (Rome) Senior Officer (Livestock Policy), 8-10/09/04

4. Resources available

Relevant articles/publications:

- FAO AGAH website: <http://www.fao.org/ag/againfo/subjects/en/health/default.html>
- Guiding Principles : Highly Pathogenic Avian Influenza Surveillance And Diagnostic Networks In Asia (FAO Expert Meeting 21-23 July Bangkok)
http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian_recomm.html
- FAO/OIE Emergency Regional Meeting on Avian Influenza Control in Animals in Asia (26-28 February). The full text of the final report is available on:
http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/HPAI_Bangkok.pdf
- China-ASEAN Special Meeting on HPAI Control. Beijing, 2 March 2004
The full text of the Joint Press Statement “China-ASEAN Special Meeting on HPAI Control” is available on AIDENews issue 8 pages 4 - 5:
<http://www.fao.org/docs/eims/upload/153869/AVIbull008.pdf>
- FAO/OIE/WHO Technical Consultation on the Control of Avian Influenza
3 - 4 February 2004
The full text of the Conclusions and recommendations is available on FAO website:
http://www.fao.org/newsroom/common/ecg/36647_en_experts.pdf
- Manual on the preparation of national animal disease emergency preparedness plans
<http://www.fao.org/docrep/004/x2096e/x2096e00.htm>
- The use of vaccination as an option for the control of Avian Influenza (I. Capua, S Marangon) – 71st OIE General Session (May 2003). Available at:
http://www.fao.org/docs/eims/upload/153564/A_71_SG_12_CS3E.pdf
- Information for shipping international diagnostic specimens to the International Reference Laboratories (see appendix 2 of AIDENews issue 5 or 6, available at:
<http://www.fao.org/ag/AGA/AGAH/EMPRES/index.asp>)
- FAO/EMPRES Manual on procedure for disease eradication by stamping out
(Available at: <http://www.fao.org//DOCREP/004/Y0660E/Y0660E00.HTM>)
- FAO AIDE News (Vol. 1 - 21)
(Available at: http://www.fao.org/ag/AGA/AGAH/EMPRES/tadinfo/e_tadAVI.htm)
- FAO AIDE News maps
(Available at: http://www.fao.org/ag/AGA/AGAH/EMPRES/maps/e_maps.htm)

Helpful links:

FAO Avian Influenza fact sheet:

<http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian.html>

OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2004 - CHAPTER 2.1.14. Highly Pathogenic Avian Influenza http://www.oie.int/eng/normes/mmanual/A_00037.htm

Proposed new chapter for The OIE Terrestrial Animal Health Code [Chapter 2.1.14.]
Avian Influenza: http://www.oie.int/eng/AVIAN_INFLUENZA/safety.htm click the link to the proposed new chapter submitted in May 2004

OIE Update on Avian Influenza in Animals in Asia web site:
http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm

OIE Technical Disease Cards:
http://www.oie.int/eng/maladies/fiches/a_A150.htm

WHO Avian influenza web site:
http://www.who.int/csr/disease/avian_influenza/en/

Updated Information for Travellers about Avian Influenza A (H5N1)
<http://www.cdc.gov/travel/other/h5n1apr2004.htm>

Foreign Animal Diseases (1998) United States Animal Health Association. "The Gray Book" http://www.vet.uga.edu/vpp/gray_book/FAD/avi.htm

AUSVETPLAN including HPAI Disease strategies and Operational procedures
<http://www.aahc.com.au/ausvetplan/>

Avian Influenza - Disease and Control Strategies and Contingency Planning (intervet)
<http://www.avian-influenza.com/>

Avian Influenza - Its Causes, Effects & Control (Antec International)
<http://www.antecint.co.uk/main/avianflu.htm>

Biosecurity for the Birds (USDA Animal and Plant Health inspection Service, Veterinary Service) <http://www.aphis.usda.gov/vs/birdbiosecurity/>

Biosecurity for Poultry Flocks (Joan S. Jeffrey, University of California, Davis, School of Veterinary Medicine) http://www.vetmed.ucdavis.edu/vetext/INF-PO_Biosecurity.html

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Annex 1: Situation in Asian Countries (as of 16/09/2004)

| area | date of first official reporting to the OIE | type | species affected since the start of the outbreak | human case | Latest information ¹⁾ | | |
|--------------------------|---|--------------------------|--|------------|--|---|---|
| | | | | | last known case suspected and/or confirmed | source of the latest information and OIE declaration | comments |
| Republic of Korea | 17/12/03 | H5N1 | layer, duck; virus isolated: magpie | no | 24/03/04 | Government; media websites. Declared to OIE | AHD/MAF informed OIE the negative result of the final serological testing of the sentinel birds on 19/07/04 |
| Viet Nam | 8/01/04 | H5N1 | chicken, quail, duck, muscovy duck | yes | 15/09/04 | FAO; Media websites | Four human cases confirmed since July 04 |
| Japan | 12/01/04 | H5N1 | chicken, crow | no | 05/03/04 (crow) | Government and media website; Declared to OIE | all the movement restrictions lifted by 13/04/04 |
| Taiwan Province of China | 20/01/04 | H5N2 (LP ³⁾) | chicken, duck, pheasant | no | 09/03/04 | Meeting report, media website. Declared to OIE | |
| Thailand | 23/01/04 | H5N1 | virus isolation: chicken, duck, goose, quail, turkey, stork | yes | 16/09/04 | Government, FAO ²⁾ , media websites. Declared to OIE | One human fatality in Prachin Buri Province |
| Cambodia | 24/01/04 | H5N1 | Chicken, duck, goose, turkey, guinea fowl, wild bird | no | 09/05/04 | Government, FAO | Ban on poultry farming in all 12 locations lifted on 24/06/04 |
| Hong Kong SAR | 26/01/04 | H5N1 | Peregrine falcon | no | | | |
| Lao, PDR | 27/01/04 | H5N1 | Chicken, duck and quail | no | 13/02/04 | Government, FAO | |
| Pakistan | 28/01/04 | H7N3 H9N2 (LP) | layer; broiler | no | July 04 | Government, FAO | |
| Indonesia | 06/02/04 | H5N1 | Chicken, duck and quail | no | July 04 | Government, FAO, media websites | |
| China | 06/02/04 | H5N1 | virus isolation: chicken, duck, goose, quail, pigeon, pheasant, black swan | no | 06/07/04 | Government, FAO, media websites. Declared to OIE | Export ban of poultry products from Anhui Province was lifted on 31/08/04. |
| Malaysia | 19/08/04 | H5N1 | chicken, fighting cocks (?) | no | 15/09/04 | Government, media websites | Eight outbreaks in three districts |

1) Official (OIE) and unofficial information (ProMED, press agencies, FAO tracking systems...)

2) FAO: FAO representative in concurrence

3) LP: low pathogenic strain

4) Gphin: Global Public Health Intelligence Network (Health Canada)

Annex 2: Situation in other Countries (as of 16/09/2004)

| area | date of official reporting to the OIE | type | species affected since the start of the outbreak | human case | Latest information ¹⁾ | | |
|--------------------------|---------------------------------------|------------|--|----------------------|--|---|---|
| | | | | | last known case suspected and/or confirmed | source of information and its OIE declaration | comments |
| United States of America | 11/02/04 | H7N2 (LP) | Chicken | no | 11/02/04 (Delaware) | Delaware Department of Agriculture Statement; FAO. | Final report submitted to OIE on 15/05/04 |
| | | H2N2 (LP) | Chicken | no | 03/02/04 (Pennsylvania) | Pennsylvania Department of agriculture website; ProMED | |
| | 23/02/04 | H5N2 | Chicken | no | Late February (Texas) | Texas Animal Health Commission and USDA website; FAO. Declared to OIE | USDA informed OIE the eradication of HPAI in Gonzales County, Texas on 01/04/04; 17/08/04 |
| | | H7N2 (LP) | Chicken | no | 09/03/04 (Maryland) | Maryland Department of Agriculture News Release; FAO. Declared to OIE | Final report submitted to OIE on 15/05/04 |
| | | H7N3 (LP) | non-commercial | no | 22/06/04 (Texas) | Texas Animal Health Commission website | |
| Canada | 19/02/04 | H7N3 (LP) | Chicken | yes (conjunctivitis) | 29/04/04 (British Columbia) | Government website. Declared to OIE | CFIA informed OIE that the identified zone is no longer considered as infected, as of 9 July 2004 |
| | 09/03/04 | H7N3 | | | | | |
| South Africa | | H6 (LP) | commercial poultry | no | 25/03/04 | ProMED | |
| | 06/08/04 | H5N2 | ostrich farms | no | 18/08/04 (Eastern Cape province) | Web Media (AFP), Government. Declared to OIE | HPAI outbreaks were reported from ostrich farms in Eastern Cape province |
| Egypt | | H10N7 (LP) | wild duck | yes | 23/05/04 (from survey sample) | ProMED | |

1) Official (OIE) and unofficial information (ProMED, press agencies, FAO tracking systems...)

2) FAO: FAO representative in concurrence

3) LP: low pathogenic strain

4) Gphin: Global Public Health Intelligence Network (Health Canada)