

## Update on the Avian Influenza situation (As of 23/12/2005) – Issue no. 37



Bogor-Market, Indonesia  
Photo: Dr. E. Guerne-Bleich

*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.*

### No bird flu risk for consumers from properly cooked poultry and eggs

Chicken and other poultry are safe to eat if cooked properly, according to a joint statement by FAO and the World Health Organization (WHO) issued to national food safety authorities. However, no birds from flocks with disease should enter the food chain, as transporting and handling of infected poultry may disseminate virus further. FAO/WHO made the statement to clarify food safety issues in relation to the current bird flu crisis. The statement has been issued through the International Food Safety Authorities Network (INFOSAN) and is available in six languages. Cooking of poultry (e.g. chicken, ducks, geese, turkeys and guinea-fowl) at or above 70°C throughout the product, so that absolutely no meat remains raw and red, is a safe measure to kill the H5N1 virus. (source: FAO Press Release – 05/12/05)

### Global action plan identified

Countries in which avian influenza is currently endemic have made very concerted efforts to control the disease but it has become clear that some of these countries are overwhelmed by the situation and need additional international assistance to make progress. Controlling the disease in poultry is key to the success in limiting the threat of a human pandemic. Although it is evident that virus has been spread over long distances by wild birds there is more research required to fully understand their role in the epidemiology of the disease. A global meeting held in Geneva on 9 November 2005 has identified key components of a global action plan to control avian influenza in poultry and simultaneously limit the threat of a human influenza pandemic. More than 600 delegates from over 100 countries agreed that there is an urgent need for financial and other resources for countries which have already been affected by avian influenza, as well as for those which are most at risk, and to identify and respond to a human pandemic the moment it emerges. The need for further strengthening of HPAI control at source in birds, surveillance, rapid containment, pandemic preparedness, integrated country plans, and factual and transparent communications were identified. (FAO Press Release – 09/11/05)

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### FAO's regional approach

FAO has implemented three regional projects in South-east, East and South Asia and has now started five more projects in Northern, Eastern, Western and Southern Africa, Eastern Europe and Caucasus and the Middle East Region. The aims of the projects include: to strengthen of the HPAI field surveillance and laboratory diagnosis; to

mount the emergency preparedness planning; to establish information and technology network linkages within and between regions; and to build public awareness.

## 1. Latest information on Avian Influenza

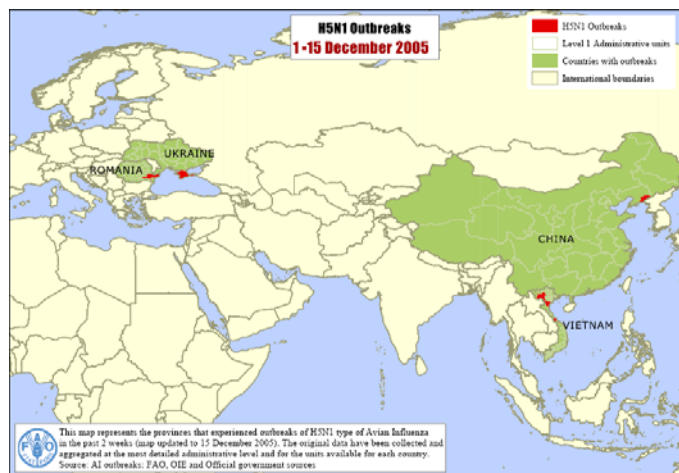
Two years have passed since the first case of Highly Pathogenic Avian Influenza (HPAI) H5N1 was reported to OIE from the Republic of Korea on 12 December 2003. The disease has spread from Southeast Asia to the north-west involving Quinghai Lake, Xinjiang Province in China, Mongolia, Russia, Kazakhstan, Romania, Turkey, Croatia, and now has also been confirmed in Ukraine. Meanwhile, some countries in EU have decided to relax control measures since the wildfowl migration for this winter, which is regarded as a high risk factor, is reaching an end.

### Country situation

#### - Europe -

**Ukraine:** Massive deaths of poultry started on 25 November 2005 in near Sivash Lake, on the Crimean Peninsula, and preliminary testing confirmed the presence of avian influenza virus of sub-type H5 on 8 December. It was later confirmed as HPAI H5N1 by a Laboratory in Russia and by VLA-Weybridge, UK. The disease has so far spread to at least 27 villages on the Crimean Peninsula. On 3 December, the President decreed a state of emergency in the Peninsula and the Government made available about 5 million dollars for compensation to poultry breeders on 4 December.

Control measures imposed include quarantine of infected properties, the creation of sanitary cordons of approximately three kilometres radius and prohibition of the sale of backyard poultry and poultry products in the Crimea. Outbreaks in Dzhankoyskiy, Nizhnegorskiy and Sovetskiy Districts were reported to OIE on 5 December. Since then, veterinarians and soldiers have seized and culled more than 67,000 domestic fowl, including chicken, geese, ducks and turkeys in affected villages. (22/12/05, source: Media news)



**Romania:** In November, AI sub-type H5 outbreaks were reported in seven swans, a chicken and a turkey in Calarasi and Braila counties, and H5N1 was confirmed in samples from Calarasi and Braila Counties by VLA-Weybridge. During December, the disease was further reported in chickens and ducks in Braila, Buzau, Calarasi, Ialomita and Tulcea (near border to Ukraine) Counties. Romania has been conducting surveillance by sampling of 1,200 birds every week. The Ministry of Agriculture urged villagers to keep their poultry confined to avoid contact with migrating birds. Some 53,000 poultry have been culled in Romania between 7 October and early December. In November, Romania has collected 150 samples from wild birds, mainly seagulls for virus isolation testing. (22/12/05, source: Media news)

**Russia:** Since the last issue of AIDEnews, outbreaks were suspected or confirmed in Omsk, Tambov, Cheliabinsk, Altai, Kurgan Regions in November, and in Kurgan, Astrakhan and Kalmykia Regions in December. In Astrakhan Regions (in the Volga Delta near the border to Kazakhstan) and in Kalmykia, around 600 dead swans have been found. Research undertaken by the Russian Vektor Center's zoonotic infections laboratory indicated differences between viruses isolated in Novosibirsk Region: virus isolated in the summer/autumn of 2005 is almost identical to the strain that caused an outbreak in

northern China in spring 2005 but the virus found in the second outbreak was similar to virus found in Viet Nam in 2002-2003. (20/12/05 source: Media news)

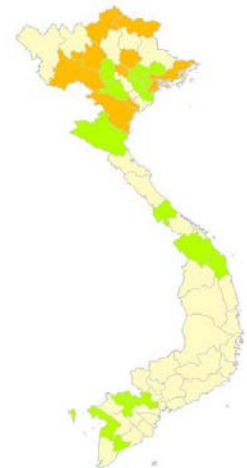
**Croatia:** The last case was detected in swans at a fishpond near Nasice on 24 November. In total, more than 17,000 poultry were culled. (21/12/05, source: Government)

#### - South, Southeast and East Asia –

**China:** Further outbreaks were confirmed in chickens, ducks and geese in eight of the 30 provinces/autonomous regions during November and in one in December. Areas where outbreaks were found are the Fuxin Municipality, Jinzhou Municipality, Beining City (Liaoning Province), Zepu County, Urumqi County, Hetian City, Urumqi City, Miqian City, Shanshan County, Xinyuan County (Xinjiang Uygur Autonomous Region), Huainan City (Anhui Province), Jingshan county, Xiaogan city, Shishou city (Hubei Province), Zalantun city, Molidawa Dawo'er Autonomous County (Inner Mongolia Autonomous Region), Yinchuan City (Ningxia Autonomous Region), Xiaoyi City (Shanxi Province), Chuxiong City (Yunnan Province). The most recent case was reported in ducks in Suichuan County (Jiangxi Province) detected on 6 December. The country decided to vaccinate all 14 billion poultry (raised per year). According to news media, Chinese officials said that samples of the oral secretions of pigs have tested positive for bird flu in Xiangtan County, Hunan Province. There had been 31 outbreaks in China this year, 144,624 birds have died and 21.1 million have been culled. According to WHO, there have been five human cases of which two were fatal. (15/12/05, Source: Government, FAO, Media websites)

**Thailand:** The latest outbreaks of HPAI H5N1 were reported in Nonthaburi and Suphanburi Provinces in early November. A total of 114 poultry have died and 1,817 have been culled. The both outbreaks were in the central poultry zone, one of the five which have been established for effective movement control and farming management. According to WHO, there have been two human cases during November/December of which one was fatal. (21/12/05, Source: Government, FAO, media websites)

**Viet Nam:** The latest case of HPAI was found on 15 December in a flock of 140 ducks in Ninh Binh Province. Since 1 October 2005, a total of 3,702,257 poultry have been culled of which 1,245,072 chickens and 1,980,369 muscovy ducks and ducks. As of 21 December 2005, vaccination has been implemented in 64 provinces and cities, of which two round vaccination have been completed in 21 provinces. A total of 135.3 and 67.7 million doses have been vaccinated in chickens and ducks respectively. (21/12/05, source: FAO, Media news)



Viet Nam (as of 22 Dec.)  
orange: provinces with  
quarantined areas, green:  
provinces where outbreak  
occurred since 1/10/2005

**Indonesia:** Outbreaks have been detected in 23 of Indonesia's 33 provinces. H5N1 virus has been discovered in Tsunami-hit Aceh Province in its three districts including Pidie. Birds were found infected with avian influenza virus in seven of 20 subdistricts in Jakarta. Outbreaks were also suspected in Tangerang Province, West Java and East Nusa Tenggara Province, West Timor. (30/11/05, source: Media news)

#### - Arab -

**Kuwait:** A flamingo found on a beach tested positive for HPAI H5N1 strain. (11/11/05, source: media news)

## 2. Control measures

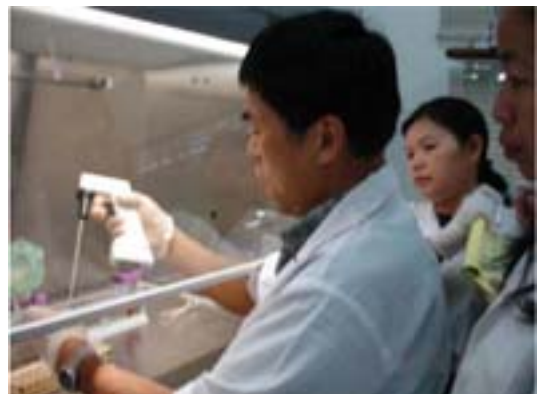
At this stage, countries which haven't had any outbreak of avian influenza should check their preparedness and set a protocol on how to handle the first suspected case if it is reported from a field staff. Laboratory capacity for differential diagnosis between avian influenza and Newcastle disease should be strengthened. Farmers should be provided with enough information on biosecurity in local language so as to reduce the risk of introducing the virus to their flock.

### Indonesia

There have been more human cases reported without poultry outbreaks having been reported. This may indicate a failure of the reporting system and FAO identified the need for some systemic changes in surveillance and disease control. In response to the worsen situation, FAO sent an officer and two experts to coordinate the activities and analyse real situation at village level. The team discussed with the Ministry and also visited villages. The small-middle holders with minimum biosecurity understanding in villages are likely to be the source of virus circulation. There is certainly a need to strengthening line of information and command to run a coordinated control measures. The Government, FAO and other UN agencies in Indonesia organised a working group to revise and upgrade the national strategy, recognise the needs and activities, establish surveillance network coordinated by the central and regional laboratories. The Government and the working group worked out hard to identify the needs and it will be presented in the forthcoming international donor meeting in Beijing.

### Cambodia

**Current projects:** An FAO project entitled 'Building Capacity at the Grass Roots Level to Control Avian Influenza in Cambodia' (OSRO/INS/402/GER) with total amount of US\$3.1 million funded by the Government of Germany has been recently started to support the Government of Cambodia in their efforts to contain and eradicate HPAI, thereby contributing to the reduction of the risk of a human influenza pandemic, improving the livelihoods of farmers and enhancing food security of the rural poor. This three year project will improve major components of the current HPAI control measures especially legal and strengthening the grass-roots level disease surveillance systems so as to reduce the disease incidence and its spread significantly. Farmers and village animal health workers (VAHWs) will be trained in disease recognition, early reporting and emergency response, their activities will be supported by improved laboratory diagnostic capacity and a regulatory framework to enforce HPAI containment and control. Disease awareness will also be improved through strengthened communication. Given the transboundary nature of the disease, it is also necessary for Cambodia to be part of the coordinated regional and international efforts to control avian influenza. Thus Cambodia will take part in the regional networks and international coordination mechanism for South East Asia and global HPAI control. A regional FAO project funded by USAID entitled "Immediate assistance for strengthening community-based early warning and early reaction to Avian Influenza outbreaks in Cambodia, Indonesia, Lao PDR, PR China, and Viet Nam" (OSRO/RAS/505/USA) has also been implemented (US\$1 million for Cambodia). The objective of the project is to: Strengthen capacity for early detection and early warning of HPAI outbreaks through community-based field surveillance and effective disease outbreak investigations; Enhance the capacity for rapid and effective response to outbreaks of HPAI; Promote public awareness and education on HPAI. The project has supported Cambodia with providing urgent supplies for disease surveillance and laboratory support as well as VAHWs' training.



**Response to the crisis in 2004–2005:** Cambodia was one of the first countries in South East Asia infected by Highly Pathogenic Avian Influenza (HPAI). The first case was reported on 15 December 2003, in the Tamao Wildlife Rescue Centre in the outskirts of Phnom Penh. The first wave (January–May 2004) severely hit smallholder farmers who lost their livelihoods and seriously disrupted Cambodia's poultry sector, causing significant economic losses. The National Animal Health and Production Investigation Centre (NAHPIC) estimated that over 80 percent of chicken stalls in the Phnom Penh live-bird markets and over 60 percent in provincial markets ceased selling chicken between late January and February 2004. After a break in the latter part of 2004, cases re-emerged in early 2005 with 4 human cases this time. The repeated outbreaks highlighted the need for further strengthening of disease surveillance systems at the grass-root level and capacity building to control the disease. Currently, the epidemic in Cambodia appears to be under control and there have been no outbreaks reported since May 2005. However, the country's surveillance system is still weak, infection could persist without being reported.

Since early 2004, the Government has carried out a number of measures including bans on the importation and transportation of live poultry and poultry products; application of stamping out; selective culling; disinfection of infected poultry premises. Provincial veterinary services and VAHWs have been alerted and mobilized to report and control any suspected outbreaks. The Department of Animal Health and Production (DAHP) has established an HPAI management team composed of three Task Forces (TF) - Disease surveillance, investigation and diagnosis (TF1), public awareness and communication (TF2) and Outbreak control measures (TF3). The three TFs have accomplished a tremendous amount of work and coordination in a short period to manage the crisis within the limited veterinary man power and operational funds.

FAO has supported Cambodia through one country-specific and three regional Technical Cooperation Program (TCP) projects. Several donors have also provided grants through FAO multidonor Trust Funds or bilateral contributions to support the Government of Cambodia in controlling the disease. These supports enabled the mounting of a limited but timely response for emergency HPAI outbreak control during the 2 waves of avian influenza that hit the country in 2004. Much needed protective gear and equipment for culling and disposal of affected poultry and disinfection of infected poultry premises and laboratory equipment and reagents for diagnosis at NAPHIC have been provided. Initial training for national staff on disease surveillance, outbreak investigations and emergency response, and for laboratory and epidemiology staff on diagnosis and analysis provincial and district staff on disease and disease surveillance, VAHWs on disease reporting and outbreaks investigations have been provided through workshops and on-site trainings. Outbreak simulation exercises were organised in 15 provinces at risk to assess the capacity of provincial staff to face an outbreak in realistic conditions. Farmers training workshops were also organised in commercial and semicommercial poultry farms on disinfection and biosecurity practices. Posters, brochures, TV and radio programmes have been used to promote awareness. A pilot community-based surveillance programme involving about 400 VAHWs was launched in Kampot province.

**Major Constraints:** The experience has identified serious institutional and technical constraints limiting the country's capacity for effective control of the disease:

***Limited technical and operational resources particularly at the provincial level:***

This institutional constraint cannot be mitigated over the short term, but is significant in the planning and implementation of any disease control programs. FAO projects over the last two years have addressed several technical and organizational aspects, but further attention is required to alleviate this constraint over the long term.

***Weak comprehensive legislative framework to support animal disease control:***

Comprehensive legal or regulatory frameworks to deal with the control of notifiable diseases such as HPAI are presently incomplete and uncoordinated. Current veterinary legislation is limited to a few decrees covering the inspection of live animals and animal products for international trade; slaughterhouse inspection; and the licensing and registration of animal practitioners (veterinarians and VAHWs). Developing such

frameworks will provide the necessary authority for the implementation and imposition where necessary, of disease control policies and strategies.

**Weak epidemiological field surveillance and early warning:** Effective field surveillance is seriously hampered by difficult terrain, inadequate manpower, limited knowledge and financial resources and lack of transport and supplies. The brunt of field surveillance is faced by less trained provincial staff, supported by a network of VAHWs with little understanding of the concepts of disease control. Strengthening these grass-roots level resources would enable more rapid disease containment and further strategic actions.

**Limited Public Health Awareness:** Avian influenza has caused human fatalities in Cambodia, and has affected the health and livelihood of thousands of producers and consumers alike. Consumers need to be given more information on the public health and food safety aspects of HPAI.

**Conclusion:** As indicated, weaknesses in Cambodia's veterinary infrastructure and poor grass-root level capacity to detect, report and respond to disease outbreaks are seriously hampering concerted efforts to eradicate the disease from the country. Over the medium and longer term, the above constraints need to be strengthened to the point where the country is capable of preventing the resurgence of the disease. To accomplish this goal, an enabling environment has to be created. This is expected to be achieved through the two donor-assisted projects (OSRO/INS/402/GER, OSRO/RAS/505/USA) currently under implementation in the country.

### 3. Actions taken

- **International pledging conference on avian influenza and human pandemic influenza** will be held in Beijing on 17-18 January 2006.
- **The Launch Meeting for TCP/ER/3004 "Emergency assistance for early detection and prevention of avian influenza in the Eastern Europe and Caucasus regions"** and was held in Budapest and in December 2005 to set up regional networks for disease prevention and surveillance.
- **Workshop on Community-Based Disease Control in Indonesia** was held in Jakarta, Indonesia in December 2005 by FAO with the collaboration of Directorate General of Livestock Services (DGLS), Indonesia. This workshop was organised to develop four pilot community-based programs to sensitise villagers on HPAI control through Village Animal Health Workers (VAHWs). The community-based programs will be part of a comprehensive HPAI control program in the frame of the Indonesian National AI Control Strategy.
- **Regional workshop on standardising procedures for FAO network laboratories for diagnosis of highly pathogenic avian influenza** was held from 12 to 16 December in Geelong, Australia in collaboration with Australian Animal Health Laboratory (AAHL). The objective of this workshop was to provide additional training in AI diagnosis for regional hub laboratories in sub-regions in Asia.
- **WHO/FAO/OIE/WB Technical Meeting** was held in Geneva, Switzerland from 7 to 9 November to discuss a worldwide concerted approach. Participants agreed on "The H5N1 Agenda: Towards a global strategy", with the means to identify and prioritize the financial requirements for combating the HPAI and agree on strengthening coordination and developing appropriate financial mechanisms. The full text of the agenda, presentations and conclusions are available at:  
<http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/geneva-docs.html>
- **Joint conference on avian influenza with 14 countries of Balkans and the Black Sea** was held in Vouliagmeni, Greece on 19 November. Among them, two countries were members of the EU (Greece and Cyprus) and some other countries were SEECF members (Albania, Bulgaria, Bosnia-Herzegovina, Croatia, Macedonia, Romania, Turkey, Serbia-Montenegro), plus Armenia, Georgia, Russia and Moldavia.

➤ **Recent Missions (15/11-31/12/05):**

*We would be grateful if other organizations/countries could send us information on their assistance missions to the countries concerned. (e-mail to: [Avian-Influenza-Registration@fao.org](mailto:Avian-Influenza-Registration@fao.org))*

**[Cambodia]**

- Dr Y. Froehlich (France) FAO consultant (Project Technical Adviser), Ongoing

**[China]**

- Dr L. Sims (Australia) Avian influenza disease Management Expert, 29/11-1/12/05

**[Indonesia]**

- Dr P. Roeder FAO AGAH (Rome) Animal Health Officer (Virology) launching of UN AI control programme, October-December

- Dr J. Mariner (USA) OSRO/RAS/505/USA (Chief Technical Advisor), Ongoing

- Dr C. Jost (USA) OSRO/RAS/505/USA (Chief Technical Advisor), Ongoing

- Mr A. Duqueza (Philippines) FAO TCDC expert (Project finance & administration officer), Ongoing.

- Dr E. Guerne-Bleich, FAO AGAP (Rome) Animal Production Officer, VAHWS' workshop, 5-9/12/05

- Mr W. Schoustra, FAO AGAH (Rome) FAO consultant, VAHWS' workshop, 5-9/12/05

**[Hungary]**

- Dr J. Lubroth, FAO AGAH (Rome) Senior Officer (EMPRES), Inception Workshop for TCP/RER/3004 Emergency assistance for early detection and prevention of avian influenza in the Eastern Europe and Caucasus regions, 15-18/12/05

- Dr S. von Dobschuetz, FAO AGAH (Rome) Associate Professional Officer, Inception Workshop for TCP/RER/3004, 15-18/12/05

**[Lao PDR]**

- Ms E. Bautista (Philippines) FAO TCDC expert (Project finance & administration officer), Ongoing.

- Dr D. Castellan (Canada) OSRO/RAS/505/USA (Chief Technical Advisor), Ongoing

- Dr W. Kalpravidh, FAO RAP (Bangkok), Project Co-ordinator, 21-23/11/05

**[Maldives]**

- Dr G. Gongal (Nepal) FAO consultant (Veterinary Expert) Ongoing

**[Romania]**

- Dr E. Berriatua (Spain) FAO Consultant (Veterinary Epidemiologist), 1-6/11/05

- Dr K. Depner (Germany) FAO Consultant (Veterinary Epidemiologist), 1-6/11/05

- Dr V. Guberti (Italy) FAO Consultant (Veterinary Epidemiologist), 1-6/11/05

**[Bangladesh]**

- Dr M. Oberoi, FAOR (India) Project Coordinator, WHO/FAO Mission to assist in avian influenza and pandemic influenza preparedness and response plan 26/11 - 09/12/05

**[Thailand]**

- Dr J. Slingenburgh, FAO AGAH (Rome) Senior Officer, 13-16/12/05

- Ms A. Kamata, FAO AGAH (Rome) Animal Health Officer, 20/11-2/12/05

**[Timor Leste]**

- Dr L. Alders (Australia) FAO Consultant (Emergency Preparedness Planning) Ongoing

**[Tunisia]**

- Dr A. El Idrissi, FAO AGAH (Rome) Animal Health Officer, 11-13/12/05

**[United Arab Emirates]**

- Dr F. Plumiers (Netherlands) UAE consultant (Avian influenza disease management), Ongoing

**[Viet Nam]**

- Dr A. Forman (Australia) FAO Consultant (Veterinary Epidemiologist), January

- Dr A. Tripodi (Germany/Italy) Project Coordinator, Ongoing

- Dr L. Sims (Australia) Avian influenza disease Management Expert, 4-9/12/05

- Ms F. Guerrieri, FAO TCEO (Rome) Chief, Emergency Operations Service, 5-16/12/05

- Ms A. Odashima, FAO TCEO (Rome) Emergency Operations Officer, 5-16/12/05

- Mr K. Morteo, FAO AFIP (Rome) System Development Specialist, 14-23/11/05

- Ms A. Kamata, FAO AGAH (Rome) Animal Health Officer, 14-18/11/05

**[Other]**

- Dr J. Domenech, FAO AGAH (Rome) Chief, Animal Health Service, Meeting on Avian Influenza and Influenza Pandemic Preparedness Planning, Brussels, 12/12/05

## 4. Relevant articles, publications and websites

**FAO**

- A Global Strategy for the Progressive Control of Highly Pathogenic Avian Influenza  
<http://www.fao.org/ag/againfo/subjects/documents/ai/HPAIGlobalStrategy31Oct05.pdf>
- The FAO/OIE/WHO Consultation on Avian Influenza and Human Health: Risk Reduction Measures in Producing, Marketing, and Living with Animals in Asia  
<http://www.fao.org/ag/againfo/subjects/documents/ai/concncmalaysia.pdf>
- Second FAO/OIE Regional Meeting on Avian Influenza Control in Asia (23-25 February 2005, Ho Chi Minh City). The full text of the final report is available on:  
[http://www.fao.org/ag/againfo/subjects/documents/ai/AI\\_2nd\\_RegMtg\\_HoChiMinhCity\\_Rep.pdf](http://www.fao.org/ag/againfo/subjects/documents/ai/AI_2nd_RegMtg_HoChiMinhCity_Rep.pdf)
- FAO Recommendations on the Prevention, Control and Eradication of Highly Pathogenic Avian Influenza (HPAI) in Asia <http://www.fao.org/docs/eims/upload/165186/FAOrecommendationsonHPAI.pdf> (233KB)

- Guiding Principles : Highly Pathogenic Avian Influenza Surveillance And Diagnostic Networks In Asia (FAO Expert Meeting 21-23 July 2004, Bangkok)  
English: <http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/Guiding%20principles.pdf>  
中文: <http://www.fao.org/ag/againfo/subjects/zh/health/diseases-cards/Guidingprinciples.pdf>
- VAHWs guide: Prevention and Control of Avian Flu in Small-scale Poultry. VSF-Vietnam  
[http://www.fao.org/ag/againfo/subjects/documents/ai/AIManual\\_VN2005\(en\).pdf](http://www.fao.org/ag/againfo/subjects/documents/ai/AIManual_VN2005(en).pdf)
- Avian Influenza In Mongolia (Synthesis Report of Two Missions of Dr Les Sims, FAO Consultant) August 2005 [http://www.fao.org/ag/againfo/subjects/documents/ai/AI\\_in\\_Mongolia.pdf](http://www.fao.org/ag/againfo/subjects/documents/ai/AI_in_Mongolia.pdf)
- Epidemiology of H5N1 Avian Influenza in Asia and Implications for Regional Control (Covering the period January 2003 to February 11, 2005) EpiCentre, Massey University  
<http://www.fao.org/ag/againfo/subjects/documents/ai/HPAI?Masseyreport.pdf>
- Manual on the preparation of national animal disease emergency preparedness plans  
<http://www.fao.org/docrep/004/x2096e/x2096e00.htm>
- FAO-EMPRES (Emergency Prevention System against transboundary animal and plant pests and diseases) Avian Influenza website: <http://www.fao.org/AG/AGInfo/programmes/en/empres/home.asp>
- FAO AGAH Avian Influenza website: [http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special\\_avian.html](http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special_avian.html)
- FAO AIDEnews (Vol. 1 - 36)  
Available at: [http://www.fao.org/eims/secretariat/empres/eims\\_search/simple\\_s\\_result.asp?infotype=37](http://www.fao.org/eims/secretariat/empres/eims_search/simple_s_result.asp?infotype=37)

### **OIE**

- Report of the Mission to Russia to assess the avian influenza situation in wildlife and the national measures being taken to minimize the risk of international spread  
<http://www.oie.int/download/Missions/2005/ReportRussia2005Final2.pdf>
- OIE/FAO International Scientific Conference on Avian Influenza (OIE Paris, France, 7–8 April 2005) Recommendations [http://www.oie.int/eng/avian\\_influenza/OIE\\_FAO\\_Recom\\_05.pdf](http://www.oie.int/eng/avian_influenza/OIE_FAO_Recom_05.pdf)
- OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals [Chapter 2.7.12.] Avian Influenza (May 2005) [http://www.oie.int/eng/normes/mmanual/A\\_00037.htm](http://www.oie.int/eng/normes/mmanual/A_00037.htm)
- OIE Terrestrial Animal Health Code [Chapter 2.7.12.] Avian Influenza (May 2005):  
[http://www.oie.int/eng/normes/mcode/en\\_chapitre\\_2.7.12.htm](http://www.oie.int/eng/normes/mcode/en_chapitre_2.7.12.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](http://www.fao.org/docs/eims/upload/153564/A_71_SG_12_CS3E.pdf)
- OIE Update on Avian Influenza in Animals in Asia web site:  
[http://www.oie.int/download/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](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](http://www.oie.int/eng/maladies/fiches/a_A150.htm)

### **WHO**

- INFOSAN [http://www.who.int/foodsafety/fs\\_management/infosan/en/index.html](http://www.who.int/foodsafety/fs_management/infosan/en/index.html)
- Responding to the avian influenza pandemic threat. Recommended strategic actions  
[http://www.who.int/csr/resources/publications/influenza/WHO\\_CDS\\_CSR\\_GIP\\_2005\\_8/en/index.html](http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_8/en/index.html)
- WHO manual on animal influenza diagnosis and surveillance WHO/CDS/CSR/NCS/2002.5Rev.1  
<http://www.who.int/entity/csr/resources/publications/influenza/whocdscsrncs20025rev.pdf>
- WHO Inter-country Consultation - Influenza A/H5N1 in Humans in Asia. Manila, 6-7th May 2005  
[http://www.who.int/entity/csr/disease/avian\\_influenza/H5N1IntercountryAssessment.pdf](http://www.who.int/entity/csr/disease/avian_influenza/H5N1IntercountryAssessment.pdf)
- WHO interim recommendations for the protection of persons involved in the mass slaughter of animals potentially infected with highly pathogenic influenza viruses  
[http://www.who.int/entity/csr/disease/avian\\_influenza/guidelines/en/Avian%20Influenza.pdf](http://www.who.int/entity/csr/disease/avian_influenza/guidelines/en/Avian%20Influenza.pdf)
- Advice for people living in areas affected by bird flu or avian influenza (WHO)  
<http://www.wpro.who.int/avian/docs/advice.asp>
- Laboratory study of H5N1 viruses in domestic ducks: main findings (WHO)  
[http://www.who.int/csr/disease/avian\\_influenza/labstudy\\_2004\\_10\\_29/en/](http://www.who.int/csr/disease/avian_influenza/labstudy_2004_10_29/en/)
- WHO Avian influenza web site: [http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

### **Others**

- Avian Influenza (Bird Flu): Agricultural and Wildlife Considerations  
<http://www.cidrap.umn.edu/cidrap/content/biosecurity/ag-biosec/anim-disease/avianflu.html>
- Webster R.G., Peiris, M., Chen, H., and Guan, Y. (2006) H5N1 outbreaks and enzootic influenza. Emerging Infectious Diseases [January 2006 issue]. Available from <http://www.cdc.gov/ncidod/EID/vol12no01/05-1024.htm>
- Eurosurveillance-weekly <http://www.eurosurveillance.org/ew/index-02.asp>
- Russian Federal Agency for Surveillance in the Field of Consumer Rights and Human Welfare website (in Russian) <http://www.gsen.ru/hotline/>
- 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>
- Information Resources on Avian Influenza. USDA, AWIC Resource Series No. 33, October 2005  
<http://www.nal.usda.gov/awic/aflu/Avian%20Influenza.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](http://www.vetmed.ucdavis.edu/vetext/INF-PO_Biosecurity.html)

- Experimental Study to Determine if Low-Pathogenicity and High-Pathogenicity Avian Influenza Viruses can be present in chicken breast and thigh meat following intranasal virus inoculation. David E. Swayne and Joan R. Beck (Avian Diseases 49:81–85, 2005)  
[http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list\\_uids=15839417](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15839417) (summary)
- National Strategic Plan for Avian Influenza Control in Thailand <http://www.tatnews.org/ccc/2480.asp>
- Proposal on Strengthening Nationwide Veterinary System during 2005-2010 (2<sup>nd</sup> draft)  
<http://www.mard.gov.vn/dah/dichcumga/Nam%202005/DeAn%20tang%20cuong%20hethong%20TY%204.05.htm>
- the World Bank - Avian Flu At A Glance  
<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20649058~menuPK:34480~pagePK:64257043~piPK:437376~theSitePK:4607.00.html>

### **Contact persons at FAO:**

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Fernanda Guerrieri (Chief, Emergency Operations Service (TCEO), Headquarters - Rome)  
[Fernanda.Guerrieri@fao.org](mailto:Fernanda.Guerrieri@fao.org)

Cristina Amaral (Senior Operations Officer, TCEO, FAO Headquarters - Rome) for emergency fund raising and operational responsibilities [Cristina.Amaral@fao.org](mailto:Cristina.Amaral@fao.org)

### **Supervision and Coordination:**

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[joseph.domenech@fao.org](mailto:joseph.domenech@fao.org)

**Annex 1****Information for shipping international diagnostic specimens**

To the **OIE/FAO and National Reference Laboratory for Newcastle disease and Avian Influenza Virology Department. Istituto Zooprofilattico Sperimentale (IZS) delle Venezie**

**Types of specimen:** Specimens submitted may be virus isolates (not via Marco Polo Airport, Venice) made in the submitting country or clinical specimen, such as tissues or swabs, collected from diseased birds.

**Packaging requirements:** All materials should be in leak-proof containers. Packaging should be composed of (1) a primary receptacle, (2) a secondary packaging and (3) a rigid outer packaging. Packaging of "diagnostic samples" (coded UN3373 with IATA PI650 standard) and "virus isolates" (coded UN2814 for HPAIV and UN2900 for NDV with IATA PI602 standard). **Contact couriers to ascertain providing boxes complying with these requirements.**

**Documents to be accompanied for clearing:** Import permissions of the Italian Ministry of Health (formerly provided by the IZS) and 8 signed proforma invoices (8 originals with signature. no photocopy accepted. The format will be formerly provided by the IZS) should be attached firmly to the box.

**Shipping modality:** Air freight or couriers to Milan Malpensa Airport, Rome Fiumicino Airport or Venice Marco Polo Airport. **Arrange for shipments to arrive in Italian airports from Monday to Thursday only.**

**Shipping Address:**

Istituto Zooprofilattico Sperimentale delle Venezie  
Virology Department  
Viale dell'Universita' 10, 35020 Legnaro, Padova, Italy

**Notification of shipment:** Before shipping, please notify the following information to the IZS contact person.

- Embarkation date
- Airline name and the Flight number
- Date of arrival in Italy
- Name of the destination airport
- Airway bill number

**Contact people at the IZS:**

William Dundon E-mail: [wdundon@izsvenezie.it](mailto:wdundon@izsvenezie.it) Phone: 0039 041 8084371, Fax: 0039 041 8084360  
Giovanni Cattoli E-mail: [gcattoli@izsvenezie.it](mailto:gcattoli@izsvenezie.it)  
Alessandro Cristalli E-mail: [acristalli@izsvenezie.it](mailto:acristalli@izsvenezie.it)  
Maria Serena Beato E-mail: [msbeato@izsvenezie.it](mailto:msbeato@izsvenezie.it)

**Important:** Contact the IZS in order to discuss testing and testing materials before shipping. Notify the contact person with whom the IZS will keep in touch.

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To the **National Veterinary Services Laboratories (NVSL), Ames, Iowa, USA.**

**Import permit:** Packages containing diagnostic specimens or organisms (infectious materials) imported from foreign locations into the United States must be accompanied by a permit issued by the U.S. Department of Agriculture. The importation permit, with proper packaging and labelling, will expedite clearance of the package through U.S. Customs. One copy of the permit should be attached to the outside of the shipping container and a second copy placed just inside the lid of the outer shipping container. The importation permit can be obtained from the laboratory (NVSL, Ames, Iowa).

**Packaging requirements:** All materials should be in leak-proof containers and packaged to withstand breakage. All materials should be properly labelled.

**Shipping address:**

Director,  
National Veterinary Services Laboratories  
Diagnostic Virology Laboratory  
1800 Dayton Avenue, Ames, Iowa 50010

**Notification of shipment:** Please notify the Diagnostic Virology Laboratory with shipping information (date of arrival, airline/courier, weigh bill number, etc.) as soon as it is available. Fax information to (515) 663-7348 or telephone (515) 663-7551.

Contact for Avian Influenza:

Dr. Beverly J Schmitt

Direct Tel +1 515/663-7532; Direct Fax +1 515/663-7348, Email: [Beverly.J.Schmitt@usda.gov](mailto:Beverly.J.Schmitt@usda.gov)

### Information for shipping international diagnostic specimens

#### To the Australian Animal Health Laboratory (AAHL)

**Type of specimen:** Specimens submitted to AAHL for disease diagnosis may be either virus isolates made in the submitting country or clinical specimens, such as tissues or swabs, collected from diseased birds.

**Import permit and packing:** Copies of Australian import permits are available from AAHL by contacting [aahl-accessions@csiro.au](mailto:aahl-accessions@csiro.au). All specimens must be packed in leak-proof containers in accordance with the appropriate IATA regulation and appropriately labelled. Suitable transport containers, packing instructions are also available from AAHL by contacting [aahl-accessions@csiro.au](mailto:aahl-accessions@csiro.au). Copies of the import permit and other consignment details should be attached to the outside of the package to expedite clearance through Australian customs.

**Notification of shipment:** If submitting specimens please notify the accessions clerk on [accessions@csiro.au](mailto:accessions@csiro.au), the Duty Veterinarian on [dutyvet@csiro.au](mailto:dutyvet@csiro.au) or Dr. Peter Daniels on +61 3 5227 5000 of the consignment details so that the specimens can be collected upon arrival in Australia. Alternatively send the information by facsimile to +61 3 5227 5555. Consignment details include the consignment note/air weigh bill number, courier/airline and expected arrival date.

**Shipping address:**

The Director  
Australian Animal Health Laboratory  
5 Portarlington Road  
Geelong, 3220  
Australia  
Telephone 61 3 5227 5000  
Facsimile 61 3 5227 5555  
<http://www.csiro.au/aahl>

**Contact for Avian Influenza:** You may also wish to discuss the testing required with Peter Daniels ([peter.daniels@csiro.au](mailto:peter.daniels@csiro.au)) or Paul Selleck ([paul.selleck@csiro.au](mailto:paul.selleck@csiro.au)) on +61 3 5227 5000 prior to submitting the specimens.

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To the Avian Virology Laboratory, Veterinary Laboratories Agency, Weybridge, UK  
from outside the EU

**Packaging requirements.** All materials should be in leak-proof containers. At least two layers of packaging should be used and the inner layer treated lightly with disinfectant.

The outer packaging must be marked as follows:

**ANIMAL PATHOGEN - PACKAGE ONLY TO BE OPENED AT THE AVIAN  
VIROLOGY SECTION, VLA, WEYBRIDGE. IMPORTATION AUTHORISED BY  
LICENCE NUMBER....\*.....ISSUED UNDER THE IMPORTATION OF ANIMAL  
PATHOGENS ORDER.**

\*Insert one of the following LICENCE NUMBERS:-

For Newcastle disease, **avian influenza** and other viruses: AHZ/2232/2002/5

For tissues and other materials: AHZ/963A/99/2

**Shipping address:**

Avian Virology  
VLA Weybridge, New Haw, Addlestone, Surrey KT15 3NB, United Kingdom

Packages should be sent by AIR MAIL or AIR FREIGHT. If sending by AIR FREIGHT it is essential that the **AIRWAY BILL NUMBER** is given to us by FAX, telephone, or Email before the arrival of the materials. Packages sent by air freight should be clearly marked: **CARE OF TRANSGLOBAL** to ensure rapid processing at the airport.

**Notification of shipment:** Please notify the VLA-Weybridge, Avian Virology Laboratory of the shipment details before dispatch.

Contact: Dr. I. H. Brown

Direct TEL: 01932 357 339; Direct FAX: 01932 357 239; Email: [i.h.brown@vla.defra.gsi.gov.uk](mailto:i.h.brown@vla.defra.gsi.gov.uk)

Dr. D.J. Alexander

Direct TEL: 01932 357 466; Direct FAX: 01932 357 856; Email: [d.j.alexander@vla.defra.gsi.gov.uk](mailto:d.j.alexander@vla.defra.gsi.gov.uk)

**Annex 2: Situation by Countries (period: 1/01 – 22/12/2005)** – sorted by date of the latest information by country

area	date of first official reporting to the OIE	type	species affected since the start of the outbreak	human case	Latest information <sup>1)</sup>		
					last known case suspected and/or confirmed	source of the latest information and OIE declaration	comments
Romania	22/10/05	H5N1	Ducks, swan, hen, heron, turkey	no	21/12/05	FAO <sup>2)</sup> , Media websites, Declared to OIE	
Russia	24/07/05	H5N1	chickens, turkeys, ducks, geese	no	19/12/05	Web media	
Ukraine	08/12/05	H5N1	chickens	no	17/12/05	Web media	
Viet Nam	8/01/04	H5N1	Chicken, quail, duck, muscovy duck	yes	15/12/05	FAO, Government	
China	06/02/04	H5N1	Virus isolation: chicken, duck, goose, quail, pigeon, pheasant, black swan; bar-headed geese, great black-headed gulls, brown-headed gulls, ruddy shelducks and great cormorants	no	15/12/05	Government, FAO, media websites, Declared to OIE	
Japan	12/01/04	H5N1	chicken, crow	sero-positive	05/03/04 (crow)	Government and media website, Declared to OIE	All the movement restrictions lifted by 13/04/04
		H4	ducks	no	31/10/05	FAO, Prefecture and media website	
	01/07/05	H5N2 (LP) <sup>3)</sup>	chickens	no	09/12/05	Government and Prefecture website, Declared to OIE	
Zimbabwe	30/11/05	H5N2 (LP?)	Ostrich (without clinical sign)	no	6/12/05	FAO, Government	
USA		H3N2 (LP)	quails	no	29/11/05 (California)	web media	
Indonesia	06/02/04	H5N1	Chicken, duck and quail; pig (without clinical sign)	yes	25/11/05	ProMED, media website	suspected in Bali
Thailand	23/01/04	H5N1	Tiger, virus isolation: chicken, duck, goose, quail, turkey, stork. Surveillance: the Little Cormorant, Asian Openbill, Scaly-breasted Munia, Red Turtle-Dove, Black Drongo and pigeon.	yes	9/11/05	Government, FAO, media websites, Declared to OIE	
Canada	19/02/04	H7N3 (LP) <sup>3)</sup>	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 09/07/04; Final report submitted to OIE on 23/11/04.
	09/03/04	H7N3		no			
		H3 (LP?)	turkey	no	01/06/05	ProMED	The virus was discovered during a routine testing matrix
		H5 (LP?)	wild migratory birds	no	31/10/05	Government website	<a href="http://www.inspection.gc.ca/english/anima/health/disemala/avflu/situation.shtml">http://www.inspection.gc.ca/english/anima/health/disemala/avflu/situation.shtml</a>
		H5N2 (LP)		no	22/11/05	Government website	

1) Official (OIE) and unofficial information (ProMED, press agencies, FAO tracking systems...), 2) FAO: FAO representative in concurrence with Government sources,

3) LP: low pathogenic strain, 4) Gphin: Global Public Health Intelligence Network (Health Canada)

(continued)

area	date of first official reporting to the OIE	type	species affected since the start of the outbreak	human case	Latest information <sup>1)</sup>		
					last known case suspected and/or confirmed	source of the latest information and OIE declaration	comments
Pakistan	28/01/04	H7N3, H9N2 (LP)	layer; broiler	no	mid November 05	Web Media	in Karachi
Italy		H5N2 (LP)	turkey	no	15/04/05 (Lombardia)	Web Media, Local Government	
	10/11/05	H5N1 (LP)	wild duck	no	05/11/05 (Padua)	Web Media	
Germany		influenza A	Greylag Goose, mallards	no	25/10/05	Media websites	25 wild birds found dead near a lake
Croatia	21/10/05	H5N1	Swans	no	24/10/05	FAO, Media websites, Declared to OIE	
Sweden		H5N3 (LP)	mallard	no	21/10/05	ProMED, Media websites	
Turkey	14/10/05	H5N1	Turkey	no	Oct 05	Web media, Declared to OIE	Final report was sent to OIE on 08/12/05
Mongolia	08/08/05	H5N1	wild ducks, bar-headed goose, whooper swan	no		Declared to OIE	
Colombia		H9 (LP)			10/10/05	Government	
Kazakhstan	02/08/05	H5N1	geese, ducks	no	19/08/05	Web media	The quarantine in the affected area was lifted on 08/09/05
Finland		H13 (LP)	seagulls		mid-August 2005	ProMED	
Philippines	15/07/05	H9 (LP)	duck	no	07/07/05	Declared to OIE	Seropositive ducks were found through routine surveillance. No active infection.
Mexico	20/03/05	H5N2 (LP)	chicken	no	July 2005	Web Media	
Italy		H5N2 (LP)	turkey	no	15/04/05 (Lombardia)	Web Media, Local Government	
Cambodia	24/01/04	H5N1	Chicken, duck, goose, turkey, guinea fowl, wild bird	yes	April 05	Government, FAO <sup>2)</sup>	8 flocks found HI positive in Prey Veng province.
Democratic People's Republic of Korea	07/04/05	H7N7	chicken	no	27/03/05	Government, media websites, Declared to OIE	Complete characterisation is awaited.
Hong Kong SAR	26/01/04	H5N1	peregrine falcon; Grey heron, Chinese pond heron	no	10/01/05	Declared to OIE	Hong Kong SAR

1) Official (OIE) and unofficial information (ProMED, press agencies, FAO tracking systems...), 2) FAO: FAO representative in concurrence with Government sources,

3) LP: low pathogenic strain, 4) Gphin: Global Public Health Intelligence Network (Health Canada)