

*HPAI outbreaks reported in this publication refer to officially confirmed cases only. The information is compiled from the following sources: World Organisation for Animal Health (OIE), national governments and their ministries, and the European Commission (EC) – these sources are responsible for any errors or omissions.*

**Avian influenza typifies the potential emergence of health crises**  
FAO Director-General addresses the New Delhi conference

Avian influenza could still cause a global pandemic and requires continued vigilance and control efforts particularly in animals, the Director-General of the UN Food and Agriculture Organization (FAO), Dr. Jacques Diouf, told the International Ministerial Conference on Avian and Pandemic Influenza held in New Delhi between 4 and 6 December.

He warned that “the spread of avian influenza typifies the potential emergence of major health crises with an increased risk of pathogens travelling over large distances in very short time periods, favoured by globalization and climate change.”

The meeting was the sixth in a series of international conferences – Washington (October 2005), Geneva (November 2005), Beijing (January 2006), Vienna (June 2006) and Bamako (December 2006) – dedicated to global concern over the geographical spread of highly pathogenic avian influenza (HPAI) in animals and the threat of a human influenza pandemic. Organised by the Indian government, the conference attracted high-level participation of the three lead technical agencies – FAO, OIE and WHO – with the Director-Generals of all three organisations attending such a meeting for the first time.



FAO/Astrid Tripodi

In addition to the FAO Director-General, several members of FAO's Emergency Centre for Transboundary Animal Diseases (ECTAD) team took the floor and presented FAO's position on a number of key issues. On behalf of FAO, the World Bank and OIE, Chief Veterinary Officer Joseph Domenech, delivered a presentation on the importance of biosecurity in reducing HPAI risk on farm and in markets, stressing that biosecurity measures are an important part of the "toolkit" for reducing the risk of HPAI and other diseases (*see following item in this issue for an introduction to FAO's approach to the role of biosecurity in reducing the risk of avian influenza*).

*cont'd on Page 2*

Contents		
Avian influenza typifies the potential emergence of health crises	.....	1
The importance of biosecurity in reducing HPAI risk	.....	2
HPAI shows up-down-up pattern in 2007	.....	3
Outbreak Maps	.....	5
At a Glance	.....	6
Most Recent Outbreaks Reported by Countries – 2006-07	.....	9
Summary of Confirmed HPAI Outbreaks	.....	9
Annex 1: Contact points	.....	11
Annex 2: Laboratories and sample shipping information	.....	12

*cont'd from Page 1*

Introduction of biosecurity measures is part of a long-term approach to HPAI control, Domenech noted, and will bring long-term benefits for producers and consumers. He called for international support for this approach, arguing that HPAI control is a "global public good".

Laurence Gleeson, head of the regional ECTAD unit in Bangkok, told the meeting that control and prevention of highly pathogenic avian influenza (HPAI) calls for "thinking locally" in terms of looking for situation specific solutions, while "acting globally" in terms of strategy, coordination and resource mobilisation.

On behalf of FAO and OIE, Satya Sarkar, head of the Animal Health Communication Unit, said that HPAI had offered an opportunity for recognising and addressing the weakness and the lack of awareness of communication as a critical component in animal health policies. Among others, he called for strategic investment in rapidly building communication capacities within national animal health and veterinary services, and a substantial increase in community and private sector engagement and participation.

Anni McLeod, head of the Socioeconomics Unit, told the conference there were four major issues to address in attempts to mitigate the social and economic impact of HPAI from the perspective of the livestock sector: minimising market shock; limiting the impact of outbreaks; investing in the future; and protecting livelihoods.

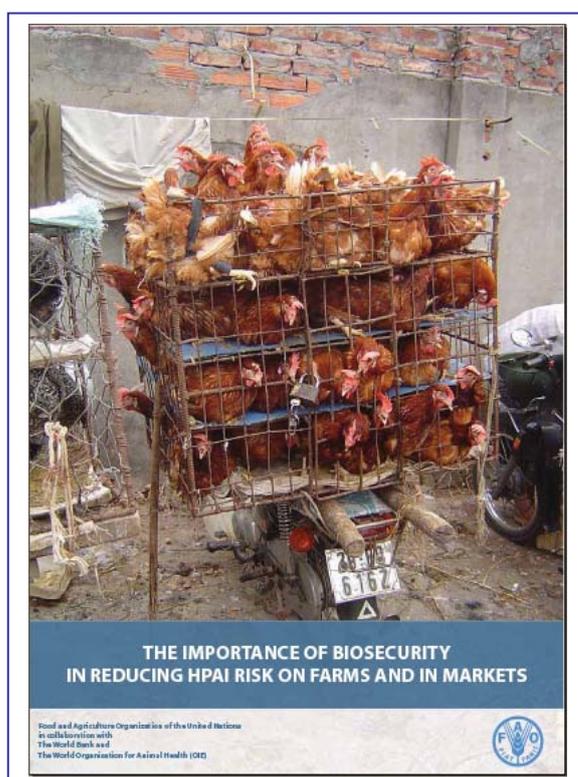
Copies of these and all other presentations at the New Delhi conference are available under **Events** on the FAO avian influenza website at <http://www.fao.org/avianflu/>.

The New Delhi conference agreed to hold the seventh meeting of the series in Cairo in October/November 2008 and while the focus will remain on HPAI, the agenda will be widened to include discussion of other zoonotic diseases.

---

## The importance of biosecurity in reducing HPAI risk

*This section is taken from a paper on HPAI and biosecurity prepared for the New Delhi conference by FAO in collaboration with the World Bank and OIE – see **Events** section on the avian influenza website at <http://www.fao.org/avianflu>*



The current panzootic of highly pathogenic avian influenza (HPAI) has demonstrated that in many countries in which the potential for disease transmission is high, HPAI cannot easily be eradicated by stamping out and vaccination only. To make further progress in areas where disease has become entrenched, national authorities and other stakeholders must be encouraged to give higher priority to promoting and implementing measures to reduce the risk of disease transmission. Of these, the major component is biosecurity. The key to sustainable control lies in implementing the highest possible biosecurity measures in the entire production-consumption chain. By protecting poultry through biosecurity we will also be protecting people.

Raising the level of biosecurity in the poultry sector is a long-term approach that requires financial investment and behaviour change. However, the expected returns will be long-term benefits for both producers and consumers in terms of reduced disease incidence not only of HPAI but other diseases and their associated public health and economic impact. *cont'd on Page 3*

## Defining biosecurity

The term "biosecurity" has been used widely in the debate on HPAI control. It is variously described as an ideal state of affairs in which measures are in place to prevent incursion and spread of disease, or the approach or principles used to achieve this state of affairs.

Depending on the source of the definition, the measures included under "biosecurity" can be very broad or more narrowly defined, and may be applied on any scale from national policy to the management of an individual production unit.

Biosecurity refers to those measures that should be taken to minimise the risk of incursion of HPAI into individual production units (*bioexclusion*) and the risk of outward transmission (*biocontainment*) and onward transmission through the market chain.

The value added of applying principles of biosecurity (such as segregation<sup>1</sup> and decontamination) to production unit practices is that other disease will also be controlled.

These principles can be applied to other units in a production-consumption chain such as live bird markets or slaughterhouses, but the concept of biosecurity in markets where poultry from various sources mix differs from that applied to farms.

Biosecurity measures are one of a range of disease prevention and control instruments (including vaccination, surveillance, stamping out and compensation), none of which on its own constitutes the 'magic bullet'. At the same time, poultry production premises in themselves are neither 'biosecure' nor 'bio-insecure' – poultry production achieves biosecurity in an incremental fashion (measures to improve biosecurity build on measures already in place) and in decreasing order of importance (the major risks are addressed first).

Disease control requires the intelligent use of a combination of available measures adapted to the prevailing production and socioeconomic environment.

---

## HPAI shows up-down-up pattern in 2007

Between January and April 2007, outbreaks of H5N1 highly pathogenic avian influenza (HPAI) in poultry and other avian species were particularly high with a peak in March, and concerned mostly Asia and Africa. Between May and September, the number of cases declined gradually, levelling out in October before starting to rise again in November when ten countries, including two European countries, reported outbreaks (Bangladesh, China, Egypt, Indonesia, Nigeria, Myanmar, Romania, Saudi Arabia, United Kingdom and Viet Nam). In the first days of December, two countries have reported outbreaks, Benin and Poland (both for the first time in poultry).

Against this backdrop, FAO continues to play a major role in efforts to tackle the disease in poultry, in partnership with veterinary services worldwide, the World Organisation for Animal Health (OIE) and the World Health Organization (WHO). With FAO's assistance, more than 130 countries have been able to increase awareness and adopt appropriate measures to prevent, control and eradicate the disease to date.

Over 60 countries in Asia, Europe and Africa have been affected by H5N1 HPAI since the beginning of the epidemic in animals (late 2003). Of these, 28 have experienced outbreaks during 2007, five of them for the first time: Bangladesh, Benin, Ghana, Saudi Arabia and Togo.

Except for a few outbreaks in wild birds (mainly in China [Hong Kong SAR] and Europe), most of the confirmed outbreaks have been in domestic poultry, including diverse species such as chickens, turkeys, geese, ducks and quails. Regarding human cases, WHO has reported a total of 77 cases (50 fatal) in seven countries in 2007 (Cambodia, China, Egypt, Indonesia, Lao People's Democratic Republic, Nigeria and Viet Nam).

Indonesia is still registering many outbreaks of H5N1 HPAI in poultry, but the high number of reported cases for Indonesia in 2007 is largely due to the roll-out of a 'participatory disease search' (PDS) programme which actively looks for the infection in backyard village-type poultry production environments.

The programme is supported by FAO and is operating in 162 districts and nine provinces. In terms of the human population, Indonesia has reported 40 cases of H5N1 HPAI infection, 34 of them fatal, in 2007.

In Asia, the virus is actively circulating in some hotspots. Outbreaks in poultry have been reported repeatedly by Viet Nam, mainly in duck production systems. A fifth epizootic wave of H5N1 HPAI was reported early May in poultry in 22 Vietnamese provinces. In Bangladesh, the disease appears to be enzootic, while infections have continued in Pakistan, China and Afghanistan.

cont'd on Page 4

cont'd from Page 3

In China, HPAI outbreaks were reported in Tibet Autonomous Region (March), Hunan province (May) and Guangdong province (September), while the virus was isolated from different locations in southern China (Fujian, Guangdong, Hunan, Hubei, Sichuan and Chongqing) in March and April through routine surveillance activities. Wild bird deaths were reported in Hong Kong SAR but not on mainland China.

In the Middle East, Saudi Arabia reported a first outbreak of H5N1 HPAI in March, and several outbreaks in November in commercial poultry farms in Riyadh.

In Africa, HPAI (H5N1) is now considered endemic in Egypt and in Nigeria. Several countries in West, Central, South and North Africa are at risk of becoming infected and early warning, surveillance and preventive measures should urgently be taken. In Nigeria, 36 states and the Federal Capital Territory have been affected by HPAI (H5N1) since February 2006; nevertheless, only seven States reportedly had active disease in October 2007. Between March and September 2007, Egypt reported outbreaks of HPAI (H5N1) mainly in backyard units, with few reported in commercial poultry farms.

In Europe, Russia has experienced outbreaks of HPAI H5N1 in poultry throughout 2007. Germany reported outbreaks in poultry (ducks and geese) and several cases in wild birds during the European summer. Other European countries reporting outbreaks in 2007 were the Czech Republic (poultry and wild birds), France (wild birds), Hungary (geese), Poland (poultry), Romania (poultry) and the United Kingdom (poultry).

A preliminary global analysis of the H5N1 HPAI situation between January and November 2007 indicates fewer outbreaks and fewer infected countries compared to the same period in 2006 (see Table 1). Increased awareness and the improvement of disease surveillance permitted countries such as India, Malaysia, Romania and Turkey to successfully detect and control the disease (see Table 2). Nevertheless, the infection persists in three continents (Asia, Africa and most probably Europe), as does the risk for countries that have either successfully controlled outbreaks in the past or have never been affected. The evolution of infection in countries that reported cases in both 2006 and 2007 is shown in Table 2.

In conclusion, in 2007 there has been an improvement in the general H5N1 HPAI situation worldwide, but there is still a risk of recurrence and spread of infection; at the same time, the disease is becoming enzootic in some regions.

**Table 1**  
**Number of countries infected in 2006 and 2007**

	2006	2007*
Africa	9	5 (2)
Asia/Middle East	22	17 (14)
Europe	23	8 (7)

\* as of 8 December 2007

() countries declaring infection in both 2006 and 2007

**Table 2**  
**Evolution in the number of outbreaks between 2006 and 2007**

Continent	Country	Change*
Africa	Benin	+
	Egypt	++
	Nigeria	~
	<i>Total</i>	-
Asia	Afghanistan	~
	Cambodia	~
	China (mainland)	-
	India	--
	Indonesia	++
	Korea, Republic of	~
	Laos	~
	Malaysia	--
	Myanmar	++
	Pakistan	+
	Thailand	~
	Turkey	--
	Viet Nam	++
<i>Total</i>	~	
Europe	Czech Republic	--
	France	--
	Germany	--
	Hungary	--
	Poland	+
	Romania	--
	Russian Federation	~
	<i>Total</i>	--
<b>TOTAL</b>	-	

\* as of 8 December 2007

+ increase

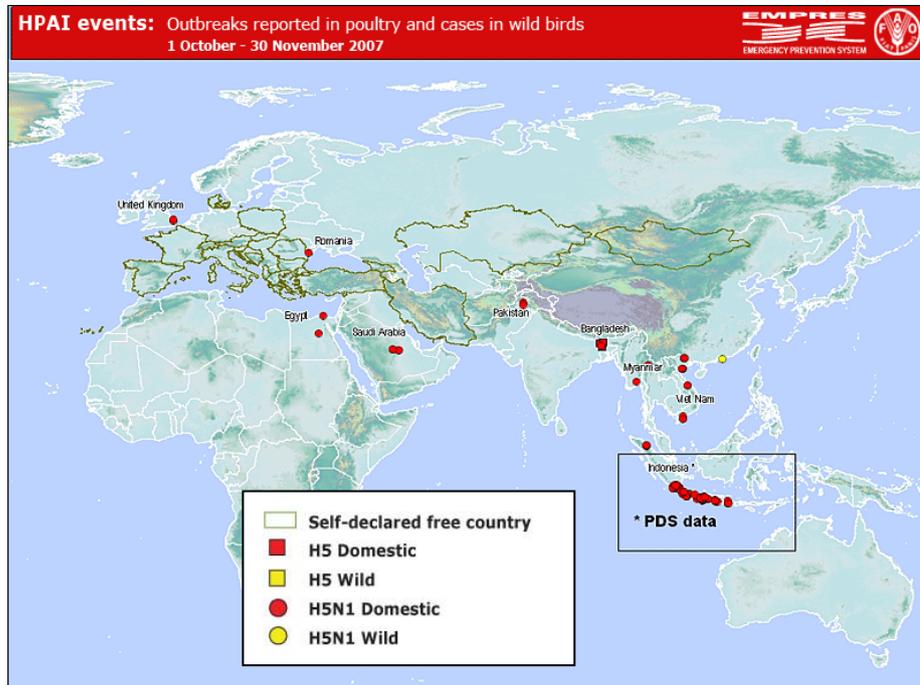
- decrease

~ no change

**Source:** EMPRES-GLEWS

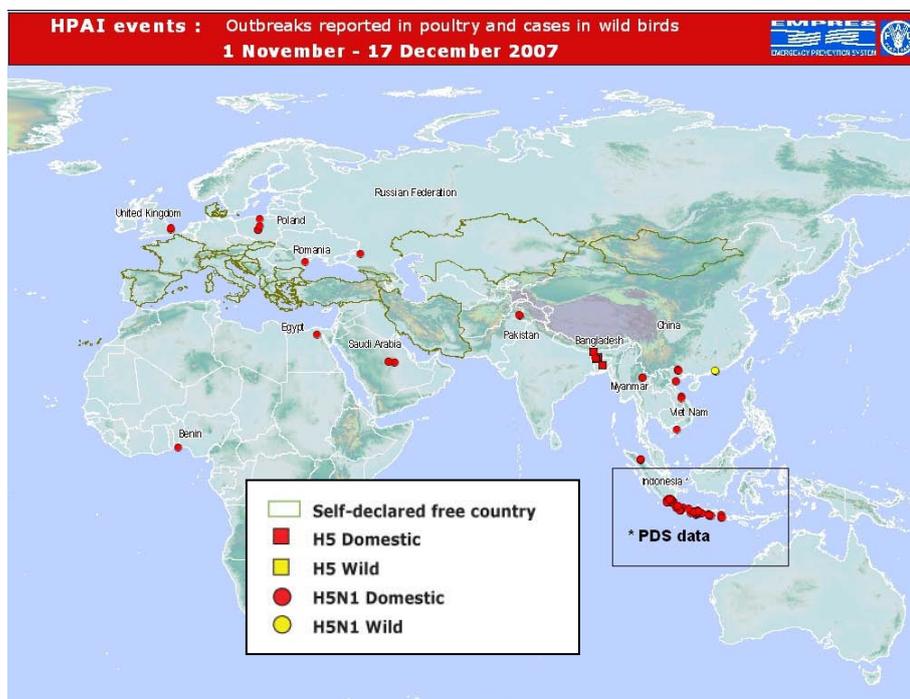
# Outbreak Maps

1 October – 30 November 2007



NOTE: This map represents occurrences of H5 and H5N1 reported from 01 October to 30 November 2007. H5 cases are represented for countries where N-subtype characterization is not being performed for secondary cases or if laboratory results are still pending. Countries with H5 and H5N1 occurrences only in wild birds are not considered infected according to OIE status. The original data have been collected and aggregated at the most detailed administrative level and for the units available for each country.

1 November – 17 December 2007



NOTE: This map represents occurrences of H5 and H5N1 reported from 01 November to 17 December 2007. H5 cases are represented for countries where N-subtype characterization is not being performed for secondary cases or if laboratory results are still pending. Countries with H5 and H5N1 occurrences only in wild birds are not considered infected according to OIE status. The original data have been collected and aggregated at the most detailed administrative level and for the units available for each country.

## AT A GLANCE

*The latest HPAI outbreaks for the period 13 October to 17 December 2007*

### **Note**

AIDEnews publishes reports of **confirmed HPAI cases only** to avoid any form of association with rumours or suspicions. AIDEnews uses the following sources, which are clearly identified for all reports: FAO, OIE, European Commission, United Nations and national governments.

## AFRICA

### **Benin**

FAO reported 17 December that samples from a farm in Cotonou had tested positive for the H5N1 virus. It was being speculated that the disease in the Cotonou farm was probably introduced by turkeys brought in from farms in Adjara (the site of one of two earlier outbreaks), close to the border with Nigeria.

On 5 December, OIE and FAO had reported two HPAI outbreaks; one in the 2nd district, Cotonou, on 3 December in a 300-layer holding which also included eight turkey cocks (five of which died), and the other in Honvié, Adjara, on 7 November, in a free-ranging village flock.

### **Egypt**

FAO reported 2 December that there had been an outbreak of HPAI during the last week of November in backyard poultry (ducks) in Al Jizah (Giza), Upper Egypt.

FAO reported 31 October that two HPAI outbreaks had occurred in the last week of October in backyard premises, one in the village of Garb Al Nahda - Ezbat Syam, Damietta district, and the other in the village of Bany Haramé, Deir Muass district, Mynia governorate, affecting chickens, geese and ducks.

## ASIA

### **Afghanistan**

FAO reported 27 November that samples sent by FAO-Afghanistan to the National Reference Laboratory for Newcastle Disease and Avian Influenza in Padua, Italy, had tested for H5 LPAI and H9. In addition virus isolation identified H9N2.

### **Bangladesh**

Between the end of October and early December, there were outbreaks of HPAI in poultry in different districts: Pabna, Gaibandia, Narayanganj, Jaipurhat and Lalmonirhat.

### **China (Hong Kong SAR)**

China's Agriculture, Fisheries and Conservation Department (AFCD) reported that a Grey Heron found in Lok Ma Chau on 5 December was positive for the H5N1 virus. Earlier, on 24 November, the AFCD had reported that an egret found in Tuen Mun had tested positive for the H5N1 virus.

### **Indonesia**

FAO prepares regular Participatory Disease Surveillance (PDS) reports for Indonesia:

*15 November – 13 December 2007:* Out of a total of 22,084 interviews, 448 positive cases of HPAI were detected in Bali (10), Java (384), Kalimantan (0), Sulawesi (0) and Sumatra (54).

*8 November – 6 December 2007:* Out of a total of 25,703 interviews, 549 positive cases of HPAI were detected in Bali (59), Java (430), Kalimantan (0), Sulawesi (0) and Sumatra (60).

*1 - 29 November 2007:* Out of a total of 18,003 interviews, 406 positive cases of HPAI were detected in Bali (54), Java (282), Kalimantan (0), Sulawesi (0) and Sumatra (70).

*18 October – 15 November 2007:* Out of a total of 18,326 interviews, 405 positive cases of HPAI were detected in Bali (53), Java (304), Kalimantan (0), Sulawesi (0) and Sumatra (48).

*11 October – 8 November 2007:* Out of a total of 10,402 interviews, 221 positive cases of HPAI were detected in Bali (57), Java (131), Kalimantan (0), Sulawesi (0) and Sumatra (33).

*4 October – 1 November 2007:* Out of a total of 7,152 interviews, 133 positive cases of HPAI were detected in Bali (9), Java (100), Kalimantan (0), Sulawesi (5) and Sumatra (19).

*4 – 25 October 2007:* Out of a total of 5,461 interviews, 98 positive cases of HPAI were detected in Bali (7), Java (80), Kalimantan (0), Sulawesi (5) and Sumatra (6).

#### **Note**

The PDS data is not representative of the overall incidence of HPAI in Indonesia because the PDS system has spatial and temporal biases and not all districts and provinces are completely covered by PDS activities.

#### **Myanmar**

The Livestock Breeding and Veterinary Department (LBVD) reported 21 November an outbreak of HPAI (H5N1) in backyard chickens in Naung Ngaing village, Kyaing Ton Township, Eastern Shan On 24 October, OIE reported an outbreak of HPAI H5N1 among quails, layer chickens and ducklings in Oatsu Quarter, Bago. State. FAO reported 10 December further outbreaks in Eastern Shan State.

#### **Pakistan**

The OIE reported 12 December that it had been notified of two HPAI outbreaks, the first among broilers in the village of Manga, Punjab (starting on 27 November), the second in a commercial broiler flock in the village of Beffa Doraha, Abbottabad (starting on 28 November). The OIE reported two outbreaks of HPAI on 22 November, one in Mansehra, North-West Frontier province (starting 19 October) and the other in Islamabad (starting 23 October).

#### **Viet Nam**

The Department of Animal Health reported 12 December an outbreak of HPAI in Giong Thanh village, Nhi Truong commune, Cau Ngang district, Tra Vinh province.

FAO reported 5 December that a suspected outbreak of HPAI reported by the Department of Animal Health on 17 November in domestic poultry Chi Vien Commune, Trung Khanh District, Cao Bang, had been confirmed by the National Centre for Veterinary Diagnosis (NCVD) in Hanoi.

The Vietnamese government reported 23 November that 13 dead chickens found at a household in Hoa Thuan commune, Phuc Hoa district, Cao Bang province, had been confirmed as H5N1-positive by the NCVD.

FAO reported 23 November that ducklings and chickens at a family-owned farm in Gio My commune, Gio Linh district, Quang Tri province were confirmed H5N1-positive on 19 November by the NCVD.

The Vietnamese government reported 8 November that ducks on a small farm in Hoi An village, Da Phuoc Hoi commune, Mo Cay district, Ben Tre province tested H5N1-positive on 6 November at the Centre for Animal Disease Diagnosis of RAHO No. VI

On 7 November, the Vietnamese government reported two outbreaks HPAI in Ly Nhan district, Ha Nam province: ducks on a small farm in village No 3, Nhan My commune were confirmed as H5N1-positive by the NCVD, and two dead chickens being thrown into the river Chau, Vinh Tru commune were confirmed as H5N1-positive by the same centre.

On 5 November, the Department of Animal Health reported HPAI outbreaks in Cao Bang and Quang Tri provinces: chickens and ducks in two communes of Trung Khanh district of Cao Bang province tested positive for H5N1 at the NCVD, and in Quang Tri province, ducks in two villages (Phuoc Thi and An My) in Gio My commune, Gio Linh district between 2 and 4 November.

The Vietnamese government reported 17 November that the country's second mass avian influenza vaccination campaign for 2007 had started in 63 provinces and cities, of which 24 had completed the round of first shots. As of this date, 145.7 million birds had been vaccinated (of which 82.8 million chickens and 62.9 million ducks).

The OIE reported 31 October three HPAI outbreaks; in Ngoc Khe and Duc Hong (both in Cao Bang province) affecting unvaccinated ducks and chickens, and the third in Nhi Ha, Quang Tri province affecting unvaccinated ducks.

On 31 October, the Department of Animal Health reported HPAI among unvaccinated ducks in My Phuc commune, My Loc district, Nam Dinh province.

The Department of Animal Health reported 26 October that samples of ducks and chickens from 13 small farms in Trung Khanh district, Cao Bang province, bordering China, had tested positive for the H5N1 virus. On 24 October, the Department of Animal Health had reported an HPAI outbreak in Gio Thanh commune, Gio Linh district, Quang Tri province, involving ducks.

## NEAR EAST

### Saudi Arabia

According to the Ministry of Agriculture, the country had experienced at least 17 outbreaks of avian influenza by mid-December. In early December, a wild saker falcon was diagnosed as H5N1 positive by the Central Veterinary Research Laboratory in Dubai. The bird was part of a large group of wild-caught sakers imported into the kingdom from Central Asia. On 28 November, the Ministry of Agriculture announced the detection of two HPAI (H5N1) cases in egg production farms, one in Thadiq governorate, the other in Kharj governorate, both in the province of Riyadh. The OIE reported 19 November that it had been notified of four HPAI outbreaks in poultry: one in Al-Khark and the other three in Hiathem, Dhurma and Al-Muzahmiah, all in Riyadh province.

## EUROPE

### Germany

Two domestic chickens in the Oberhavel region, northwest of Berlin, found positive for the H5N1 virus after being sent for testing on 14 December.

### Poland

Between 4 and 14 December, the OIE reported that it had been notified of eight outbreaks of HPAI: in November, in turkeys on a farm in the village of Mysliborzyce, in turkeys in the village of Uniejow, in backyard poultry (13 chickens and two ducks) in the village of Mysliborzyce, and on a poultry farm in Karniszyn, Zuromin district, Mazowieckie, some 50 km from the sites of the three earlier outbreaks; in December, on a poultry farm in Sadlowo, Zuromin district, Mazowieckie, two km away from the previous outbreak, in a shelter for wild animals in Krzykaly, Lidzbark Warminski, where one stork and two buzzards were found dead, and two outbreaks in the village of Lepno, Elblag, affecting backyard poultry (hens, ducks and geese).

### Romania

The OIE reported 28 November that it had been notified of an outbreak of HPAI in a backyard flock (chickens and ducks) in the village of Murighiol, Tulcea province.

### Russian Federation

The OIE reported 13 December that it had been notified of an outbreak of HPAI started at a poultry farm (468,164 birds) in the Zernogradkiy area of Rostovskaya Oblast on 1 December.

### United Kingdom

Two outbreaks of HPAI H5N1 were reported in turkeys, the first on a free-range farm near Diss in the county of Suffolk, the second on "dangerous contact" premises.

## MOST RECENT OUTBREAKS 2006-07

**Bangladesh, Benin, China (Hong Kong SAR), Germany, Indonesia, Poland, Romania, Russian Federation** (December)  
**Egypt, Myanmar, Nigeria, Pakistan, Saudi Arabia, United Kingdom, Viet Nam** (November)  
**Afghanistan** (October 2007)  
**China** (September 2007)  
**France** (August 2007)  
**Czech Republic, India, Togo** (July 2007)  
**Ghana, Malaysia** (June 2007)  
**Cambodia, Kuwait** (April 2007)  
**Korea (Republic of), Thailand, Turkey** (March 2007)  
**Lao PDR** (February 2007)  
**Hungary, Japan** (January 2007)  
**Cote d'Ivoire** (November 2006)  
**Sudan** (August 2006)  
**Spain** (July 2006)  
**Mongolia, Niger, Ukraine** (June 2006)  
**Burkina Faso, Denmark** (May 2006)  
**Djibouti, Sweden (H5), West Bank & Gaza Strip** (April 2006)  
**Albania, Austria, Azerbaijan (H5), Cameroon, Croatia, Greece, Israel, Jordan, Kazakhstan, Serbia, Slovenia, Switzerland (H5)** (March 2006)  
**Bosnia-Herzegovina, Bulgaria, Georgia, Iran, Iraq (H5), Italy, Slovakia** (February 2006)

*Green: wild birds only*

*Sources:* FAO, World Organisation for Animal Health (OIE), European Commission (EC), United Nations and national governments

## SUMMARY OF CONFIRMED HPAI OUTBREAKS IN AFFECTED COUNTRIES (as of 17 December 2007)

*Sources:* FAO, World Organisation for Animal Health (OIE), European Commission (EC), United Nations and national governments – World Health Organisation (WHO) for human cases/deaths

**Note:** Highlighted countries indicate those in which there has been only one officially confirmed outbreak or occurrence

<b>AFRICA</b>	First outbreak	Latest outbreak	Animals affected to date	Human cases / deaths to date
Benin	7 November 2007	3 December 2007	Domestic poultry	-
Burkina Faso	1 March 2006	20 May 2006	Domestic poultry - wild birds	-
Cameroon	21 February 2006	28 March 2006	Domestic poultry – wild birds	-
Côte d'Ivoire	31 March 2006	9 November 2006	Domestic poultry – wild birds	-
Djibouti	6 April 2006	6 April 2006	Domestic poultry	<b>1 / 0</b>
Egypt	17 February 2006	30 November 2007	Domestic poultry – wild birds	<b>38 / 15</b>
Ghana	14 April 2007	13 June 2007	Domestic poultry	-
Niger	6 February 2006	1 June 2006	Domestic poultry	-
Nigeria	16 January 2006	early October 2007	Domestic poultry – wild birds	<b>1 / 1</b>
Sudan	25 March 2006	4 August 2006	Domestic poultry	-
Togo	6 June 2007	20 July 2007	Domestic poultry	-

<b>ASIA</b>	<b>First outbreak</b>	<b>Latest outbreak</b>	<b>Animals affected to date</b>	<b>Human cases / deaths to date</b>
Afghanistan	2 March 2006	2 October 2007	Domestic poultry – wild birds	-
Bangladesh	5 February 2007	10 December 2007	Domestic poultry	-
Cambodia	12 January 2004	6 April 2007	Domestic poultry – wild birds	<b>7 / 7</b>
China	20 January 2004	14 March 2007	Domestic poultry – wild birds	<b>27 / 17</b>
Hong Kong SAR	19 January 2004	12 June 2007	Wild birds	-
India	27 January 2006	7 July 2007	Domestic poultry	-
Indonesia	2 February 2004	December 2007 (PDS data)	Domestic poultry – pigs (with no clinical signs)	<b>115 / 92</b>
Japan	28 December 2003	30 January 2007	Domestic poultry – wild birds	-
Kazakhstan	22 July 2005	10 March 2006	Domestic poultry – wild birds	-
Korea, Rep. of	10 December 2003	8 March 2007	Domestic poultry – wild birds	-
Lao, PDR	15 January 2004	28 February 2007	Domestic poultry	<b>2 / 2</b>
Malaysia	19 August 2004	2 June 2007 (H5)	Domestic poultry – wild birds	-
Mongolia	10 August 2005	5 June 2006	Wild birds	-
Myanmar	8 March 2006	26 November 2007	Domestic poultry	-
Pakistan	23 February 2006	28 November 2007	Domestic poultry – wild birds	-
Thailand	23 January 2004	20 March 2007	Domestic poultry – wild birds – tiger	<b>25 / 17</b>
Viet Nam	9 January 2004	2 December 2007	Domestic poultry	<b>100 / 46</b>

<b>NEAR EAST</b>	<b>First outbreak</b>	<b>Latest outbreak</b>	<b>Animals affected to date</b>	<b>Human cases / deaths to date</b>
Iran	2 February 2006	2 February 2006	Wild birds	-
Iraq (H5)	18 January 2006	1 February 2006	Domestic poultry – wild birds	<b>3 / 2</b>
Israel	16 March 2006	30 March 2006	Domestic poultry	-
Jordan	23 March 2006	23 March 2006	Domestic poultry	-
Kuwait	23 February 2007	20 April 2007	Domestic poultry – wild birds	-
Saudi Arabia	12 March 2007	14 November 2007	Domestic poultry	-
West Bank & Gaza Strip	21 March 2006	2 April 2006	Domestic poultry	-

<b>EUROPE</b>	<b>First outbreak</b>	<b>Latest outbreak</b>	<b>Animals affected to date</b>	<b>Human cases / deaths to date</b>
Albania	16 February 2006	9 March 2006	Domestic poultry	-
Austria	10 February 2006	22 March 2006	Wild birds – cats	-
Azerbaijan	2 February 2006	18 March 2006 (H5)	Wild birds – domestic poultry – dogs	<b>8 / 5</b>
Bosnia-Herzegovina	16 February 2006	16 February 2006	Wild birds	-
Bulgaria	31 January 2006	9 February 2006	Wild birds	-
Croatia	21 October 2005	24 March 2006	Wild birds	-
Czech Republic	27 March 2006	11 July 2007	Wild birds – domestic poultry	-
Denmark	12 March 2006	26 May 2006	Wild birds – domestic poultry	-
France	17 February 2006	14 August 2007	Wild birds – domestic poultry	-
Georgia	23 February 2006	23 February 2006	Wild birds	-
Germany	8 February 2006	10 September 2007	Wild birds – domestic poultry – cats – stone marten	-
Greece	30 January 2006	27 March 2006	Wild birds	-
Hungary	4 February 2006	23 January 2007	Wild birds – domestic poultry	-
Italy	1 February 2006	19 February 2006	Wild birds	-
Poland	2 March 2006	16 December 2007	Wild birds – domestic poultry	-
Romania	7 October 2005	6 December 2007 (cat)	Wild birds – domestic poultry – cat	-
Russian Federation	15 July 2005	1 December 2007	Domestic poultry – wild birds	-
Serbia	28 February 2006	16 March 2006	Wild birds – domestic poultry	-
Slovakia	17 February 2006	18 February 2006	Wild birds	-
Slovenia	9 February 2006	25 March 2006	Wild birds	-
Spain	7 July 2006	7 July 2006	Wild birds	-
Sweden	28 February 2006	26 April 2006 (H5)	Wild birds – domestic poultry - game birds - mink	-
Switzerland	26 February 2006	30 March 2006 (H5)	Wild birds	-
Turkey	1 October 2005	1 March 2007	Domestic poultry – wild birds	<b>12 / 4</b>
Ukraine	2 December 2005	11 June 2006	Wild birds – domestic poultry – zoo birds	-
United Kingdom	30 March 2006	16 November 2007	Wild birds – domestic poultry	-

## ANNEX 1 CONTACT POINTS

*Joseph Domenech*  
Chief, Animal Health Service (AGAH)  
FAO Headquarters, Room C532  
Rome, Italy  
Tel: (+39) 06 5705 3531  
[Joseph.Domenech@fao.org](mailto:Joseph.Domenech@fao.org)

*Juan Lubroth*  
Senior Officer, Infectious Diseases/EMPRES  
Animal Health Service (AGAH)  
FAO HQ, Room C548  
Rome, Italy  
Tel: (+39) 06 5705 4184  
[Juan.Lubroth@fao.org](mailto:Juan.Lubroth@fao.org)

*Vincent Martin*  
Animal Health Officer  
FAO-China, Beijing  
[Vincent.Martin@fao.org](mailto:Vincent.Martin@fao.org)

*Laurence Gleeson*  
Regional Manager, ECTAD  
FAO Regional Office for Asia and Pacific  
Bangkok, Thailand  
Tel: (+662) 697 4217  
[Laurence.Gleeson@fao.org](mailto:Laurence.Gleeson@fao.org)

*Fernanda Guerrieri*  
Chief, Emergency Operations Service (TCEO)  
FAO Headquarters, Room C744  
Rome, Italy  
Tel: (+39) 06 5705 4198  
[Fernanda.Guerrieri@fao.org](mailto:Fernanda.Guerrieri@fao.org)

*Cristina Amaral*  
Senior Operations Officer, Emergency  
Operations Service (TCEO)  
FAO Headquarters, Room C759  
Rome, Italy  
Tel: (+39) 06 5705 3290  
[Cristina.Amaral@fao.org](mailto:Cristina.Amaral@fao.org)

*Phil Harris*  
ECTAD Information Officer  
Animal Health Service/Emergency Operations  
Service (AGAH/TCEO)  
FAO Headquarters, Room C570  
Rome, Italy  
Tel: (+39) 06 570 55918  
[phil.harris@fao.org](mailto:phil.harris@fao.org)

## ANNEX 2                      LABORATORIES AND SAMPLE SHIPPING INFORMATION

### *ITALY*

#### ***OIE/FAO and National Reference Laboratory, Istituto Zooprofilattico Sperimentale (IZS) delle Venezie, Padova***

##### **Types of specimen**

Specimens for analysis may be virus isolates prepared in a submitting country or clinical specimens, such as tissues or swabs, collected from diseased birds.

##### *Note:*

Venice Marco Polo Airport only accepts material classified as "diagnostic samples" (code UN3373).

##### **Packaging requirements**

All materials should be in leak-proof containers. Packaging should be made up of three layers: (1) primary container, (2) secondary packaging and (3) rigid outer packaging.

Packaging of "diagnostic samples" (code UN3373) should comply with IATA PI650 standard. Packaging of "virus isolates" (code UN2814 for avian influenza virus and UN2900 for Newcastle virus) should comply with IATA PI602 standard.

Contact couriers to confirm the provision of boxes complying with these requirements.

##### **Accompanying documents for clearance**

Import permissions of the Italian Ministry of Health (formerly provided by the IZS).

A signed pro forma invoice (original with signature, no photocopy accepted) should be attached firmly to the box.

##### **Shipping**

Air freight or couriers via Milan Malpensa Airport (recommended, airport code: MXP), Rome Fiumicino Airport (couriers only, airport code: FCO) or Venice Marco Polo Airport (airport code: VCE, for diagnostic samples only, no isolates – code UN3373).

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 supply the IZS contact person with the following information:

- Date of embarkation
- Airline name and flight number
- Date of arrival in Italy
- Name of destination airport
- Airway bill number (fax as soon as possible to: [+39] 049 808 4360)
- Person to contact with the results of analysis (supply name, fax number and e-mail address)

##### **Contact people at IZS**

*For diagnostic samples and viral isolates*  
Micaela Mandelli ([mmandelli@izsvenezie.it](mailto:mmandelli@izsvenezie.it))  
Maria Serena Beato ([msbeato@izsvenezie.it](mailto:msbeato@izsvenezie.it))  
Phone: [+39] 049 8084371  
Fax: [+39] 049 8084360

##### *For reagents*

Micaela Mandelli ([mmandelli@izsvenezie.it](mailto:mmandelli@izsvenezie.it))  
William Dundon ([wdundon@izsvenezie.it](mailto:wdundon@izsvenezie.it))

##### *Other contact persons*

Giovanni Cattoli ([gcattoli@izsvenezie.it](mailto:gcattoli@izsvenezie.it))  
Alessandro Cristalli ([acristalli@izsvenezie.it](mailto:acristalli@izsvenezie.it))

**Important:** Contact the IZS to discuss testing and testing materials before shipping. Provide details of the contact person with whom IZS should keep in touch.

**UNITED STATES OF AMERICA**

**National Veterinary Services Laboratories (NVSL), Ames, Iowa**

**Import permit**

Packages containing diagnostic specimens or organisms (infectious materials) imported from foreign locations into the United States of America must be accompanied by a permit issued by the U.S. Department of Agriculture. This permit, together 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 permit can be obtained from NVSL.

**Packaging requirements**

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

**Shipping address**

National Veterinary Services Laboratories  
Diagnostic Virology Laboratory  
1800 Dayton Avenue, Ames, Iowa 50010  
United States of America

**Notification of shipment**

Please provide 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 (+1) 515 663-7348 or telephone (+1) 515 663-7551.

**Contact**

Dr. Beverly J Schmitt  
Tel (+1) 515 663 7532  
Fax (+1) 515 663-7348  
[Beverly.J.Schmitt@usda.gov](mailto:Beverly.J.Schmitt@usda.gov)

## **AUSTRALIA**

### **Australian Animal Health Laboratory (AAHL), Geelong**

#### **Type of specimen**

Specimens submitted to AAHL for disease diagnosis may be either virus isolates prepared 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, suitable transport containers and packing instructions 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 appropriate IATA regulations and appropriately labelled. 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**

When submitting specimens, please contact the accessions clerk at [accessions@csiro.au](mailto:accessions@csiro.au), the Duty Veterinarian at [dutyvet@csiro.au](mailto:dutyvet@csiro.au) or Dr. Peter Daniels on (+61) 3 5227 5000 and provide consignment details (including consignment note/air weigh bill number, courier/airline and expected arrival date) so that the specimens can be collected upon arrival in Australia. Alternatively send the information by fax to (+61) 3 5227 5555.

#### **Shipping address**

The Director  
Australian Animal Health Laboratory  
5 Portarlington Road, Geelong, 3220  
Australia

Telephone (+61) 3 5227 5000

Fax (+61) 3 5227 5555

<http://www.csiro.au/aahl>

#### **Contact**

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.

**UNITED KINGDOM**

*(from outside the European Union)*

**Avian Virology Laboratory, Veterinary Laboratories Agency, Weybridge**

**Packaging requirements**

All materials should be in leak-proof containers, packed to IATA regulations by a registered IATA packer. 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, VETERINARY LABORATORIES AGENCY, WEYBRIDGE, SURREY**

The packaging must also be marked with one of the following IMPORT LICENCE NUMBERS:

For Newcastle disease: AHZ/2232/2002/5

For avian influenza, other viruses, avian tissue, serum, faeces and eggs: AHZ/2074C/2004/3

**Shipping address**

Ruth Manvell

Avian Virology Laboratory

Veterinary Laboratories Agency (VLA)

Weybridge, New Haw, Addlestone, Surrey KT15 3NB

United Kingdom

**Shipment instructions**

A letter should accompany parcels with as much history about the isolates as possible (including species and age, area/country of isolation, clinical history if any, etc.).

If sending by air freight, it is essential that the airway bill number is given to the Avian Virology Laboratory, VLA-Weybridge by fax, telephone or e-mail before the arrival of the materials in order to facilitate early delivery.

**Notification of shipment**

Before dispatch, notify the Avian Virology Laboratory, VLA-Weybridge of the shipment details and the person to contact with information on results (name, fax number, e-mail address).

Tel : (+44) 01932 357736

Fax: (+44) 01932 357856

e-mail: [r.manvell@vla.defra.gsi.gov.uk](mailto:r.manvell@vla.defra.gsi.gov.uk)

**Contact**

If you wish to discuss a submission and options for support from the International Reference Laboratory for Avian Influenza and Newcastle Disease, please contact:

Dr. I. H. Brown

Tel: (+44) 01932 357 339

Fax: (+44) 01932 357 239

e-mail: [i.h.brown@vla.defra.gsi.gov.uk](mailto:i.h.brown@vla.defra.gsi.gov.uk)