

*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.*

## Bird flu virus in Europe – a hidden danger

### H5N1 could become endemic in parts of the region – Virus search in domestic ducks and geese crucial

The avian influenza virus H5N1 could become entrenched in poultry, and domestic ducks and geese in parts of Europe, warns FAO.

The agency stresses that healthy domestic ducks and geese may transmit the virus to poultry and play a more important role in the persistence of the virus in the region than previously thought. H5N1 surveillance in countries with significant domestic duck and geese populations should be urgently increased.

FAO's warning followed the detection of H5N1 in diseased young domestic ducks by German scientists.



*Wild ducks at the mouth of the Danube*

### New chapter

"It seems that a new chapter in the evolution of avian influenza may be unfolding silently in the heart of Europe," says FAO's Chief Veterinary Officer, Joseph Domenech. "If it turns out to be true that the H5N1 virus can persist in apparently healthy domestic duck and geese populations, then countries need to urgently reinforce their monitoring and surveillance schemes in all regions with significant duck and geese production for the presence of H5N1."

"Europe should prepare for further waves of avian influenza outbreaks, most probably in an east-west direction, if the virus succeeds in persisting throughout the year in domestic waterfowl. This heightens the need for increased surveillance and monitoring of possible virus circulation in domestic ducks and geese," Domenech adds.

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## **Ducks and geese**

The link between domestic ducks, geese and poultry is seen by many experts as one of the major underlying factors in outbreaks of HPAI in disease-entrenched countries.

"We are particularly concerned about the Black Sea area which has a high concentration of chickens, ducks and geese," notes FAO senior animal health officer Jan Slingenbergh. "In the Ukraine alone, the number of domestic ducks is estimated at around 20 million birds. In Romania, four million domestic ducks and four million geese are found in the Danube delta. These figures compare easily with chicken and waterfowl densities in Asia, where the virus continues to circulate among chickens and has found a niche in countries with tens of millions of domestic ducks and geese."

Importantly, the Black Sea area serves as a main wintering area for migratory birds coming from Siberia and moving also to the Mediterranean and other regions. All countries bordering the Black Sea have experienced outbreaks of avian influenza in the past, favoured by traditional open poultry systems with poor separation between wild and domestic birds.

## **The German case**

The link between the H5N1 virus and domestic ducks and geese has recently been confirmed in Germany. Scientists of the Friedrich-Loeffler-Institut in Riems have detected the H5N1 virus in diseased young ducks on a farm at the end of August.

Further scrutiny at two other farms revealed that, despite the absence of clinical signs and mortality in these ducks, the animals had been in contact with the H5N1 virus, because their immune defense system showed antibodies, developed in response to the virus. Intensified monitoring finally confirmed pockets of H5N1 on one of the farms.

Based on its experience in fighting avian influenza around the world over the past three years, FAO considers that risk assessment, surveillance and virus search strategies should be reviewed, says Domenech.

Countries with significant domestic duck and geese populations in Western and Central Europe as well as the Black Sea region should consider the incidence in Germany as a wake-up call and should not limit the virus search to chickens. Good surveillance is already in place in many European countries and the European Commission has issued in 2007 very comprehensive guidelines but there are countries where more monitoring is urgently needed including more focus on domestic ducks and geese which should be considered as particularly risky populations.

"It could well be that there is more virus circulation in Europe than currently assumed," Slingenbergh argues. "We are not saying that the virus is widely spread in European countries, in fact most of the countries are currently virus free. But undetected localized virus spots in countries with significant waterfowl may pose a continuous risk."

After Asia and Africa, Europe could become the third continent where the H5N1 could become endemic in some areas, FAO says.

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## **US announces boost for FAO's avian influenza programme**

### **Country and communication activities to benefit**

The United States is to increase its financial assistance to the Food and Agriculture Organization (FAO) for the control and prevention of highly pathogenic avian influenza (HPAI) to just over US\$ 56 million, a considerable increase of almost US\$ 37 million in the UN agency's current three-year HPAI programme ending in September 2009.

In a letter to the Rome-based FAO dated October 8, the United States Agency for International Development (USAID) said it was increasing its support by US\$ 36.92 million, which it was earmarking for core HPAI containment and control activities, including in-country surveillance and early warning, efforts to reduce disease transmission, and communication to increase awareness and preparedness among the public and political leaders.

Ultimately, success in controlling HPAI and averting a (possible) influenza pandemic "will depend on a population's ability to contain animal or localized human outbreaks," USAID said in a statement.

Reacting to the USAID announcement, FAO said the fresh cash comes at an opportune moment for the agency in its fight to control and prevent HPAI, and will help consolidate much of the progress already made.

FAO's Chief Veterinary Officer Joseph Domenech said "this support is most welcome. It will allow continuity and improvement in the prevention and control of the disease as well as more long-term strategy design and implementation."

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The new money will go into ongoing and new surveillance and response, planning, training, logistics, technical, laboratory, and communication projects and activities in western, eastern and southern Africa, Southeast Asia, the Indian sub-continent, Mongolia, Egypt and central/eastern Europe.

USAID specified that as part of its support for FAO's efforts to control HPAI globally, it was particularly interested in backing the UN agency's aim to establish an avian influenza communications capacity. In April this year, the United States had provided funds through the US Department of Agriculture (USDA) and helped FAO organize a landmark meeting of communicators focused on animal health issues in Rome.

According to Satyajit Sarkar, leader of the newly-established Animal Health Communication Unit within FAO's avian influenza programme, the financial boost for communication "will be catalytic in allowing FAO to devote needed attention to strategic thinking and to taking a multidisciplinary approach to HPAI communication in order to help countries interrupt virus transmission."

Two other critical areas that figure prominently on the list of activities to be supported by the new funds are cross-border surveillance and the more active involvement of local communities and village animal health workers in control and response activities. Fresh money is also being directed at FAO's current work on the socio-economic impact of HPAI, biosecurity and wild bird surveillance.

New funds will also go to the Crisis Management Centre-Animal Health (CMC-AH), the HPAI emergency response facility run jointly by FAO and the World Organisation for Animal Health (OIE).

## **New Delhi Ministerial Conference on Avian and Pandemic Influenza**

**4-6 December 2007, Vigyan Bhawan, New Delhi.**

organised by the Government of India  
Ministry of Health & Family Welfare and Department of Animal Husbandry, Dairying & Fisheries  
in partnership with WHO, FAO, OIE, UNICEF and the World Bank

*"Controlling avian influenza remains an enormous challenge particularly for the veterinary and the medical communities. The virus is changing as it moves to new areas, eco-systems and hosts. It may well have become endemic in some countries. Underlining this is the persistent but unpredictable threat to human health."*

### **Success in HPAI control, but spots of entrenched disease persist**

There have been many successes in controlling and preventing highly pathogenic avian influenza (HPAI) H5N1 in poultry, demonstrating that the efforts made so far by the governments of affected countries, international agencies and donors are being rewarded; however, there are a number of locations in which infection is entrenched and will remain so for some time.

This is the main conclusion of the final report of the Technical Meeting on Highly Pathogenic Avian Influenza on Human H5N1 Infection organised jointly by FAO, OIE and WHO in collaboration with UNICEF and the UN System Influenza Coordinator (UNSIC), and held in Rome from 27 to 29 June 2007. The report was issued after the previous issue of *AIDEnews* had been circulated.

This issue of *AIDEnews* is reproducing the Executive Summary on page 4 – the complete report can be found at

<http://www.fao.org/avianflu/en/conferences/june2007/documents.html>,

## Final Report - Executive Summary

Technical Meeting on Highly Pathogenic Avian Influenza and Human H5N1 Infection  
27-29 June 2007

During and after the International Ministerial Conference on Avian and Pandemic Influenza held in Bamako on 8 December 2006, several representatives of donor countries, agencies and international organizations including FAO, OIE and WHO identified the need for a technical workshop to review the strategies being used to address these threats. Discussions with resource-contributing countries confirmed that the meeting should take place well in advance of the Ministerial Conference to be held in New Delhi in December 2007. The workshop was organised by the three agencies, in collaboration with UNICEF and the UN System Influenza Coordinator (UNSIC), and was held in Rome from 27-29 June 2007.

Workshop participants were presented with a summary of the current global epidemiological situation of HPAI in poultry and H5N1 infections in humans, an assessment of the threat of an influenza pandemic and an analysis of countries' state of preparedness. Information was also provided on strategies and practices applied over the last three years for the control of HPAI in poultry and reduction of the associated risk of human infection including an assessment of what had been achieved and what were the constraints and failures (13). They developed recommendations for the adaptation of existing strategies within specific situations, and identified several areas in which new strategies may be required.

### Situation assessment

During the workshop a rapid assessment of the constantly evolving situation and the main features to highlight since the last Ministerial meeting in Bamako were presented. It was agreed that the risk of disease in poultry and transboundary spread will persist as long as Asian lineage H5N1 HPAI viruses remain entrenched in one or more countries or sub-regions, and that elimination of infection from these is unlikely in the medium term (the next five years). However, a reduction in levels of infection in these countries is achievable provided adequate technical and financial support is available from international agencies and governments. This reduction of levels of infection is crucial for reducing the risk of human H5N1 infection and securing safe poultry production and trade. Commitment from governments, providers of external assistance (donors) and the poultry sector would include facilitating the longer-term adjustments in commercial poultry production and marketing identified through objective risk analysis.

The factors that lead to transboundary spread of H5N1 HPAI viruses include trade in poultry and other birds (especially illegal trade) and also wild bird movements. At this stage, the relative contribution of each of these factors is not clearly established.

The continued circulation of Asian lineage H5N1 HPAI viruses threatens human health through the risk of zoonotic infection and through the emergence of an influenza strain with pandemic potential.

Both types of risk are also posed by other avian influenza virus subtypes (e.g. H7, H9) that are currently circulating in animals in various parts of the world.

Although humans appear to be exposed to avian H5N1 viruses primarily through contact with infected poultry, specific risk factors and alternative sources of human exposure remain undetermined.

Though an H5N1 virus has not mutated or undergone reassortment into a strain that can be transmitted easily between humans, this risk will continue as long as influenza A viruses continue to circulate in animal populations.

The pathogenicity of an emerging pandemic virus strain cannot be predicted. If an emerging pandemic strain of H5N1 virus were to retain even some of its current high level of pathogenicity for humans, an influenza pandemic would be devastating.

Effective preparedness for an influenza pandemic results in increased resilience of local and national health systems, of national economies and of communities' capacity to respond to major crises. It leads to the creation of national infrastructure capable of reporting suspected incidences of novel influenza viruses and other threats under the WHO International Health Regulations. It calls for a distinctly different set of interventions and approaches from those required to prevent and control HPAI in poultry and other zoonotic infections.

Progress in the public health dimensions of this work has been substantial as evidenced by the pandemic preparedness actions that have been developed and/or implemented by different countries. However, most progress has been in establishing plans for actions at countries national levels: the work should be expanded to prepare communities and provinces especially within those countries which have significantly decentralised governance structures. There is a particular need for capacity to communicate relevant information to the public, systematically, at these sub-national levels – before and during an influenza pandemic.

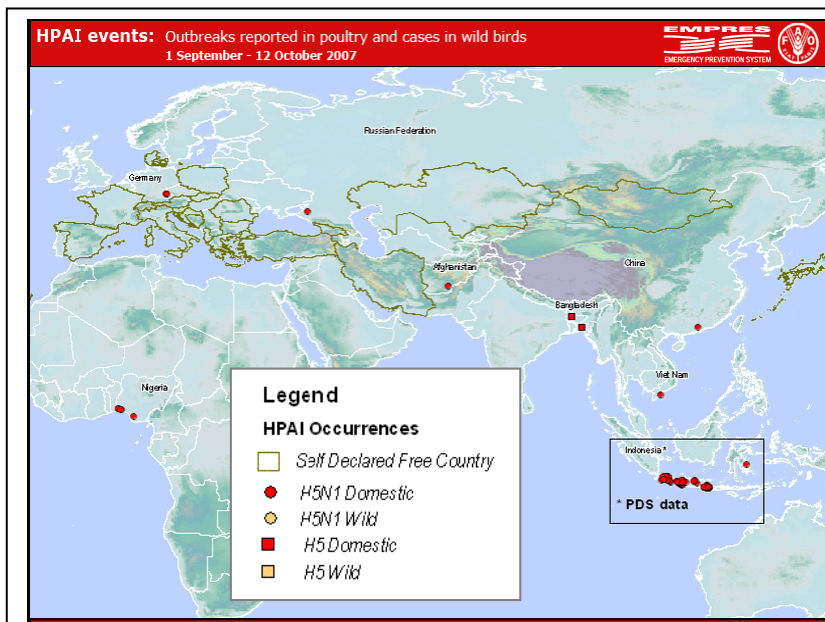
Although many countries have started planning to be ready for an influenza pandemic, their plans generally apply only to the health sector. Some governments have initiated work in other sectors, such as finance. But most countries are not yet ready to mitigate the broader social and economic impact of an influenza pandemic. In addition, there has been insufficient systematic planning at the intergovernmental level to cope with regional and global disruptions in key sectors such as transport, communication, energy and finance.

The Rome meeting was organised in the run-up to the next Senior Officials Meeting on Highly Pathogenic Avian Influenza (HPAI) to be held in New Delhi in December 2007. Such a meeting had been called for at the previous Senior Officials Meeting in Bamako, Mali, in December 2006. It was designed to prepare the technical ground for the December meeting in New Delhi, by answering key questions facing national and international decision-makers concerned with animal disease prevention and control, the prevention of human infection, and pandemic preparedness.

International experts presented their views on the current status of HPAI infection among poultry and assessed the possibility that the H5N1 virus could make the leap from birds to humans, including the risk of a human pandemic. Among others, they discussed the state of preparedness of countries, and assessed the strategies and practices that have been applied over the last three years to control HPAI in poultry and reduce the associated risk of human infection.

(For more details of the meeting, see <http://www.fao.org/avianflu/en/conferences/june2007/index.html>)

## Outbreak Map (1 September – 12 October 2007)



**NOTE:** This map represents occurrences of H5 and H5N1 reported from 1 September 2007 to 12 October 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.

## AT A GLANCE

*The latest HPAI outbreaks for the period 10 July 2007 to 12 October 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

### **Egypt**

FAO reported 3 September that five outbreaks of HPAI had been confirmed between 2 and 20 August in the districts of Samaloutt, Borg Al-Arab, Talkha and Damanhour, affecting different poultry species.

FAO reported 2 August that a total of 20 outbreaks in backyard flocks for the period June-July 2007 had been laboratory confirmed. A total of eight outbreaks occurred in Luxor (2), Mynia (1), Giza (1), Damietta (1) and Kafr EL Shikh (3) between 1 and 24 July. The infected backyard flocks consisted of chickens, geese and ducks.

### **Nigeria**

FAO reported 5 October that three outbreaks of HPAI were confirmed in commercial poultry by the National Disease Information Services (NADIS) in September in Palapanto (Ogun state). The outbreaks, which were reported on 11, 13 and 17 September, affected a total of 5,391 birds.

FAO reported 28 August that outbreaks of HPAI H5N1 had been confirmed four and five days earlier in backyard poultry in Egor (Edo state) and commercial poultry farms in Obafemi-Owode and Ewekoro (Ogun state). A total of 10,629 birds were affected, of which 6,744 died from the infection.

FAO reported 20 August from Nigeria that HPAI had been confirmed on eight farms in the Edu-Igbesa and Obafemi-Owode areas of Ogun state, and five other outbreaks in Avielle (Edo state), Fegge (Anambra state), Panda (Nassarawa state), Damba (Zamfara state) and Ado-Ekiti (Ekiti state). FAO also reported that stakeholders' workshops on biosecurity had been held in Lagos and Ogun states.

FAO reported 6 August HPAI outbreaks in Ado Igbesa, Ado-Odo-Ota, on three small-scale commercial farms with no biosecurity measures. The disease also spread to a bigger commercial farm where high death rates were observed.

Four outbreaks of HPAI H5N1 were reported in July: on 4 July in Ogun state (Ado-Odo-Ota), on 16 July in Ogun state (Obafemi Owode), on 19 July in Edo state (Ikpoba-Okaha) and on 25 July in Lagos state (Ikorodu), all in commercial farms.

### **Togo**

FAO reported 20 July two outbreaks of HPAI and one suspected outbreak. Deaths began on 4 July in 300 layers on a farm in Adeticopé (27 km to the north of Lomé and 100 km from Sigbéhoué). Rapid tests confirmed HPAI on 6 July and four days later all remaining birds were culled. Samples were subsequently confirmed positive by the laboratory in Accra on 17 July.

Birds began dying on 6 July on a farm with 705 layers in Agbatta (22 km east of Lomé and 20 km from Adeticope) Sigbéhoué). Rapid tests were positive and all birds were culled. Samples were subsequently confirmed positive by the laboratory in Accra. Another outbreak occurred at a commercial layer farm and was identified on 17 July, again in Agbatta, 500 metres from the premises where the earlier outbreak had occurred. Birds began dying on 14 July (650 birds out of 1,850 died). The 1,198 surviving birds were culled following positive results obtained with rapid tests on 17 July.

## ASIA

### **Afghanistan**

The OIE reported 10 October that three out of six samples from domestic birds (broiler chickens less than two months old) from Jerai district, Kandahar province, sent to the Central Diagnostic Laboratory in Kabul had tested positive for H5, one of them also H5N1 positive. The outbreak had started 2 October on a farm with 2500 broilers.

## **Bangladesh**

The government reported that by 6 October, 54 farms in 19 districts (Dhaka, Gazipur, Narayanganj, Tangail, Jamalpur, Jessore, Noakhali, Gaibandha, Magura, Rajbari, Nilfamari, Dinajpur, Rangpur, Jaipurhat, Lalmonirhat, Thakurgaon, Naogaon, Bogura and Feni) had been confirmed H5 positive.

## **Cambodia**

At the beginning of October, FAO conducted a workshop to improve the skills of 10 communicators for training village animal health workers and village chiefs in simple but effective methods of communicating avian influenza prevention messages within their communities.

FAO's regional office in Bangkok, together with the OIE, organised another five-day workshop in Bangkok aimed at strengthening community-based surveillance networks through the training of small cadres of district veterinary officers and village animal health workers in preparation for a programme of "cascade training" in avian influenza surveillance.

## **China**

The Chinese authorities officially informed the OIE on 15 and 17 September 2007 of the outbreak of HPAI that had occurred on 19 April 2006 in Sixian, Panyu, Guangdong province.

FAO reported 10 July that HPAI surveillance during April 2007 had resulted in eight positive samples from ducks in live bird markets in Dongguan city, Guangdong province. Trace-back investigation found three positive ducks from Boluo county, while the remaining five came from Guizhou province.

## **India**

The Indian authorities reported 24 July that, following unusual levels of mortality among poultry, tests on samples from a small unit in the village of Chingmeirong (in the East Emphal District of Manipur) showed positive for H5. Testing was carried out at the High Security Animal Disease Laboratory (HSADL) in Bhopal and at the National Institute of Virology (NIV) in Pune. The outbreak was reported to the OIE on 26 July.

## **Indonesia**

FAO reported 4 October that 9,023 interviews were carried out between 6 September and 4 October under its participatory disease surveillance (PDS) programme in the country. The exercise revealed 253 positive cases of HPAI in Java (140), Bali (82), Sumatra (26) and Sulawesi (5).

Since the beginning of 2006, FAO has completed 79,662 PDS interviews, 4.4 percent (over 3500) of which have resulted in the identification of positive HPAI cases (although these figures may not represent the actual incidence of HPAI nation-wide given that the PDS system does not yet cover all districts and provinces).

By 15 August, FAO reported, only two of the country's provinces remained free of the H5N1 virus: Gorontalo and North Maluku. On the other hand, HPAI remained endemic in four provinces - Java, Sumatra, Bali and South Sulawesi - with sporadic outbreaks reported from other areas.

## **Myanmar**

FAO reported 4 September that H5N1 had been confirmed on a broiler farm in Mon state, where 86 out of 500 birds had died within three days between 30 August and 1 September. All remaining chickens were destroyed.

The OIE reported 2 August an outbreak of HPAI H5N1 in Tharyawaddy, north of Yangon, which started on 28 July in a layer farm with battery caging where 50 birds died and 5,163 were culled.

FAO reported 27 July an outbreak in Mawlamyaing, Mon state, which was first notified on 24 July following positive results on the rapid test. Samples were submitted to Yangon and were confirmed as H5N1 by PCR on 26 July.

## **Pakistan**

FAO reported 27 August that an outbreak of H5N1 had been detected on a broiler breeder farm in the area of Abbotabad, North-West Frontier. The entire flock of 35,000 birds was destroyed.

The OIE reported 6 August that an outbreak of HPAI, which had started on 21 July, was confirmed on a breeder and broiler poultry farm in Mansehra, North-West Frontier. Of the 60,000 susceptible animals, 22,607 died and 37,393 were destroyed.

## **Viet Nam**

The government reported 13 September that the country's first additional avian influenza vaccination campaign of 2007 had started in 63 provinces; a total 164.24 million birds (87.37 million chickens, 72.99 million ducks and 3.88 million muscovy ducks) were vaccinated. Large livestock companies also administered over 41.63 million doses of TROVAC vaccine.

During August 2007, the government reported a number of outbreaks of HPAI

22 August: 150 ducks and 35 chickens were found sick in a household in the village of Phu Thinh, Pho Yen district and laboratory results confirmed H5N1.

20 August: an outbreak of HPAI in a household raising ducks in Phuoc Hung, Tra Vinh province, where 150 45-day-old unvaccinated ducks died out of a flock of 450. Laboratory results confirmed H5N1. The infected ducks were culled and the area disinfected.

19 August: an outbreak of HPAI on a chicken breeding farm in My An Hung B, Dong Thap province, where 250 35-day-old chickens died out of a flock of 500.

11 August: 89 chickens and ducks died from HPAI H5N1 on a farm in Thach An district, Cao Bang province.

29 July: Outbreaks of HPAI reported from three communes, Thanh Chan, Thanh Hung and Noong Het (Dien Bien province). 1,037 ducks, 232 chickens and 611 muscovy ducks were culled and 960 eggs destroyed in collaboration with local authorities.

25 July: Laboratory results of samples sent from Dien Bien Phu city were positive for the H5N1 virus on 24 July 2007.

23 July: Dead poultry were reported from Cam Thuy commune, Le Thuy district, Quang Binh province on 21 July in a farm raising 3,000 four month-old ducks, of which 220 died. Samples were confirmed H5N1 positive through laboratory diagnosis.

22 July: An outbreak was reported in Tan Hoi Trung and Dinh Hoa communes in Dong Thap province.

21 July: A total of 208 poultry (157 chickens and 51 other birds) were reported with HPAI infection from Dong Thap province, Tan Hoi Trung commune (Cao Lanh district) and Tan Phuoc commune (Lai Vung district) on 20 July.

18 July: The Department of Animal Health reported HPAI in Dong Thap province, where 120 out of 400 50-day-old chickens died in Tan Hoi Trung commune, Cao Lanh district on 9 July. In another flock, 106 out of 343 56-day-old chickens died on 14 July.

11 July: The Department of Animal Health reported outbreaks of HPAI in Dien Bien province, in three communes (Thanh Yen, Thanh Hung and Thanh Xuong) between 5 and 10 July, in which 500 out of 2,400 25-day-old ducks died.

## **EUROPE**

### **Czech Republic**

The European Commission reported 12 July that the National Reference Laboratory had confirmed HPAI H5N1 in two breeding hen holdings in the town of Chocen and the village of Netreby.

### **France**

The OIE reported 14 August that two mallard ducks had been confirmed HPAI H5N1 positive in the town of Diane Capelle, Moselle, Lorraine province.

The OIE reported 31 July that two wild swans found dead on Grande-Creusière lake in Diane-Capelle, Moselle, had been diagnosed with HPAI H5N1.

### **Germany**

On 25 September 2007, government laboratories confirmed an outbreak of HPAI on a holding with 30,000 birds in the Bavarian town of Trumling. They also reported that a farm in Hofing, also in Bavaria and run by the same personnel as the Trumling holding, had tested positive for HPAI H5N1. Culling of over 200,000 birds was completed on 10 September 2007.

Government laboratories reported 21 September that the H5 virus detected in ducks on a poultry farm in Dingolfing-Landau and on a duck farm near Dietersburg (both in Bavaria) had been characterized as low pathogenic. Culling of both flocks was completed on 14 September 2007.

The European Commission reported 27 August that a duck holding with 170,000 ducklings in Erlangen near Nuernberg, Bavaria, has tested positive for H5N1 HPAI two days earlier.

The German National Reference Laboratory reported 5 August that three wild ducks found dead near Speichersee, northeast of Munich, had tested positive for the H5N1 virus.

Between the end of June and mid-July, various cases of dead wild birds were reported in southern Germany (Bavaria and Thuringen). Three birds were found around the Wohrdersee in Nurnberg between 6 and 10 July. Four dead birds were found between 6 and 8 July in Frohburg, Machern and Torgau Stadt. Another 167 birds were found in Kelbra in Sachsen-Anhalt between 9 and 12 July, and in Thuringen, 32 birds were found in

Ebeleben and Badra between 10 and 12 July. Fourteen birds had previously been found dead in Kelbra on 5 July. Five birds were found dead in Nurenberg between 27 June and 5 July. Six wild birds were found dead in the state of Thuringen between 4 and 6 July (three in Badra, one in Windischleube, one in Ebeleben and one in Auleben).

### Portugal

The OIE reported 18 September that an H5N2 outbreak affecting 68,255 free-ranging ducks in Tomar and 22,110 birds in Vila Nova da Barquinha (both in Ribaltejo Norte) had been officially notified.

### Russian Federation

An outbreak of HPAI reported on 4 September at a poultry farm in Krasnodar was confirmed by the OIE on 7 September 2007. Out of 161,640 birds, 420 died and another 24,600 were culled.

## AMERICAS

### Canada

It was reported on 28 September that the Canadian authorities had reported confirmation of HPAI H7N3 among commercial breeding broilers in Saskatchewan. H7N3 is a low pathogenic virus that is known to be present in North American wild populations.

## MOST RECENT OUTBREAKS 2006-07

**Afghanistan, Indonesia, Viet Nam** (October 2007)

**Bangladesh, Germany, Myanmar, Russian Federation** (September 2007)

**Egypt, France, Nigeria** (August 2007)

**Czech Republic, India, Pakistan, Togo** (July 2007)

**China (Hong Kong SAR), Ghana, Malaysia**, (June 2007)

**Cambodia, Kuwait** (April 2007)

**China, Korea (Republic of), Saudi Arabia, Thailand, Turkey** (March 2007)

**Lao PDR** (February 2007)

**Hungary, Japan, United Kingdom** (January 2007)

**Cote d'Ivoire** (November 2006)

**Sudan** (August 2006)

**Spain** (July 2006)

**Mongolia, Niger, Romania, Ukraine** (June 2006)

**Burkina Faso, Denmark (H5), Poland** (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 12 October 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>EUROPE</b>				
Country	First outbreak	Latest outbreak	Animals affected to date	Human cases / deaths to date
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	7 May 2006	Wild birds	-
Romania	7 October 2005	6 June 2006	Wild birds – domestic poultry – cat	-
Russian Federation	15 July 2005	7 September 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>
United Kingdom	30 March 2006	27 January 2007	Wild birds – domestic poultry	-
Ukraine	2 December 2005	11 June 2006	Wild birds – domestic poultry – zoo birds	-

<b>AFRICA</b>				
Country	First outbreak	Latest outbreak	Animals affected to date	Human cases / deaths to date
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	20 August 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	10 August 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>NEAR EAST</b>				
Country	First outbreak	Latest outbreak	Animals affected to date	Human cases / deaths to date
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	12 March 2007	Domestic poultry	-
West Bank & Gaza Strip	21 March 2006	2 April 2006	Domestic poultry	-

<b>ASIA</b>				
<b>Country</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	2 September 2007 (H5)	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	<b>25 / 16</b>
China (Hong Kong SAR)	19 January 2004	12 June 2007	Wild birds	-
India	27 January 2006	7 July 2007	Domestic poultry	-
Indonesia	2 February 2004	October 2007	Domestic poultry – pigs (with no clinical signs)	<b>109 / 87</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	1 September 2007	Domestic poultry	-
Pakistan	23 February 2006	21 July 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	1 October 2007	Domestic poultry	<b>100 / 46</b>

## ANNEX 1 CONTACT POINTS

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## 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)