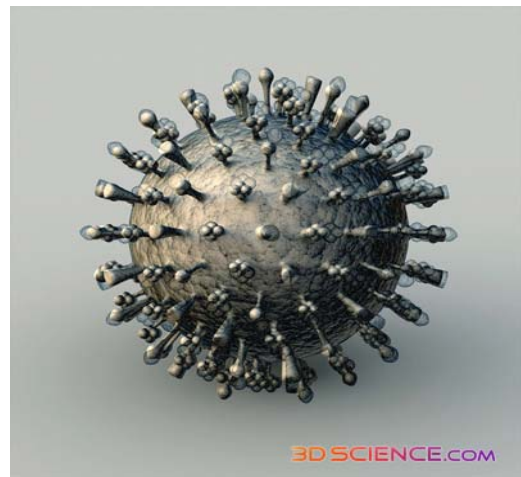


*HPAI outbreaks reported in this publication refer to officially confirmed cases only. The information is compiled from the following sources: World Organisation for Animal Health (OIE), national governments and their ministries, and the European Commission (EC) – these sources are responsible for any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

## Bringing avian influenza data into the global open

A group of avian influenza researchers has decided to lift the curtain and share data in a move to help international efforts to understand the spread and evolution of the highly pathogenic avian influenza virus. In a letter to 'Nature' published 24 August, 70 scientists and health officials announced the Global Initiative on Sharing Avian Influenza Data (GISAID), designed to stimulate worldwide sharing of avian influenza data.

The move comes less than one month after the joint OIE/FAO Network on Avian Influenza (OFFLU) agreed to share information on avian influenza virus sequences and make this available to the entire scientific community (see *AIDEnews No 41*). Under that initiative, genetic information on virus strains would be posted on the OFFLU website ([www.offlu.net](http://www.offlu.net)), sent to the U.S. National Institutes of Health for sequencing, and deposited in the free-access database, GenBank.



The avian influenza virus *Source: 3DScience.com*

The GISAID move also comes hard on the heels of other decisions to more openly share avian influenza sequence data. Earlier in August, the Indonesian government announced that it would share its genomic data with scientists worldwide, and just one week ago the Centers for Disease Control and Prevention (CDC) in Atlanta said it had released the genetic sequence of 650 influenza virus genes into an open database.

GISAID, which has been officially endorsed by OFFLU, is the brainchild of veterinary virologist Ilaria Capua of the Istituto Zooprofilattico Sperimentale delle Venezie in Padova and secretary of the OFFLU scientific committee, and Peter Bogner of the Santa Monica-based Bogner Organisation, who rustled up international support for the idea from scientists and policy-makers.

*continues on Page 2*

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## **Bringing HPAI data into the global open**

Other prominent signatures on the 'Nature' letter are those of Nancy Cox, head of the influenza division at the Centers for Disease Control and Prevention (CDC) in Atlanta and David Lipman, director of the National Center for Biotechnology Information in Bethesda. *(A full list of signatories to the can be consulted at <http://www.nature.com/nature/journal/v442/n7106/extref/442981a-s1.pdf>). Many of the scientists signing the letter come from the countries worst hit by HPAI, including China, Indonesia, Thailand and Viet Nam.*

The letter points to the extensive damage already caused to economies worldwide and to food safety in many developing countries, and to the increased risk that avian influenza viruses may be the progenitors of the next human pandemic virus. For these reasons, it argues, it is necessary that scientists with different fields of expertise have full access to comprehensive genetic-sequence, clinical and epidemiological data from both animal and human virus isolates.

Scientists participating in the GISAID consortium from the fields of animal and human virology, epidemiology and bioinformatics, agree to share sequence data, and jointly analyse and publish findings. Their data will be placed in three publicly available databases – the EMBL Nucleotide Sequence Database, the DNA Database of Japan and the GenBank – as soon as possible after analysis and validation.

The founders of GISAID hope that the initiative will encourage valuable collaboration among researchers in industrialized countries and in those developing countries hardest hit by avian flu, and attract international attention to the need for increased funding and technical assistance to help affected countries build comprehensive and sustained disease surveillance programmes.

## **Asia: Poultry movement seen behind latest bout of avian influenza**

The recent outbreaks of avian influenza in poultry in Thailand and Lao PDR, together with the lack of outbreaks of the disease in other parts of Asia that attract wild birds, appear to give weight to constant reminders from FAO that the unchecked trade and movement of infected poultry is one of the main triggers behind the spread of the lethal virus.

And the warnings to countries hit by the virus, to monitor the movement of poultry, cover a range of activity in order to contain its spread within communities or over long distances. In addition to checking for infected poultry products, surveillance is also required on crates used to transport poultry, the manner in which poultry manure is disposed and clothes and shoes that could have come into contact with infected birds.

A lapse in such surveillance is at the root of the new strain of the H5N1 virus emerging in Thailand's north-eastern province of Nakhon Phanom and also across the Mekong River – which serves as the international border – in Vientiane, the capital of neighbouring Lao PDR. This strain of HPAI, moreover, is similar to "isolates from southern China, suggesting that the virus spread from China to Thailand and Lao PDR," says FAO.

"FAO recognises that poultry trade across borders is continuing in Southeast Asia and East Asia despite well-known risks to the governments and people in the region," it adds.

The new H5N1 strains in Thailand and Lao PDR have a distinct genetic make-up that betrays their origin. "There are three broad clusters of the virus and sub-clusters," says Laurie Gleeson, regional manager for FAO's avian influenza activities in Asia. "The new virus strain in Nakhon Phanom was different to the strain that has been circulating in Thailand since 2004."

Gleeson attributes human activity, rather than migratory birds, to the spread of HPAI in Indonesia, which has suffered the highest number of human fatalities due to avian influenza. "It is pretty clear the virus spread in Indonesia is because of poultry products being moved and not because of wild birds."

According to the World Health Organisation (WHO), 46 people have died after being infected with the H5N1 strain of the virus in Indonesia, out of 60 reported cases. The most recent victim was a 35-year-old woman. The death toll brings to 141, out of 241 reported cases, the number of people HPAI H5N1 has killed across the world.

Southeast Asia remains the epicentre of the disease. Viet Nam has seen 42 deaths, Thailand has had 16 deaths and Cambodia six, according to the Geneva-based health agency. China, with 14 deaths, is the other East Asian country affected.

The HPAI H5N1 virus has been detected in over 50 countries, including Burma and Malaysia, and, according to FAO, "some 200 million poultry have been culled, causing losses of ten billion dollars in Southeast Asia alone."

Yet, two-and-a-half-years after the current outbreak began, the virus has not mutated to one that has worried public health experts – becoming a virus passed between humans that could trigger a pandemic.

"The virus is constantly evolving. There are different little clusters established in different geographic zones," says Gleeson. "At this stage, there is no significant change that is worrying." (Source: *IPS*)

## **United States makes wild bird sampling information available to public**

The public can now view a web site (<http://wildlifedisease.nbii.gov/ai/>) showing up to date information about wild bird sampling for early detection of eventual outbreaks of highly pathogenic avian influenza (HPAI) in the United States. Scientists are using the HPAI Early Detection Data System (HEDDS), a newly-developed database and web application, to share information on sample collection sites, bird species sampled and test results.

In a report 24 August, News-Medical.Net said scientists would be able to use the data to assess risk and refine monitoring strategies should HPAI be detected in the United States. Public access is, however, more limited although it does show the states where samples have been collected and includes numbers of samples collected from each state.

HEDDS is a product of the Wildlife Disease Information Node (WDIN) of the federal government's National Biological Information Infrastructure (NBII), and is housed at the USGS National Wildlife Health Center. The HEDDS web site receives financial support from the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the U.S. Department of Agriculture's Animal and Plant Health Inspection Service.

"HEDDS provides a critical comprehensive view of national sampling efforts at a time when the demand for this type of information is increasing, along with the growing interest in HPAI surveillance efforts in wild birds," according to WDIN project leader Joshua Dein.

Between 1 April and 18 August this year, 9590 samples from wild birds tested for avian influenza were entered into HEDDS. Of the more than 10000 wild birds tested to date, none have resulted positive for HPAI H5N1.

The United States released a national wild bird surveillance plan in March 2006, comprising five strategies for early detection of HPAI: 1) live wild bird testing, 2) sampling of subsistence hunter-killed birds, 3) investigation of sick and dead wild birds, 4) surveillance of domestic birds as sentinel species, and 5) environmental sampling of water and wild bird droppings. Data on the first three are posted on the HEDDS web site.

A fact sheet on HEDDS is available at [http://wildlifedisease.nbii.gov/ai/HEDDS\\_FactSheet.pdf](http://wildlifedisease.nbii.gov/ai/HEDDS_FactSheet.pdf).

## **Indonesia: Shift in avian influenza strategy a step in the right direction, says FAO**

The Indonesian government's recent decision to refocus its strategy in the fight against avian influenza, by putting the emphasis on public awareness, disease surveillance and animal control measures, is an opportunity to reverse the situation in the country, says the Food and Agriculture Organization (FAO). The announcement of the shift in tactics came during an international donor conference held in the Indonesian capital from 23-24 August.

Indonesia is the world's worst hit country in the current series of avian influenza outbreaks. According to the National Committee for Avian Influenza Control and Pandemic Influenza Preparedness (Komnas FBPI), avian influenza is endemic in animals in 29 of Indonesia's 33 provinces and, so far, the country has registered 62 human cases, 47 of whom have died.

The head of the committee, Bayu Krisnamurthi, told the press: "We have been learning from our experience in combating avian influenza since 2003. All of our prevention programmes are important, but the focus is to control the disease at its source, that is, in the agricultural sector. Here the objective is to prevent the avian influenza from spreading and mutating."

The refocused strategy places a particular emphasis on risk communication, information dissemination and public awareness. Community awareness is the key to determining the effectiveness of avian influenza control. "Indonesia is home to millions of 'backyard farmers' who raise free-range poultry," noted Krisnamurthi. "This is an extremely difficult sector to control. Public understanding and awareness of the disease is a key element to combating the virus. The messages have to be clear, simple and down to earth, touching the daily lives of the communities."

Disease surveillance, which has been identified as the area with second highest priority, is a development in progress. With technical assistance from FAO, the government is currently developing participatory disease surveillance (PDS) and participatory disease response (PDR) teams to carry out proactive epidemiological surveillance at the district level.

PDS/PDR started as a pilot project in 12 districts in Java in the beginning of 2006, and currently has teams established in 51 districts in the three islands of Java, Bali and Sumatra.

As a third priority, the refocused strategy is concerned with controlling the disease at its source in animals through vaccination, culling and compensation for bird owners, and bio-security measures.

The donor conference also identified major funding gaps faced by Indonesia. The government estimates total country requirements at 813 million US dollars to control avian flu over the next three years.

However, the government has allocated just 46 million US dollars for 2007, 10 million US dollars less than that earmarked for 2006, while international donors have pledged 47 million US dollars, most of which would be channelled through international agencies such as FAO, the World Health Organization (WHO) and the U.N. Children Fund (UNICEF). Krisnamurthi called on donors to help fill the massive remaining gap.

Komnas FBPI noted that no international donor funds currently support vaccination or culling and compensation programmes, both high priorities in the country's fight against avian influenza.

### **Indonesia to open up on HPAI virus data**

3 August 2006 – Indonesia has announced an about-turn in its policy of reluctance to share genetic data on HPAI H5N1 viruses, saying it will now deposit this data in GenBank, a public database of genetic sequences.

The move came August 3, just two days after the joint OIE/FAO Network on Avian Influenza (OFFLU) pledged to "systematically" publish avian influenza virus sequences and urged others to follow suit (see report in *AIDENews No 47*).

Together with the August 25 news of the setting up of the Global Initiative on Sharing Avian Influenza Data (GISAID) (see report in this issue of *AIDENews*), these announcements raise the prospect of better tracking of mutations in the virus, which should help in the development of vaccines to use in case the H5N1 virus evolves into a strain capable of causing a human pandemic.

## For the Record

### Highlights of what's happening on the HPAI front

#### August 31

The Viet Nam government urges the country's Central Highlands and Mekong Delta provinces to step up cross-border supervision to prevent the return of HPAI to the country in the wake of the outbreak of the epidemic in some neighbouring countries. With a ban in place on importing poultry and poultry products from affected countries, Prime Minister Nguyen Tan Dung calls on local anti-smuggling and trade fraud forces to work closely with veterinarians, health workers and transport officials to keep a strict eye on cross-border areas. (Source: *Vietnam News Agency*)

#### August 24

In a letter to 'Nature', 70 scientists and health officials announce the Global Initiative on Sharing Avian Influenza Data (GISAID), through which participants will share avian influenza virus sequence data, jointly analyse and publish findings, and place their data in three public databases – the EMBL Nucleotide Sequence Database, the DNA Database of Japan and the GenBank (see report in this issue of *AIDEnews*).

Viet Nam and Lao PDR sign Memorandum of Understanding on cooperation in the fight against human bird flu pandemics and emerging transmittable diseases up to 2010. (Source: *VietNamNet Bridge*)

#### August 22

The Dutch Agriculture Ministry orders farmers to keep their poultry indoors from September 1 to protect flocks from the threat of avian influenza from migrating birds. Alternatively, farmers can construct enclosures that would prevent their poultry from coming into contact with wild birds. (Source: *Reuters*)

#### August 21

FAO warns that the southern Balkan area and Caucasus are considered at high risk for H5N1 because they are prime resting grounds for migratory bird species and poultry production is mostly characterized by rural and household husbandry with little in terms of biosecurity and strong regulatory inspection.

#### August 17

FAO reports that laboratory confirmation points to both old and new isolates of the HPAI virus as sources of recent HPAI outbreaks in Southeast Asia, and calls for vigorous implementation of recommended control measures to prevent a further spread of the disease and sustain past successes in the region.

#### August 3

The Indonesian government announces it will start sharing genetic data on HPAI H5N1 viruses by depositing them in GenBank, the public genetic sequences database (see report in this issue of *AIDEnews*).

#### August 1

Experts from the joint OIE/FAO Network on Avian Influenza (OFFLU) announce they will share data on avian influenza virus sequences and make this available to the entire scientific community through their joint website ([www.offlu.net](http://www.offlu.net)). The data will also be sent to the U.S. National Institutes of Health and deposited in the free-access database, GenBank (see report in *AIDEnews No 41*).

## FOCUS ON ... Participatory Disease Surveillance

### **Indonesia: Farmer surveillance the key to controlling avian influenza**

#### **Community-based early warning and early reaction**

FAO is putting the emphasis on community surveillance as the key to the fight against avian influenza in Indonesia, the world's worst-hit country. The idea is to increase the involvement of farmers themselves in monitoring their own poultry and thus increase the potential for grassroots commitment to the campaign to control and prevent avian influenza.

Participatory disease surveillance (PDS) is borrowed and adapted from a technique (participatory rural appraisal) that development practitioners began to use in the 1970s to collect and analyse data in rural areas by drawing on the knowledge and experience of local people. The idea was that this would help avoid the problem of outsiders missing or miscommunicating with the grassroots.

In simple terms, participatory techniques are designed to enable people to express and analyse the realities of their lives and conditions, to plan themselves what action to take, and to monitor and evaluate the results.

In the Indonesian context, and specifically in terms of coming to grips with the avian influenza crisis, there is a need to generate better understanding of the avian influenza epidemiological situation in Indonesia among all persons involved – from village farmer to policy maker. The focus of PDS, in close collaboration with the government veterinary services and complementary to their activities, is on the grassroots, on those actually handling and raising poultry in all angles of the country's widely dispersed territory – and here the objective is to more accurately reflect realities in the field and come up with response mechanisms that cause the least disruption to livelihoods.

Participatory disease surveillance involves the collection of rapid, decision-oriented intelligence on where disease outbreaks occur, with the timely identification factor permitting rapid targeted response to suppress or eradicate the incidence of disease.

FAO has introduced PDS as one of the corner-stones of its technical assistance to Indonesia, and it is currently being implemented on the ground through the *Immediate Assistance for Strengthening Community-based Early Warning and Early Reaction to Avian Influenza* project. The project is funded by USAID (the U.S. development assistance agency) and AusAID (the Australian development assistance agency) in cooperation with the Indonesian Ministry of Agriculture (Department Pertanian) and with technical assistance from the Tufts Cummings School of Veterinary Medicine.

The project initially established a high level of competence in 12 core districts throughout the island of Java, with participating field staff from these districts trained as trainers in order to replicate the project's PDS programme in other districts on other major islands, with the intention of eventually covering all of Java and Bali, and a major portion of Sumatra. By mid-August, FAO had helped establish PDS capacity in 27 districts on the island of Java, three in North Sumatra and three in Bali.

In the first quarter of 2006, PDS had led to 54 detections of disease in poultry in the 12 pilot districts, with at least one detection being registered in each district.

PDS teams interview farmers, searching for evidence of outbreaks consistent with highly pathogenic avian influenza (HPAI) in poultry using a clinical case definition to facilitate identification of disease (the definition is set out in the box following this report). When an active outbreak involving sick or recently deceased birds (within 12 hours of death) is identified, the PDS teams carry out an influenza type A rapid test (Anigen test).

In an endemic area, the combination of symptoms consistent with the clinical case definition for HPAI and a positive rapid test in the affected animal is considered a confirmed detection of HPAI and warrants an appropriate control response. When a disease detection is made, a PDS team works through the area to define the extent of the disease using participatory mapping techniques.

Within 24 hours of a detection, a participatory disease response (PDR) team arrives at the outbreak site to facilitate both an immediate control response and community-based preventive measures such as vaccination.

As a control response in line with the national prevention and control strategy defined by the government and coherent with the global FAO/OIE strategy, the FAO project recommends focal culling with immediate compensation, combined with ring vaccination using local intermediaries. Focal culling involves the destruction of infected birds and those other poultry in direct contact with infected birds.

Community-based preventive measures require continued community dialogue to identify the most appropriate types of measure to reduce the risk of future outbreaks. Examples are neighbourhood disposal systems for dead birds, night housing for backyard poultry, neighbourhood programmes of three-monthly preventive vaccination and plans to improve community-level biosecurity standards for the movement of poultry.

While the emphasis is on local involvement in disease identification and control, the project also envisages a structured coordination framework designed to harmonise activities over wider areas of territory. Thus, the project is being implemented through a National Disease Control centre (NDCC) and Local Disease Control Centres (LDCCs), with each LDCC supporting disease surveillance and response in a number of districts. On average, an LDCC serves about 15 districts.

All confirmed outbreaks are reported to the appropriate LDCC and to the NDCC within 24 hours and key results from all interviews are recorded in a database on a weekly basis at each LDCC. Information from these databases is forwarded weekly to the NDCC and a weekly report of all HPAI detections is provided to the Ministry of Agriculture's Central management Unit for Avian Influenza.

### **Sudden Death Outbreak Definition**

Sudden death (individual clinical course of 1 to 4 hours)

*may occur with one or more of the following:*

- petechia and swelling of feet
- cyanotic combs and swelling of head
- petechea of skin over breast and thigh areas
- nasal discharge
- salivation
- head drop
- drop in egg production
- decreased feed intake

Outbreaks of contagious disease exhibiting sudden death should be reported as outbreaks of rapid mortality in poultry clinically consistent with HPAI.

This sudden death may include any of the above symptoms, which further increases suspicion.

**Note**

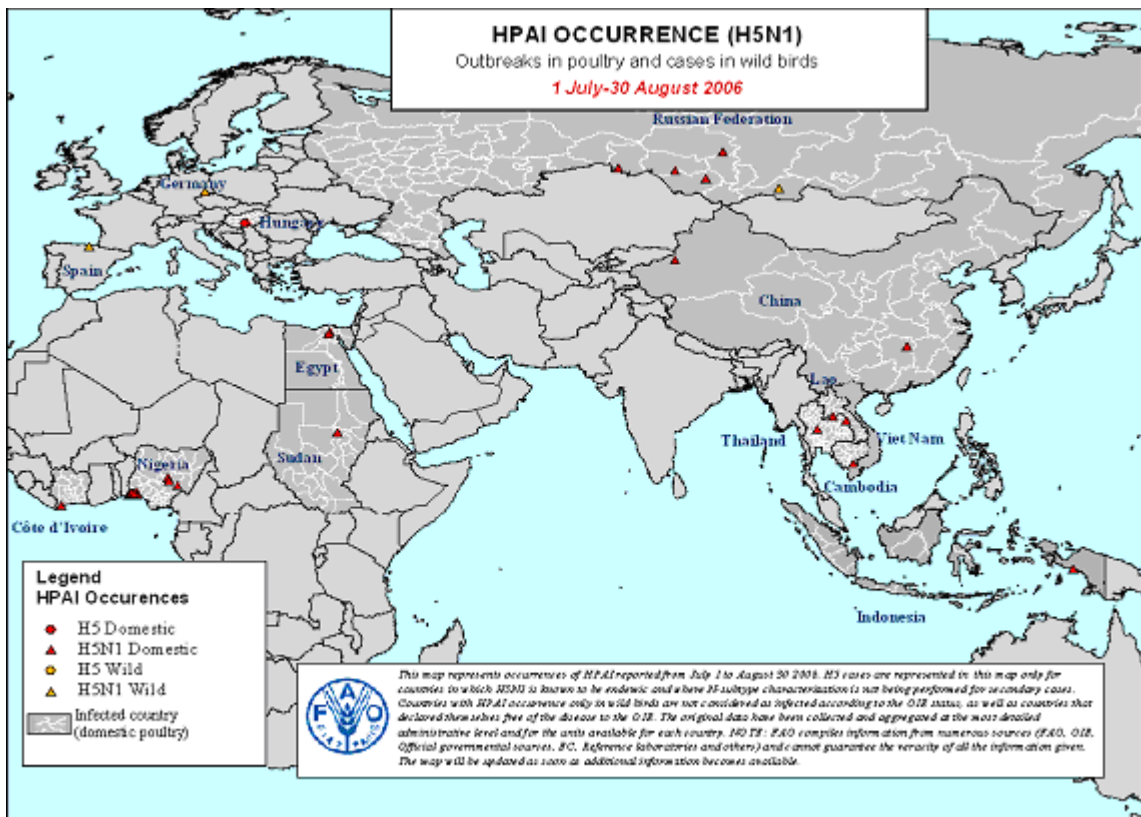
It is the outbreak that must meet the criteria, not individual animals.

**Note**

In intensive production systems high mortality rates per flock will be observed, but in small back-yard production systems high mortality may be difficult to observe.

# OUTBREAK MAP

(1 July – 30 August 2006)



## AT A GLANCE

*The latest confirmed HPAI outbreaks as of 31 August 2006*

### 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, World Organisation for Animal Health (OIE), European Commission (EC), United Nations and national governments.

## AFRICA

### Burundi

The CDC Kenya Laboratory has reported that all samples received from Burundi are negative for HPAI. Samples had been collected following the deaths of 100 or more striped heron Birds' Lake near Kirundo north. Young birds, then adults, started dying August 8. (FAO, August 22)

### Nigeria

In the period July-August, new outbreaks of avian influenza were confirmed in eight local government areas: Ajah, Agege, Ojo, Ikorodu, Alimosho, Badagry, Ifako-Ijaiye and Ibeku-Lekki. (FAO, August 30)

## ASIA

### Southeast Asia

New strains of the H5N1 virus caused some of the fresh outbreaks of HPAI in Thailand and Lao PDR and they appear to have spread from southern China, according to FAO. In a statement, it called for vigorous control measures to prevent further spread of the disease in birds and poultry. Recent outbreaks of avian influenza in northeastern Thailand and neighbouring Lao PDR were said to have been caused by a H5N1 virus strain previously not detected in the region, but similar to a strain found in southern China. Poultry trade across borders is continuing in Southeast and East Asia despite well-known risks. The H5N1 virus remained alive in central Thailand in a reservoir of birds and poultry, most probably a mixture of backyard chickens, ducks and fighting cocks. (*FAO, August 17*)

### Cambodia

The Pasteur Institute has confirmed that the deaths of ducks in two districts of Kampong Cham Province (Bateay and Thoung Kumm) were due to H5N1. (*FAO, August 18*)

The National Animal Health and Production Investigation Center (NAHPIC) of the Department of Animal Health and Production (DAHP) found four samples from dead ducks on a farm in Bateay Commune (Prey Veng Province) positive for HPAI on August 7. The finding was confirmed August 11 by the Pasteur Institute. The farm lies about 7 km from the border with Viet Nam, and the ducks had been raised around a lake, water from which flows into a canal that crosses into Viet Nam. High mortality in the flock (some 1600 heads) had been reported August 6. Since then, a total of 1202 have died and the remaining 398 culled. Samples (179 sera, 168 cloacal swabs, 168 tracheal swabs and 11 duck organs) were collected from surrounding duck flocks and sent to NAHPIC on August 12 August for diagnosis. The results are pending. (*Government of Cambodia, August 14*)

### China

Since August 4, 1805 ducks have died as a result of HPAI H5N1 in Hanhui Village (Hunan Province) and 217,000 ducks in a community of raisers have been culled. (*Government of China, August 14; OIE, August 15*)

### India

Under the terms of the OIE Terrestrial Animal Health Code (2005), India has declared the status of a notifiable avian influenza free country. The country's last outbreak was on April 18 and since then surveillance has shown no evidence of HPAI. (*Government of India, August 11*)

### Indonesia

Outbreaks of highly pathogenic avian influenza virus subtype H5N1 have been confirmed in native chickens in four villages in Papua Mimika (Inauga, Timika Jaya, Pasar Swadaya and Wonosari Java). (*OIE, August 24*)

Indonesia has announced it will deposit genetic data on HPAI H5N1 viruses in GenBank, a public database of genetic sequences (*see report in this issue of AIDEnews*).

### Lao PDR

HPAI has been re-confirmed in a commercial poultry farm in Dong Bang, Xaythani, Vientiane, where 2,500 out of 6,000 chickens died on July 14 and the remaining 3,500 were destroyed. (*OIE, August 4*)

Two outbreaks reported on poultry farms in close geographical proximity. The outbreaks were followed by mass culling (more than 5,000 birds) and the establishment of an exclusion zone. Compensation is being paid at 50 percent of the market value of the meat. Samples have been sent to Thailand for confirmation. (*FAO, August 7*)

### Thailand

In a meeting with FAO's Emergency Centre for Transboundary Animal Diseases (ECTAD) team, the Thai Department of Livestock Development (DLD) acknowledged that "x-ray" surveillance carried out in the period June-July as part of the government's avian influenza disease control procedures, had revealed mortality rates of more than 10 percent in poultry flocks in a number of regions. This figure referred to cumulative mortalities over the period rather than a sudden event, and is consistent with normal mortality patterns in village poultry during the rainy season. No cases of avian influenza resulted from laboratory investigations carried out by the DLD on carcasses from these cases. (*FAO, August 17*)

Between January 1 and August 7, the Ministry of Agriculture reported HPAI outbreaks in two locations, one in Pichit Province, the other in Nakhon Phanom Province. (*Government of Thailand, August 7*)

OIE had earlier reported that the outbreak of avian influenza in Nakhon Phanom Province had been confirmed as H5N1. The outbreak started on July 24 July and killed 2241 out of 5500 layer chickens; the remaining 3259 chickens were destroyed. The farm concerned was described as a conventional medium-size farm with typically low biosecurity. (*OIE, August 2*)

## **EUROPE**

### **Germany**

Suspicion of HPAI in a dead swan in Dresden zoo August 2 was confirmed on August 3. (*EC, August 4*)

### **Turkey**

In accordance with The OIE's Terrestrial Animal Health Code, Turkey declared itself free of HPAI as of August 15. The last confirmed case of HPAI was reported on March 31, and continuing surveillance indicates no new cases. (*OIE, August 15*)

### **Europe**

The Directorate-General for Environment of the European Commission has published on its website an "Urgent preliminary assessment of ornithological data relevant to the spread of Avian Influenza in Europe" carried out by Wetlands International and the European Union of Bird Ringing (*EC, August 7*)

## **AMERICAS**

### **United States**

Routine surveillance has indicated the presence of H5 and N1 avian influenza subtypes in samples from two wild mute swans in Michigan, but testing has ruled out the possibility of this being the highly pathogenic H5N1 strain that has spread through birds in Asia, Europe and Africa, according to the U.S. government. Test results thus far indicate the virus as low pathogenicity avian influenza, particularly since they showed no signs of sickness. The swans were sampled August 8 as part of the country's expanded avian influenza surveillance programme. It is possible that the birds were not infected with an H5N1 strain, but instead with two separate avian influenza viruses, one containing H5 and the other containing N1. The swans were sampled at the Mouillee state game area located on the coast of Lake Erie in Monroe County, Michigan. (*U.S. Government, August 14*)

The public can now view a web site (<http://wildlifedisease.nbj.gov/ai/>) showing up to date information about wild bird sampling for early detection of eventual outbreaks of highly pathogenic avian influenza (HPAI) in the United States. Scientists are using the HPAI Early Detection Data System (HEDDS), a newly-developed database and web application, to share information on sample collection sites, bird species sampled and test results. (*See report in this issue of AIDEnews*)

## MOST RECENT OUTBREAKS REPORTED BY COUNTRIES

**Cambodia, China, Viet Nam** (August 2006)

**Egypt, Hungary, Indonesia, Lao PDR, Russia, Spain, Thailand** (July 2006)

**Côte d'Ivoire, Mongolia, Niger, Nigeria, Romania, Ukraine** (June 2006)

**Burkina Faso, Czech Republic, Denmark, Germany, Poland** (May 2006)

**Afghanistan, Djibouti, France, India, Myanmar, Pakistan, Sudan, Sweden (H5), Palestine Authority** (April 2006)

**Albania, Austria, Azerbaijan, Cameroon, Croatia, Greece, Israel, Jordan, Kazakhstan, Malaysia, Serbia and Montenegro, Slovenia, Switzerland, Turkey, United Kingdom** (March 2006)

**Bosnia-Herzegovina, Bulgaria, Georgia, Italy, Iran, Iraq (H5), China (Hong Kong SAR), Slovakia** (February 2006)

Blue: wild birds only

## SUMMARY OF CONFIRMED HPAI OUTBREAKS IN AFFECTED COUNTRIES (as of 31 August 2006)

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

EUROPE				
Country	1 <sup>st</sup> 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	Wild birds – domestic poultry – dogs	8 / 5
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	19 May 2006	Wild birds	-
Denmark	12 March 2006	22 May 2006	Wild birds – domestic poultry	-
France	17 February 2006	26 April 2006	Wild birds – domestic poultry	-
Georgia	23 February 2006	23 February 2006	Wild birds	-
Germany	8 February 2006	2 August 2006	Wild birds – domestic poultry – cats – stone marten	-
Greece	30 January 2006	27 March 2006	Wild birds	-
Hungary	4 February 2006	12 July 2006	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	-
Russia	15 July 2005	31 July 2006	Domestic poultry – wild birds	-
Serbia and Montenegro	28 February 2006	9 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 – hens, game birds	-
Switzerland	26 February 2006	11 March 2006	Wild birds	-
Turkey	5 October 2005	31 March 2006	Domestic poultry – wild birds	12 / 4
United Kingdom	30 March 2006	30 March 2006	Wild birds	-
Ukraine	2 December 2005	11 June 2006	Wild birds – domestic poultry – zoo birds	-

<b>AFRICA</b>				
Country	1 <sup>st</sup> outbreak	Latest outbreak	Animals affected to date	Human cases / deaths to date
Burkina Faso	1 March 2006	18 May 2006	Domestic poultry - wild birds	-
Cameroon	21 February 2006	28 March 2006	Domestic poultry – wild birds	-
Côte d'Ivoire	31 March 2006	10 June 2006	Domestic poultry – wild birds	-
Djibouti	6 April 2006	6 April 2006	Domestic poultry	<b>1 / 0</b>
Egypt	17 February 2006	5 July 2006	Domestic poultry – wild birds	<b>14 / 6</b>
Niger	6 February 2006	25 April 2006	Domestic poultry	-
Nigeria	16 January 2006	August 2006	Domestic poultry – wild birds	-
Sudan	25 March 2006	April 2006	Domestic poultry	-

<b>NEAR EAST</b>				
Country	1 <sup>st</sup> 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>2 / 2</b>
Israel	16 March 2006	30 March 2006	Domestic poultry	-
Jordan	23 March 2006	23 March 2006	Domestic poultry	-
Palestine Authority	21 March 2006	2 April 2006	Domestic poultry	-

<b>ASIA</b>				
Country	1 <sup>st</sup> outbreak	Latest outbreak	Animals affected to date	Human cases / deaths to date
Afghanistan	2 March 2006	4 April 2006	Domestic poultry – wild birds	-
Cambodia	12 January 2004	1 August 2006	Domestic poultry – wild birds	<b>6 / 6</b>
China*	20 January 2004	4 August 2006	Domestic poultry	<b>21 / 14</b>
China (Hong Kong SAR)	19 January 2004	25 February 2006	Wild birds	-
India	27 February 2006	18 April 2006	Domestic poultry	-
Indonesia*	2 February 2004	10 July 2006	Domestic poultry – pigs (with no clinical signs)	<b>60 / 46</b>
Japan**	28 December 2003	5 March 2004	Domestic poultry – wild birds	-
Kazakhstan	22 July 2005	10 March 2006	Domestic poultry – wild birds	-
Korea, Rep. of	10 December 2003	22 March 2004	Domestic poultry – wild birds	-
Lao, PDR	15 January 2004	14 July 2006	Domestic poultry	-
Malaysia	19 August 2004	21 March 2006	Domestic poultry – wild birds	-
Mongolia	10 August 2005	June 2006	Wild birds	-
Myanmar	8 March 2006	25 April 2006	Domestic poultry	-
Pakistan	23 February 2006	20 April 2006	Domestic poultry	-
Thailand	23 January 2004	24 July 2006	Domestic poultry – wild birds – tiger	<b>24 / 15</b>
Viet Nam	9 January 2004	15 August 2006	Domestic poultry	<b>93 / 42</b>

\* In the SUMMARY OF CONFIRMED HPAI OUTBREAKS IN AFFECTED COUNTRIES table in *AIDENews No 41*, the year of the first outbreak for China and Indonesia should have read 2004 and not 2006 as given.

\*\* In the SUMMARY OF CONFIRMED HPAI OUTBREAKS IN AFFECTED COUNTRIES table in *AIDENews No 41*, the date of the latest outbreak for Japan should have read 5 March 2004 and not 2 April 2004 as given.

## 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)