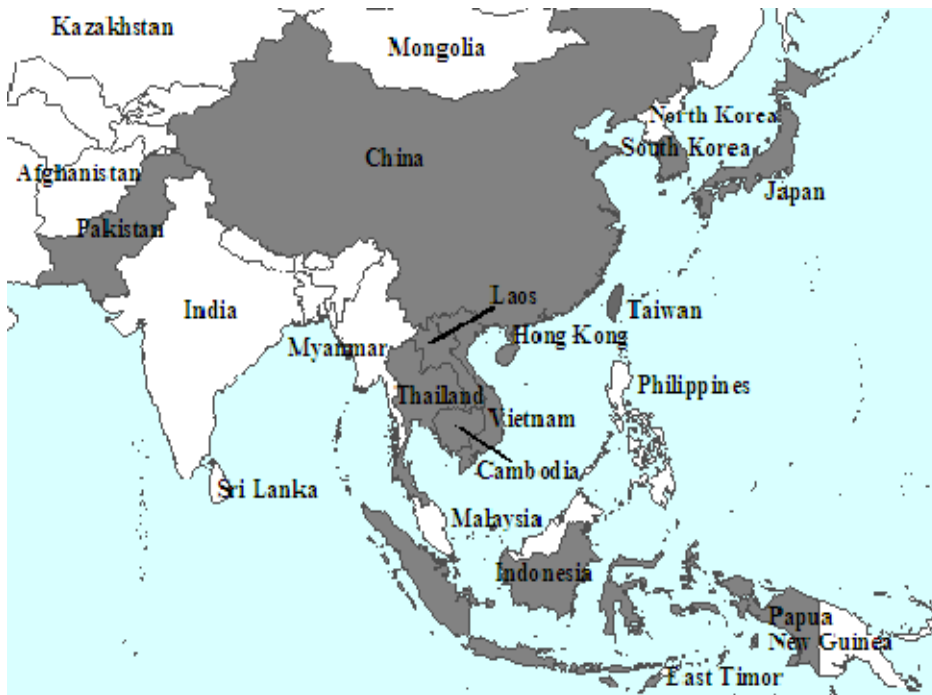


I. OIE Listed Diseases

Avian Influenza in Asia

Since the beginning of 2004, nine Asian countries have reported outbreaks of highly pathogenic avian influenza (HPAI) in commercial and backyard poultry flocks.^[1] Cambodia, China, Indonesia, Japan, Laos, Republic of Korea (South Korea), Thailand, and Vietnam confirmed outbreaks of HPAI subtype H5N1, while outbreaks in Pakistan were identified as HPAI subtypes H7 and H9 (affected countries are shaded on map below).



By the end of March 2004, about 100 million chickens and ducks either died or were culled because of avian influenza outbreaks in Asia. While the spread of HPAI in Asia appears to be subsiding in most countries, concerns

remain that the virus may continue to circulate causing future outbreaks. Some affected countries may not have the resources necessary to enforce movement controls and other biosecurity measures. There is also concern that countries anxious to regain their positions in the trade arena may rebuild their lost poultry stocks prematurely, triggering additional disease outbreaks. International animal health authorities recently warned that further HPAI outbreaks could flare up in Indonesia, Laos, Cambodia, and Thailand.

The recent HPAI outbreaks in Asia are of particular concern because of their widespread nature, the infection of migratory water fowl, and because of the ability of at least one of the current HPAI subtype H5N1 strains to jump the species barrier, infecting felines and

humans. As of April 9, 2004, twenty-four human deaths in Vietnam and Thailand have officially been attributed to HPAI.

The Center for Emerging Issues released several country-specific impact worksheets on the HPAI situation in Asia between December 2003 and January 2004. In addition, a regional HPAI summary was issued on January 29, 2004. These reports may be accessed at <http://www.aphis.usda.gov/vs/ceah/cei/worksheets.htm>. An updated summary of Asian AI related information, by country, is given below.

Cambodia : The first case of HPAI was reported on a farm near Phnom Penh on January 24, 2004. Since that time, there have been a total of ten outbreaks reported throughout Cambodia . The most recent five outbreaks were reported on March 17, when samples taken on February 21 were found to be HPAI subtype H5N1-positive. The Cambodian Department of Animal Health and Production announced that about 20,000 chickens either died of HPAI or were slaughtered. Cambodian authorities state that they can not undertake the mass culling that other affected countries are performing. Experts have concerns that the disease may be more widespread in Cambodia than is reported.

China : On January 27, 2004, China reported its first case of HPAI in Guangxi Province. Afterward, 49 outbreaks, occurring in 16 mainland provinces, were reported. In total, about 150,000 poultry were either HPAI-positive or presumed HPAI-positive and about nine million poultry were culled to stem the outbreaks. By March 19, 2004, no new outbreaks had been reported over the previous 32 days and China lifted cordons on the epidemic areas. China is using vaccination schemes and active monitoring to control its HPAI outbreaks.

Hong Kong SAR: On January 26, 2004, one peregrine falcon was found to be infected with HPAI subtype H5N1 in Hong Kong SAR. There have been no reports of commercial flocks infected with HPAI in Hong Kong SAR. Hong Kong SAR conducts extensive surveillance for AI on poultry farms, poultry markets, and on wild birds. Due to HPAI outbreaks in neighboring countries, Hong Kong has shut down its live poultry markets and has implemented a poultry vaccination program.

Indonesia : Indonesia officially reported outbreaks of HPAI on January 26, 2004, however there are reports from Indonesia that the outbreaks began several months earlier. The situation in Indonesia appears to be more serious than in other HPAI-affected Asian countries due to inadequate resources to fight the outbreaks. On March 4, Indonesia reported that the outbreaks had spread to 29 additional districts. Provinces on four of Indonesia 's larger islands are now affected and the government reports that about 6.2 million chickens died of HPAI and an additional 2.5 million were culled. The FAO estimates that 15 million chickens died or were culled in Indonesia and notes that Indonesia is having difficulties applying quarantine and other biosecurity measures. A vaccination strategy is underway in Indonesia to help control the outbreaks.

Japan : After experiencing its first HPAI outbreak in almost 80 years in January of 2004, Japan reported two additional HPAI outbreaks during February. About 300,000

poultry died or were depopulated due to the three outbreaks in Japan . Researchers in Japan announced that the H5N1 gene sequence found in Japan 's outbreaks matches the strain found in South Korea 's December outbreak by more than 99%. The same research institute also found that Japan 's H5N1 strain does not match the strain found in Vietnam .

Laos : Laos reported an outbreak of HPAI subtype H5 on January 27, 2004 outside of Vientiane. The last reported HPAI outbreak in Laos was in 1999. Since the initial report, authorities have confirmed additional outbreaks in the Vientiane area and in two southern provinces. At least 100,000 poultry have been culled in Laos .

Pakistan : On January 28, 2004, Pakistan reported an HPAI subtype H7 outbreak in Karachi Province. Pakistan national laboratories also identified HPAI subtype H9 in infected chickens. After the initial outbreak, several more HPAI-infected farms were identified. Poultry that did not present clinical signs were vaccinated using H7 and H9 strains of avian influenza virus. There have been no new outbreaks reported in Pakistan since February 6, 2004, however monitoring of premises is continuing. On April 1, 2004, Pakistan reported to the OIE that it had contained HPAI. The ban on Pakistani inter-provincial movements of poultry and poultry products has been lifted and vaccination of poultry in suspect areas has ended.

South Korea : South Korea reported its first ever HPAI outbreak on December 12, 2003. By February 5, 2004, HPAI was confirmed on 18 additional farms across the country. There were no new outbreaks from February 5 until March 21, 2004, when chickens on a farm about 25 miles north of Seoul tested positive for HPAI subtype H5N1. In total, South Korea destroyed about 5 million poultry to halt the HPAI spread. Studies have shown that the HPAI subtype H5N1 found in South Korea has a different genetic sequence than the H5N1 subtype found in Vietnam and Thailand .

Taiwan (Taipei, China) : In December 2003, six smuggled ducks were found to be infected with HPAI subtype H5N1. In January and March 2004, outbreaks of low pathogenic avian influenza (LPAI) subtype H5N2 were detected in Taiwan . About 500,000 poultry were culled to prevent the spread of the disease.

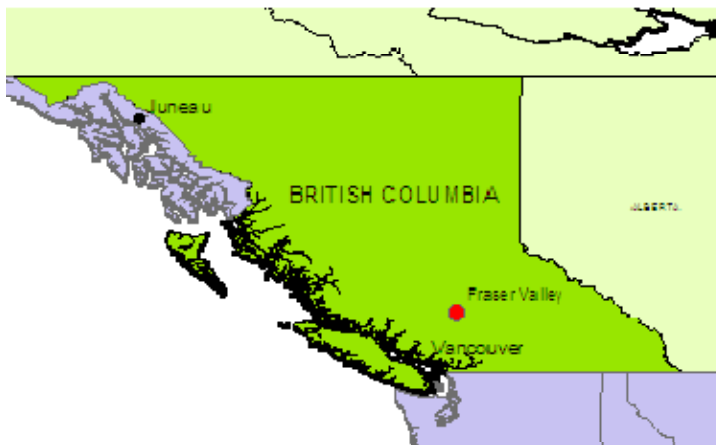
Thailand : Thailand confirmed HPAI outbreaks in chickens and humans on January 23, 2004. Outbreaks may have started a few months earlier according to unofficial accounts, which reported mass poultry deaths due to disease. The HPAI outbreaks in Thailand have been extensive with more than one half of Thailand 's 76 provinces reporting HPAI-infected premises. To date, about 35 million chickens died or were culled to stop the spread of the disease. The HPAI strain in Thailand appears to be particularly virulent and is able to jump the species barrier, infecting humans and felines. To date, eight humans have died of the H5N1 virus in Thailand . No new outbreaks in poultry were reported between February 25 and March 8, when Thailand prematurely declared itself free of HPAI. By March 19, however, active HPAI cases appeared in four provinces. Between March 19 and April 2, there were no new outbreaks reported, but on April 9 Thailand reported to the OIE that two new outbreaks were confirmed between April 2 and April 9.

Due mainly to its large presence in the international poultry trade, Thailand does not allow for vaccination strategies in fighting HPAI.

Vietnam : HPAI spread rapidly in Vietnam since the first case was reported on January 8, 2004. At the height of the epidemic, premises in 57 of Vietnam 's 64 provinces were affected. By the end of March, the epidemic appeared to be under control as no new outbreaks in poultry had been reported since February 26. The government officially declared Vietnam free of HPAI on April 6 and lifted bans on the breeding, transport, processing, and sale of poultry. However, as Vietnam prepares to rebuild its poultry industry, international experts are cautioning that HPAI may not yet be eradicated. About 40 million chickens, or 15% of national stocks, died or were culled due to the disease. As in Thailand , the HPAI strain circulating in Vietnam jumped the species barrier to humans. Sixteen human deaths were documented in Vietnam .

Sources: ProMed, OIE, WTA, FAO, AP Asia, CEI Impact Worksheets

Avian Influenza in Canada :



On February 23, 2004, the Canadian Food Inspection Agency (CFIA) announced the detection of LPAI on a farm in the Fraser Valley area of British Columbia. CFIA authorities quarantined the premises, depopulated the infected flock, and set up movement controls and surveillance zones corresponding to perceived relative risk areas surrounding

the infected premises. Subsequent testing indicated the presence of both low and highly pathogenic forms of AI subtype H7N3 and on March 9, 2004, Canadian authorities notified the OIE of the presence of HPAI in the Fraser Valley. By the end of March, five additional premises within the high risk zone as well as one commercial premises outside of the high risk zone were found to be infected with HPAI. Following the detection of additional HPAI-positive premises, Canadian officials announced on April 5 that plans were being made to depopulate about 19 million poultry in the Frazier Valley. The cull will affect about 80% of British Columbia's poultry producers.

Please refer to CEI's March 12, 2004 impact worksheet on HPAI in Canada for further information including poultry production data and risk factor information. The Impact Worksheet can be found at http://www.aphis.usda.gov/vs/ceah/cei/IW_2004_files/hpai_canada_031104/HPAI_Canada_031104.htm.

Sources: ProMed, OIE, Canadian Food Inspection Agency, Broadcast News, CEI Impact Worksheets

Avian Influenza in the United States :



Texas: On February 23, 2004, the US experienced its first case of HPAI in 20 years when a poultry farm containing about 6,600 broiler chickens in Gonzales County, Texas tested positive for HPAI subtype H5N2. The Gonzales County premises supplied live bird markets in Houston and two of these markets also tested positive for HPAI. In total, about 9,000 poultry on the Gonzales County premises and from five Houston live bird markets were culled. Concentrated surveillance for HPAI in Texas found no additional cases. On March 30, 2004, the European Union lifted a comprehensive import ban that had been

placed on US poultry products, however import restrictions remain for poultry products originating from AI affected areas in the US . On April 1, 2004, Texas state officials announced that HPAI has been eradicated from the Gonzales, Texas area.

Please refer to CEI's March 1, 2004 impact worksheet on HPAI in Texas for further information including Texas poultry production data. The Impact Worksheet can be found at

http://www.aphis.usda.gov/vs/ceah/cei/IW_2004_files/hpai_texas_032004/hpai_texas_032004.htm.

Delaware, Maryland, and Pennsylvania: During February 2004, cases of LPAI were discovered on two chicken farms in Delaware and in a layer flock in Pennsylvania. LPAI subtype H7N2 was isolated in the Delaware cases, while the virus in the Pennsylvania event was identified as LPAI subtype H2N2. One of the Delaware farms supplied chickens to several live bird markets in the New York City area, where LPAI subtype H7N2 was also found. About a month after the discovery of the Delaware LPAI cases, one chicken farm on Maryland's eastern shore tested positive for LPAI subtype H7N2. The affected Maryland premises was depopulated along with a second non-infected premises that shared equipment with the LPAI-positive Maryland chicken farm. The Maryland and Delaware LPAI events resulted in the culling of about 400,000 chickens. After surveillance for AI found no additional cases, authorities on April 5 lifted restrictions on Delaware and eastern shore Maryland poultry farmers, allowing poultry houses to be restocked. The LPAI-infected layer flock in Pennsylvania was placed under quarantine however no clinical signs of AI have been seen.

Sources: ProMed, OIE, Pennsylvania Bureau of Animal Health and Diagnostic Services, AP, CEI Impact Worksheets

Avian Influenza in the Netherlands :

On March 18, 2004, Dutch officials announced that AI antibodies were detected in chickens and ducks on two farms. The first case, in Groningen, was identified as LPAI subtype H7 and the second premises tested positive for LPAI subtype H5. Within a few days, two additional premises in the Netherlands tested positive for LPAI subtype H5. In the first case, free-range chickens tested positive for AI antibodies while the subsequent three cases involved imported ducks. In total, about 24,000 poultry were culled on the four affected premises as a precautionary measure. The Netherlands implemented widespread surveillance for AI following an outbreak of HPAI in 2003 which resulted in the death of about one-third of its poultry stocks.

Source: ProMed

Scrapie

France : France reported to the OIE on January 26, 2004 that atypical cases of scrapie were found in three ewes. The initial investigation of this incident occurred on March 12, 2003. Genotyping has shown that the sheep were associated with the highest resistance to the development of clinical signs of scrapie. Laboratory animals are being inoculated with the atypical isolates to more accurately determine their biological characteristics. Previously, five cases of scrapie with unusual features had been detected in Norway .

Portugal : On February 10, 2004, Portugal notified the OIE that it had detected its first case of scrapie. Thirty remaining sheep on the affected premises were destroyed and tested negative for the disease.

Sources: OIE, ProMed

II. Other Significant Disease Events

Porcine Myocarditis in Australia

A new disease syndrome named porcine myocarditis has been found in two piggeries in New South Wales, Australia . The disease syndrome is associated with increases in stillbirths and in pre-weaning mortalities in piglets and is currently under investigation in Australia . Porcine myocarditis initially affected litters of sows of all ages, but recently it appears to be limited to litters of young sows. Small virus-like particles have been detected on the myocardium of affected animals and an unidentified cytopathic agent has been cultured from the heart and lung samples of affected piglets.

The affected premises are under movement controls and the syndrome has been listed as a notifiable disease by New South Wales officials. There do not appear to be human health and food safety impacts due to porcine myocarditis. Recently, the condition appears to be resolving and losses of piglets are declining.

Sources: OIE, ProMed

Elk deaths in Wyoming, USA

Elk began to mysteriously die in a 50 square mile area of high desert south of Rawlins, Wyoming in February of 2004. Initially, two elk were discovered on the ground, alert, but unable to rise. Within a few weeks, about 300 elk were found to be stricken by the ailment. All had been rendered immobile and appeared to have died due to starvation.

After a 6 week investigation, scientists found that the die-off was due to the ingestion of lichen known as *Parmelia*, which produces an acid that is believed to break down muscle tissue when ingested. The part of Wyoming where the event took place is in an area that has experienced severe drought for the past five years and researchers believe that the elk may have resorted to eating the lichen for lack of forage. Remaining healthy elk have since migrated out of the area and additional cases have not been seen.

Source: ProMed

This summary was produced in April of 2004 by the Center for Emerging Issues, a part of USDA's Veterinary Services. This and other reports are available on the internet at: <http://www.aphis.usda.gov/vs/ceah/cei/index.htm>. Comments or questions concerning this edition may be addressed to Wolf Weber at wolf.d.weber@aphis.usda.gov or at 970-494-7222.

^[1] South Korea , which reported an HPAI outbreak during December 2003, experienced additional outbreaks during February and March 2004.