



Ref: VITT 1200/HPAI-Thailand

HIGHLY PATHOGENIC AVIAN INFLUENZA

IN

THAILAND

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1. Summary

Two human cases of Highly Pathogenic Avian Influenza (HPAI) were confirmed in Thailand on 23 January 2004.

The OIE then issued a notice on 23 January 2003 highlighting its serious concern with the situation in Thailand, and the Thai authorities confirmed the presence of Highly Pathogenic Avian Influenza (HPAI) later that day. The outbreak has so far been confirmed as avian influenza type A, sub-type H5.

From 03 November 2003 there have been reports of fowl cholera (*Pasteurella multocida* type A), and acute pasteurellosis (*Pasteurella haemolytica*) in the Nong Bua district, Nakhon Sawan Province.

Outbreaks of HPAI have been confirmed in South Korea, Japan and Vietnam, and there is a suspicion of disease in other countries in the region.

The UK has substantial legal trade with Thailand.

The main route of transmission is by contamination with infected faeces. Unprocessed fresh meat poses a low risk. In this case, the risk has been mitigated by a ban on poultry meat slaughtered after 01 January 2004. HPAI may be transmitted in fresh or frozen chicken meat, and through contamination of eggs and feather products. The virus is readily inactivated by heat and pH change; and thus processed chicken meat, egg and feathers pose a negligible risk to animal or human health.

The risk of transmission of the disease from East Asia to the UK by other routes has been assessed as negligible. Two sources of background risk of this disease exist, neither of which are specifically associated with the outbreak in Thailand:

(1) The low pathogenic strain of this virus, which may mutate to a highly pathogenic strain, is endemically present in migratory birds and waterfowl in Europe. There is no migration of birds to Europe from the affected region in East Asia. Thus the additional migration associated background risk arising from the current outbreaks in East Asia is negligible.

(2) The possibility for illegal import of poultry meat and meat products.

2. Highly Pathogenic Avian Influenza in East Asia

2.1. Disease Report

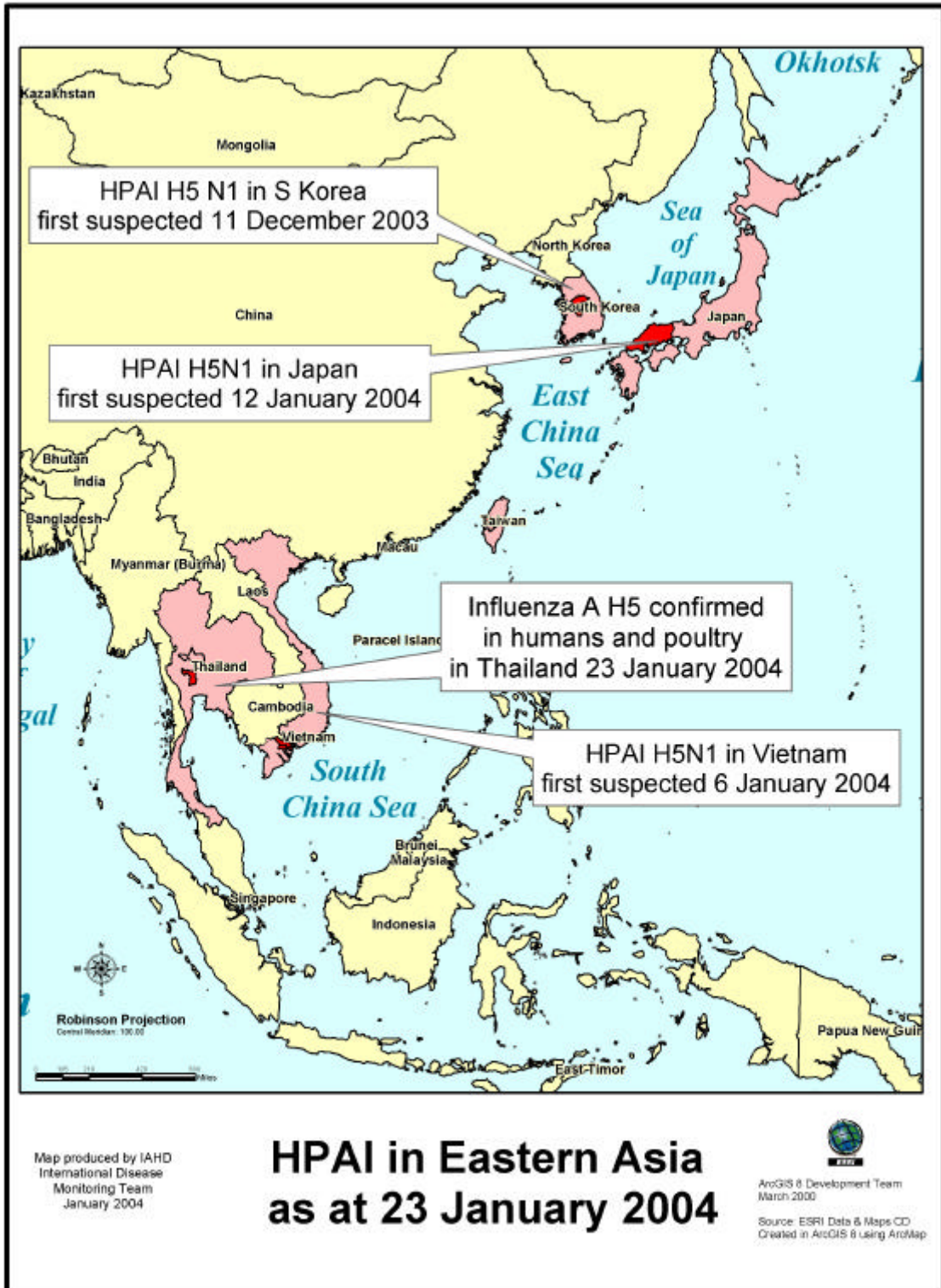
From 02 November, a disease of poultry with high mortality in the Nong Bua district, Nakhon Sawan Province had been attributed to fowl cholera (*Pasteurella multocida* type A), and acute pasteurellosis (*Pasteurella haemolytica*). Two human cases of HPAI were confirmed in Thailand on 23 January in two boys aged 7 and 8 years. The OIE then issued a notice on 23 January highlighting its serious concern with the situation. The Thais confirmed the presence of Highly Pathogenic Avian Influenza (HPAI) later that day. The outbreak has so far been confirmed as avian influenza type A, sub-type H5, isolated from laying hens in a large, "traditional" unit containing 66,350 susceptible birds. HPAI has never before been reported in Thailand.

The control measures so far taken are: Stamping out, quarantine, movement control within Thailand, screening and zoning. Vaccination is prohibited.

2.2. Timeline

- South Korea - HPAI suspected 11 December 2003.
- HPAI reported to OIE on 12 December 2003.
- HPAI confirmed as Influenza A H5N1 15 December 2003.
- Vietnam - estimated date of first infection 27 December 2003.
- HPAI suspected 06 January 2004.
- HPAI reported to OIE on 12 December 2003.
- HPAI confirmed as Influenza A H5N1 06 January 2004.
- Japan - HPAI suspected 12 January 2004.
- HPAI reported to OIE 12 January 2004.
- HPAI confirmed as Influenza A H5N1 13 January 2004.
- Thailand - reports of fowl cholera since November 2003.
- two human cases of disease caused by avian influenza (type H5 N1) confirmed on 23 January 2004.
- OIE concludes that avian influenza virus may be circulating.
- Thai government confirm disease as avian influenza type A, sub-type H5 on 23 January 2004 – date of first infection 19 January 2004, and first clinical signs on 20 January 2004.

2.3. Map 1: Location of the recent outbreaks in E. Asia



3. LEGAL TRADE – CURRENT SITUATION

3.1. Live poultry

Under EU rules, imports of live poultry are not permitted from Thailand.

3.2. Captive birds

Captive birds may be imported from Thailand into Great Britain. These birds are required to be accompanied by export health certification which state that HPAI has not been notified either in the holding of origin or in the surrounding area within a radius of 10 km for at least 30 days. They must also undergo 30 days post-import isolation.

3.3. Poultry meat and meat products

Under EU rules, imports of poultry meat and meat products have been permitted from Thailand. The quantities imported in recent years are listed below and represent approximately 10% of UK consumption:

2000: 23,634 tonnes
2001: 29,133 tonnes
2002: 33,823 tonnes
2003: 44,000 tonnes (to October 2003)

3.4. Hatching eggs

Under EU rules, imports of hatching eggs are not permitted from Thailand.

3.5. Eggs and egg products

Under EU rules, imports of egg products (powdered egg) are permitted from Thailand.

3.6. Feathers

Under EU rules, imports of feathers are permitted from Thailand.

3.7. Pigs and pig meat products

Under EU rules, imports of pigs and pig meat products are not permitted from Thailand. There is potential for the spread of these types of avian influenza virus to pig populations. There are currently no confirmed reports of infection in pigs.

4. ASSESSMENT OF THE RISK TO UK ANIMAL HEALTH

On the basis of current information on the outbreak of HPAI in Thailand, the Veterinary Directorate presently considers that with regard to:

4.1. Legal trade in:

4.1.1. Live poultry

There is no risk from legal trade – not permitted under EU rules.

4.1.2. Captive birds

There is negligible risk from legal trade due to the controls in place.

4.1.3. Poultry meat and meat products

Virus may be present in meat produced from infected birds.

The EU has therefore banned on 23 January the import of fresh or frozen meat from poultry slaughtered after 1 January 2004. Fresh meat from birds produced after that date now poses no risk through legal trade subsequent to the ban.

Meat products treated to at least 70°C may still be imported but these present negligible risk because this level of heat treatment is known to inactivate the AI virus.

H5N1 was notified on 23 January with an estimated first date of infection of 19 January so the date of 1 January allows a safety margin of an incubation period. This is a reasonable basis on which to block trade but it is possible that H5N1 was present during November and December, masked by other disease. WHO reports that the human cases first showed clinical signs earlier in January.

We therefore cannot rule out the possibility that fresh meat produced before 1 January 2004 and imported to the UK may contain virus. However, the probability of this is low because:

- There is a pH change in meat which should inactivate the virus, although this is not reliable in meat which is chilled or frozen soon after slaughter;
- Non-immune birds infected with H5N1 die quickly, do not develop high levels of virus in their tissues and should not reach slaughter;
- Meat for export to the EU must come from birds which are inspected before slaughter and it is subject to veterinary certification so sick birds should not be processed;
- When meat is used for human consumption, cooking will destroy the virus.

Some fresh meat produced after 1 January 2004 may have been imported before the ban was imposed on 23 January but the shipping time from Thailand suggests that this amount would be small.

There is a low, but not negligible, possibility that birds in the UK could become infected by contact with Thai poultry material. The most feasible route is through access by wild birds or backyard poultry to infected poultry meat waste. If infection establishes in the wild bird population then it could be passed to commercial poultry.

Waste from commercial processing plants is already subject to strict controls. It must be stored, handled and disposed of in accordance with animal by-products regulations. Such waste must not be sent directly to landfill (where it could be

accessible to wild birds) but must be rendered, incinerated or processed for pet food.

We can further mitigate this risk by reminding the Meat Hygiene Service and local authorities to be vigilant over the disposal of by-products.

4.1.4. Hatching eggs

There is no risk from legal trade in hatching eggs – not permitted under EU rules.

4.1.5. Eggs, egg products and composite egg products

There is a negligible risk from legal trade in egg products – as these are all heat processed to a degree that would inactivate the virus.

There is a negligible risk from legal trade in eggs .

Composite products with egg ingredients are permitted only on the basis that they do not present a risk of introducing disease, e.g. as a result of processing. There are currently nine valid Defra licences for composite egg products.

4.1.6. Pigs and pig meat products

There is no risk from legal trade in live pigs and pig meat products – these are not permitted under EU rules.

4.1.7. Feathers

There is a negligible risk from legal trade in feathers – legal imports of feathers must be treated using heat or chemical methods that will inactivate the virus.

4.2. Personal imports

There is a no risk from legal imports, as under EU rules, personal imports are not permitted from the affected countries.

4.3. Arriving passengers

4.3.1. Fomite

The virus can remain viable for long periods in faecal material, and this is considered to be the main route of transmission from bird to bird, and between birds and mammals. There is the potential for spread of virus via faecal contamination on clothing and shoes, however, due to the distance of the UK from East Asia, the majority of the movement of people is likely to be by air-travel, the nature of which ensures that heavy contamination of clothing and shoes is unlikely. Although the volume of passengers is high, the majority of these are tourists and thus unlikely to have come into close contact with agriculture or to return contaminated with poultry faeces. Thus the risk of transmission of the infection to the UK by this route is considered to be negligible.

4.3.2. Infected individuals

Two cases of disease in humans have been confirmed in Thailand. There has been no significant evidence of human to human spread in any of the recent outbreaks in East Asia. There is no information on the risk of human to animal spread. However, based on the above, it is likely to be negligible.

4.4. Illegal imports

There is some illegal traffic, but total seizures of illegal imports from Thailand are low.

The risk associated with the illegal import of poultry meat appears to be negligible, as the post-mortem pH change is sufficient to inactivate the virus. Refrigeration, which may reduce the effectiveness of this inactivation, is unlikely in illegally imported meat, and makes detection by enforcement authorities more likely.

As with any disease, illegal imports give rise to a constant, background risk of infection if the country of origin is affected.

Illegal imports of egg have not been reported from this area. Eggs pose a low risk of transmission of HPAI.

4.5. Background risk associated with migrating birds

There is an on-going background risk of the introduction of avian influenza by migrating birds, especially waterfowl, where low pathogenic strains of avian influenza are endemic. These strains may mutate spontaneously to high pathogenicity. This risk is low, but not negligible due to the large populations of waterfowl and wild birds that over-winter in the UK. It is not possible to take action to reduce this risk, and it remains unchanged by this outbreak.

It is important to note that there is no migration of birds to Europe from the affected region in East Asia. Thus the additional migration associated background risk arising from the current outbreaks in East Asia is negligible.

5. Issues of concern

Thailand has now reported HPAI, and we cannot be certain that it has not been present for some time.

The situation in East Asia is developing and there remains the possibility that HPAI could be active in other countries in the region, but not being currently diagnosed or reported.

6. Conclusion

There is a low risk of introduction of HPAI to the UK bird population consequent on the occurrence of the disease in Thailand.

There is a background risk due to the migration of water-fowl and other birds to Europe and within Europe.

Our level of preparedness was raised by the recent outbreak of HPAI in the Netherlands in 2003, which is geographically closer and presented a greater potential for spread to the UK, although the risk was assessed as low on the basis of the export controls applied. It is important to note that similar measures

to those currently in place were effective in preventing spread to the UK in this case.

Defra and the European Commission continue to monitor closely developments in the region.

Nigel Gibbens
Head, International Animal Health Division (23/01/2004)

7. Appendix 1: Sources of further information on HPAI

7.1. Defra, UK

<http://www.defra.gov.uk/animalh/diseases/notifiable/disease/avianinfluenza.htm>

7.2. The Health Protection Agency, UK

http://www.hpa.org.uk/infections/topics_az/influenza/flufaq.htm#avian

7.3. CDC, USA

<http://www.cdc.gov/search.do?action=search&queryText=%22avian+influenza%22&x=9&y=4>

<http://www.cdc.gov/ncidod/eid/vol4no3/webster.htm>

7.4. OIE, France

http://www.oie.int/eng/maladies/fiches/a_A150.htm

7.5. WHO Animal Influenza Network, UN

<http://www.who.int/csr/disease/influenza/influenzane트워크/animalinfluenza/en/>