

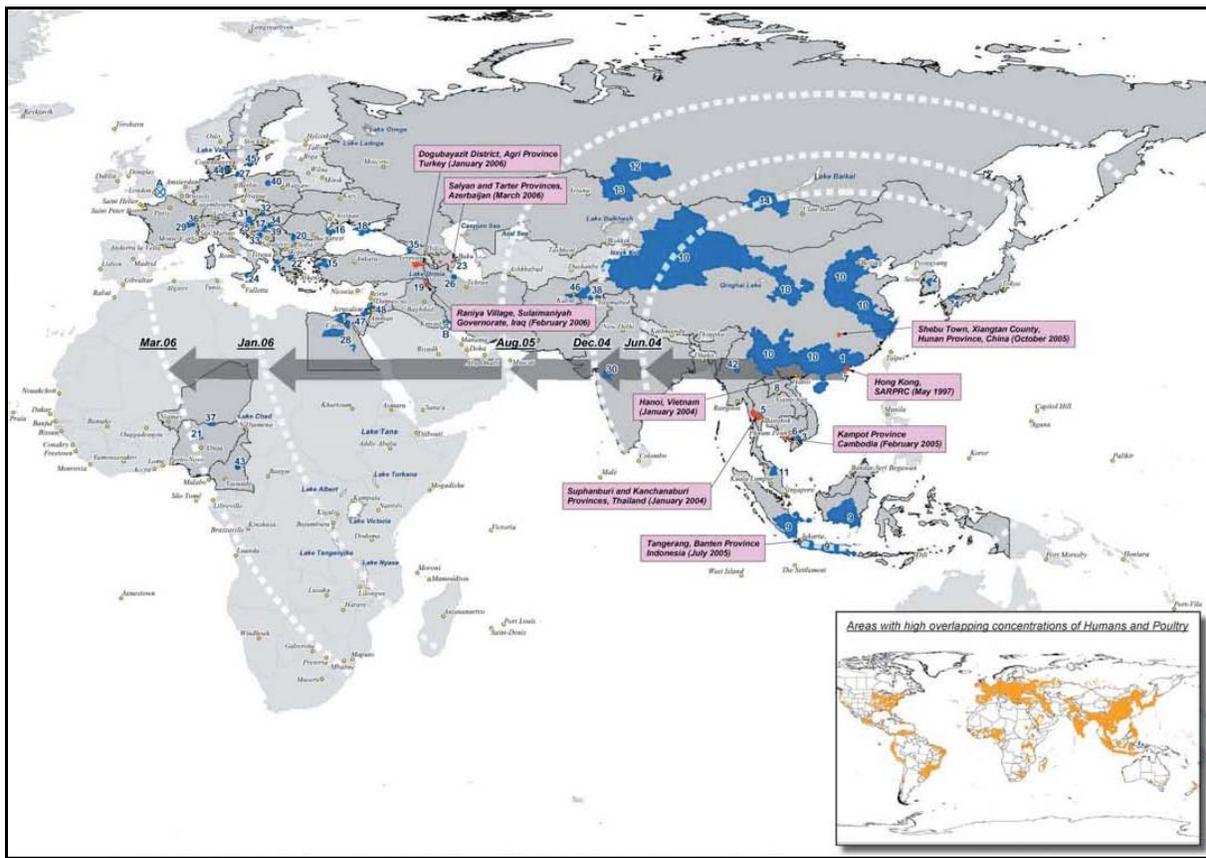
Summary of Selected Disease Events January – March 2006

I. OIE Listed Diseases

Highly pathogenic avian influenza (H5N1)

During the first three months of 2006, highly pathogenic avian influenza (HPAI), subtype H5N1, accelerated out of Southeast Asia and spread across the eastern hemisphere. By the end of March, HPAI had been newly detected in 33 countries, affecting wild birds, poultry, and in some areas, humans (see Appendix). In the preceding 2½ years, 15 countries, mostly in Asia, reported HPAI.

HPAI Outbreaks in Birds, January 2004 through March 2006



Source: United Nations World Food Programme

In western and northern Europe, H5N1 virus has affected mainly wild birds, especially swans, ducks, and birds of prey. In contrast, in Eastern Europe, Africa, the Middle East, and Indian subcontinent, H5N1 has mostly been reported in backyard poultry flocks and commercial poultry production facilities.

In addition to infecting birds, HPAI also was found in domestic/feral cats in Germany and in two members of the weasel family (marten and mink) in Germany and Sweden, respectively. It is believed these animals acquired the disease from eating infected wild birds.

Worldwide, during the first quarter of 2006, there were 47 confirmed human cases of H5N1 infection, including 32 fatalities. Since 2003, there have been 190 documented human infections with H5N1 virus, and 107 people have died from the disease.

Sources: OIE disease information reports; ProMED; World Health Organization (WHO)

Additional resources:

USDA APHIS VS CEI Impact worksheets
http://www.aphis.usda.gov/vs/ceah/cei/taf/current_iw.htm

USGS National Wildlife Health Center avian influenza web page
http://www.nwhc.usgs.gov/disease_information/avian_influenza/index.jsp

FAO avian influenza web page
http://www.fao.org/ag/againfo/subjects/en/health/disease_s-cards/special_avian.html

Biweekly maps of international HPAI outbreaks
<http://www.fao.org/ag/againfo/programmes/en/empres/maps.html>

OIE avian influenza web page
http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm

WHO avian influenza web page
http://www.who.int/csr/disease/avian_influenza/en/index.html

Newcastle disease

There was a continued high level of Newcastle disease reporting during the first quarter of 2006. This increase likely was due to heightened awareness and intensified surveillance for HPAI.

Azerbaijan: On January 18, 2006, OIE received a report from Azerbaijan of an outbreak of Newcastle disease in a backyard poultry flock. Azerbaijan last reported Newcastle disease in 2001.

Bulgaria: On January 23, 2006, authorities reported an outbreak of Newcastle disease in Blagoevgrad, western Bulgaria. Disease eradication efforts included movement controls, surveillance, and vaccination. Bulgaria last reported a Newcastle disease outbreak to OIE in 2004. Prior to that, their last reported outbreak was in 1993.

Japan: On March 2, 2006, Japan notified the OIE of an outbreak of Newcastle disease virus in a hobby chicken flock in Fukuoka prefecture. Another outbreak was detected on March 14, in a commercial flock, also in Fukuoka. Both flocks (approximately 30,000 birds) were destroyed and surveillance zones were established for commercial flocks. The government recommended vaccination of all poultry flocks in Fukuoka. Japan has had outbreaks of Newcastle disease most years over the past decade.

Mexico: On February 3, 2006, Mexico reported to OIE an outbreak of Newcastle disease in Jiminez Municipality, Chihuahua State (northern Mexico). The outbreak took place in December, 2005, in backyard poultry. According to one official, the outbreak started in gamecocks. Approximately 5,000 birds died or were culled, and more than 16,000 were vaccinated. OIE had previously considered this area of Mexico free of Newcastle disease since 1995.

Ukraine: On February 13, 2006, Ukraine reported an outbreak of Newcastle disease in a large commercial chicken flock in Staroverovka, Kharkiv region (northeastern Ukraine). The disease killed more than 13,000 birds and authorities culled another 41,000. Contact with wild birds was considered the source of the outbreak. Chickens were vaccinated with a modified live vaccine administered via drinking water. Newcastle disease has not been reported in Ukraine since 1992.

Other Countries: Ongoing outbreaks of Newcastle disease continued in Romania and Sweden, and Turkey reported a new outbreak location. In addition, unconfirmed reports or suspected accounts of Newcastle disease were received from Saudi Arabia, Yemen, Swaziland, Burkina Faso, Mauritania, Uganda, and Venezuela. These outbreaks reportedly occurred in both poultry and wild birds.

Sources: OIE disease information reports; ProMED

African swine fever

African swine fever (ASF) is enzootic in most sub-Saharan African countries, and outbreaks are reported sporadically. During early January, 2006, ASF reportedly killed more than 2,000 pigs in Adjumani district of northwestern Uganda. In the hardest hit area, the disease killed more than 1,500 pigs in less than a week. In Mozambique, an outbreak of ASF that began in February killed more than 4,000 pigs in the provinces of Manica and Sofala. Officials feared the disease would continue to spread, despite control efforts. During March, ASF also reportedly killed 180 pigs in the Democratic Republic of Congo. The outbreak occurred in the Ituri district in the northeast part of the country near Uganda.

Source: OIE disease information reports

Classical swine fever

Classical swine fever (CSF) occurs in many parts of Asia, Central and South America, as well as in parts of Europe and Africa. Like ASF, the natural hosts of CSF are pigs and wild boars, and the two diseases are clinically identical. In many areas, CSF periodically spills over from wild boars into domestic pigs.

Bulgaria: In February, 2006, the Bulgarian veterinary service reported an outbreak of CSF in the town of Sharkovo in southern Bulgaria. There were 30 pigs on the affected premises. A second outbreak occurred during March in a herd of 62 pigs in nearby Elkhovo. Seventy-nine animals were slaughtered to prevent the spread of the infection. CSF was last reported in Bulgaria in 2004.

Germany: In March, German authorities informed the OIE of a CSF outbreak on three farms with more than 600 fattening pigs. The outbreak occurred in Haltern am See, North-Rhine Westphalia. Another CSF outbreak was found on a nearby farm with more than 1,100 pigs. The government culled more than 1,700 pigs and established movement controls, surveillance, and disinfection to contain the outbreak. Germany last reported CSF in domestic pigs in 2003.

Brazil: During March, Brazilian authorities notified the OIE of an outbreak of CSF in the state of Paraiba, on the northeast coast. The outbreak started in late February and affected a small breeding and grow-out facility with 131 pigs. Another CSF outbreak was reported on a farm with 155 pigs in the northeastern state of Ceara. Disease containment measures included some culling, as well as establishment of quarantines and surveillance zones. Brazil does not allow vaccination of pigs for CSF. The last reported CSF outbreak in domestic pigs in Brazil was in 2004.

Source: OIE disease information reports

Bovine spongiform encephalopathy

Sweden: In March, 2006, Sweden reported its first case of BSE in cattle. The disease was detected in a 12-yr-old non-ambulatory beef cow that was killed in December, 2005. Samples were collected as part of surveillance at the rendering plant. All animals at risk were culled and tested.

USA (Alabama): Also in March, the US detected its 3rd case of BSE in cattle. The disease was found in a non-ambulatory 10-yr-old cow euthanized during February at an Alabama farm. The cow was born before the 1997 ruminant feed ban went into effect. After the cow was killed, it was sampled and buried on the farm. No part of the cow was used in the animal or human food chains. Federal and state animal health officials are conducting an epidemiological investigation to gather further information on the herd of origin and feed history.

Croatia: Croatia reported a suspect case of BSE in a 5-yr-old cow during February, 2006. If confirmed, this would be the country's first case of BSE. Results of confirmatory tests have not been reported.

Sources: OIE disease information reports; USDA APHIS News; ProMED

Bovine tuberculosis (Minnesota, USA)

On January 16, 2006, the Minnesota Department of Natural Resources reported a case of bovine tuberculosis (Tb) in a hunter-killed white-tailed deer from Roseau county, northern Minnesota.



The deer was killed during the fall of 2005 and was one of 474 deer tested from a four-county area where five Tb-positive cattle herds had been detected. The current bovine Tb outbreak in Minnesota is that state's first since 1971. USDA has reclassified Minnesota's Tb status as Modified Accredited Advanced, which requires that all breeding cattle 18 months of age or older be tested within 60 days of interstate shipment. Michigan, New Mexico, Texas, and now Minnesota, are the only states not considered Tb free.

Source: SCWDS Briefs (Southeast Cooperative Wildlife Disease Study, January 2006)

Foot and mouth disease (FMD)

Seven countries reported FMD outbreaks to the OIE during January – March, 2006. This compares to four countries officially reporting FMD during the last quarter of 2005.

Argentina: On February 8, 2006, the Argentina government reported an outbreak of FMD virus, serotype O, in San Luis del Palmar, province of Corrientes. The outbreak occurred in a commercial livestock operation with 3,012 head of cattle, 30 sheep and 25 goats. Judging by lesions and clinical signs, the event

probably started on January 26. Control measures included quarantine, movement control, and premises disinfection. All sick animals and contacts were destroyed, totaling 4,098 cattle, 533 goats and sheep, and 5 pigs. Another 415 cattle were culled in a second outbreak. More than 48,000 animals (mostly cattle) in the area were vaccinated. Source of the outbreak was unknown. The last reported outbreak of FMD in Argentina was in 2003.

Egypt: On February 15, 2006, the Agriculture Ministry announced the presence of FMD, serotype A, in Egypt. Egypt had previously only identified serotype O. A total of fifteen outbreaks were reported in the following governorates: Alexandria, Behera, Cairo, Dakahlia, Dumyat, Fayum, Ismailia, Kalubia, and Menofia. The outbreaks occurred in cattle and buffaloes (mainly dairy operations) and affected more than 7,300 animals, resulting in 411 deaths, mostly calves. The affected herds contained more than 12,000 susceptible animals. The rapid spread of FMD in Egypt may be explained by the susceptibility of local ruminants, which have not been previously vaccinated against serotype A. Disease control measures included premises quarantine, disinfection, and halting animal movements. Cattle were immunized using a polyvalent vaccine. FMD was last reported in Egypt in 2000.

Peoples' Republic of China: In 2004 and 2005, China reported sporadic outbreaks of FMD in sheep and cattle in several provinces, including Shandong, Jiangsu, Heibi, and in Xinjiang autonomous region. On January 16, 2006, the Ministry of Agriculture announced outbreaks of FMD in Jiangxi province and in Ningxia autonomous region. More outbreaks were reported in Gansu province on March 8 and in northwest Qinghai province on March 12. Sixty-four cattle and two pigs were affected in the five outbreaks and all animals were destroyed. Emergency response measures included movement controls, disinfection of premises, and vaccination of all susceptible animals in the surrounding villages. The virus was identified as serotype Asia-1.

Palestinian Autonomous Territories: The Palestinian Authority confirmed outbreaks of FMD in Hebron and Jerusalem in early February, 2006, and in Gaza in mid-March (reports submitted to OIE on April 5). The FMD outbreak in Hebron started in a herd of steers that had been imported after quarantine in Elat, southern Israel. The herd was vaccinated at quarantine but was transported before the end of the 14-day post-vaccination period to Hebron near a lamb fattening farm. The outbreak started four days later. In late February, Israel banned livestock transport between Israel, Gaza, and the West Bank following the discovery of FMD. The FMD outbreak in Jerusalem was in an unvaccinated sheep flock. The outbreak in Gaza was in 300 milking sheep imported from Israel five days before the onset of clinical signs. Disease mitigation measures included movement control, disinfection of affected premises, and vaccination.

Other Countries: Brazil, Russia, and Turkey reported continuing outbreaks of FMD (some in new locations) which had begun in 2005. In addition, unconfirmed reports of FMD were received from Uganda, Zimbabwe, Myanmar, North Korea, Ecuador, and Venezuela.

Sources: OIE disease information reports; ProMED; FMD News (UC Davis)

II. Other Significant Disease Events

Chronic wasting disease (USA and Canada)

A scientific journal reported in January, 2006, that infectious prions causing CWD have been found in skeletal muscle of deer. Researchers made this discovery by injecting the brains of transgenic mice with muscle tissue from infected deer. Twelve to eighteen months later, the mice developed encephalopathy. No one knows whether CWD can jump to humans, although other research on transgenic mice suggests there may be a significant species barrier. First discovered in Colorado in the late 1960's, CWD has since been found in deer and/or elk in 14 US states and two Canadian provinces. Like scrapie in sheep (but unlike

BSE in cattle), CWD spreads from animal to animal.

Kansas: The National Veterinary Services Laboratories confirmed in January, 2006, that a white-tailed deer shot in northwest Kansas was infected with CWD. This was the state's first case of CWD in wild deer. The doe was shot during the late November – early December (2005) firearm season, and tissue was collected as part of a program that took samples from about 2,000 Kansas deer. The positive result was not surprising, as CWD has been found in Nebraska, Oklahoma, and Colorado, including one case last fall only 12 miles from the Kansas border.

Minnesota: In March, 2006, Minnesota animal health officials reported that a farmed white-tailed deer from Lac Qui Parle County (southwestern Minnesota) tested positive for CWD. This was the state's first known case of CWD. The Board of Animal Health quarantined the affected herd and officials are investigating the source of the infection and whether other herds may have been exposed. In 2003, Minnesota implemented mandatory registration and CWD surveillance programs for farmed deer and elk herds. When farmed deer or elk die or are slaughtered, herd owners must submit brain samples for CWD testing. The herd from which the CWD-positive animal originated has been registered with the state since 1997.

Alberta and Saskatchewan: In February, 2006, Alberta reported four additional cases of CWD in wild deer. These latest cases were discovered as part of a management action that removed 837 wild deer in southeastern Alberta. The total number of confirmed CWD cases in Alberta is now 8 in wild deer since the first case in September, 2005. This finding follows reports that Saskatchewan has set record highs for CWD, with 36 animals testing positive so far in 2006. Saskatchewan has reported more than 100 cases of the disease in wild deer.

Source: ProMED

Canine influenza (USA)

During February, 2006, a laboratory at the University of California detected three cases of canine influenza using a newly developed rapid DNA test. These cases involved influenza outbreaks with fatalities at animal shelters in Colorado and Florida and a non-fatal outbreak in California.

Canine influenza is an upper respiratory disease of dogs, first reported in January 2004 in racing greyhounds in Florida. The flu virus, which apparently began in horses and made the rare leap to dogs, has spread beyond greyhounds into the domestic dog population in Florida and other states. Antibodies to canine influenza virus have been detected in dogs in animal shelters, adoption groups, pet stores, boarding kennels and veterinary clinics in 19 states. Dogs can catch the virus directly from each other or from shared toys or food dishes. Dogs have no natural immunity to the disease, since the canine influenza virus is just emerging. Most exposed dogs will become infected, and roughly 80 percent of infected dogs will develop clinical signs of the illness. Some researchers have reported mortality rates of 5-8% among infected dogs, although others believe these rates are much too high. Currently there is no vaccine available for canine influenza, although efforts are underway to develop one. As far as is known, canine influenza cannot be passed to humans.

Source: ProMED

Mare reproductive loss syndrome (USA)

One confirmed case and two suspect cases of mare reproductive loss syndrome (MRLS) were diagnosed in Alachua County, Florida during March, 2006. Two of the foals were born alive but were euthanized after failed treatment. The third foal was aborted.

MRLS causes a range of syndromes, including early- and late-term abortions, pericarditis, ophthalmitis, oral ulcers, and laminitis. It was first recognized as an outbreak of fetal deaths, weak foals, and late-term abortions in Kentucky's thoroughbred industry on Derby

weekend in May, 2001. All breeds were affected. In 2001, there were 516 late-term abortions and 2,998 early fetal losses in Kentucky thoroughbreds. More than 30% of the expected 2002 thoroughbred foal crop in Kentucky was lost due to MRLS. The economic cost to the state from losses suffered by all horse breeds was estimated at nearly USD 336 million, according to a study conducted by the University of Louisville's Department of Equine Business. There also were about 60 cases of pericarditis and 50 cases of unilateral uveitis reported in Central Kentucky horses. MRLS occurred in several states surrounding Kentucky and as far north as Canada. The incidence of MRLS declined in 2002.

In the Kentucky outbreak of MRLS, there was a strong association between the disease and the presence of large numbers of eastern tent caterpillars. Pregnant mares experimentally fed caterpillars typically aborted within several days. Researchers found that the caterpillars' setae (tiny hairs) caused lesions in the mare's gastrointestinal tract, apparently allowing gut bacteria to enter the mare's circulation and infect the fetus, causing abortion. A *Streptococcus* bacterium that occurs in the horse's mouth was found to be the main bacterium infecting the fetus. Eastern tent caterpillars inhabit cherry and apple trees, and their numbers fluctuate annually in response to viruses and other factors. Tent caterpillars found on the Alachua County farms in the recent Florida outbreak of MRLS were collected to study their possible role in the outbreak.

Recommendation to prevent MRLS include minimizing exposure of pregnant mares to eastern tent caterpillars, keeping the horses away from wild cherry and apple trees, and frequently mowing pastures grazed by pregnant mares. It would also be helpful to monitor caterpillar populations in areas grazed by pregnant mares.

Source: theHorse.com

Post-weaning multisystemic wasting syndrome (New Zealand and Canada)

Post-weaning multisystemic wasting syndrome (PMWS) was first identified in western Canada in 1991. The disease has since been found worldwide, with the exception of Australia. In March, 2006, a suspected outbreak of PMWS was reportedly killing young pigs near Christchurch, New Zealand. A cluster of pig farms in a 10-km radius was being investigated. Experts suspected the disease was a different strain of PMWS than the strain found in 2003 on New Zealand's north island. That outbreak spread to as many as 18 piggeries around South Auckland. The source of the new outbreak was unknown, but may have been due to movement of pigs and/or pig products.

Recent media reports from Ontario suggest a severe PMWS-like illness in hogs. Province-wide mortality this past winter was estimated at 10-12%, 5-6 times greater than normal. The hardest hit farms experienced mortality rates of 40-50%. Infection of older animals (10-15 wks) seems to have been a relatively recent occurrence and the virus has reportedly been resistant to traditional vaccines. Other recent health problems affecting Ontario's hog

industry include PRRS and a major outbreak of the H3N2 strain of swine influenza. Quebec reported an increase in PMWS cases in 2004 and 2005, often in association with porcine reproductive and respiratory syndrome (PRRS).

Source: ProMED

This summary report was prepared by the Center for Emerging Issues, within the Centers for Epidemiology and Animal Health, Veterinary Services, USDA. This and other reports are available on the internet at:

www.aphis.usda.gov/vs/ceah/cei/index.htm.

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**Appendix. Highly pathogenic avian influenza outbreaks by country,
January – March 2006**

Country	Initial Outbreak	Poultry	Wild Bird	Human
Nigeria	10-Jan	√	√	
Iraq	18-Jan	√		√
India	27-Jan	√		
Azerbaijan	29-Jan	√	√	√
Greece	30-Jan		√	
Bulgaria	31-Jan		√	
Italy	1-Feb		√	
Iran	2-Feb		√	
Hungary	4-Feb		√	
Germany	8-Feb		√	
Slovenia	11-Feb	√	√	
Austria	13-Feb		√	
Niger	13-Feb	√		
Albania	16-Feb	√		
Bosnia-Herzegovina	16-Feb		√	
Egypt	17-Feb	√	√	√
France	17-Feb	√	√	
Slovakia	17-Feb		√	
Cameroon	21-Feb	√		
Georgia	23-Feb		√	
Pakistan	23-Feb	√		
Sweden	24-Feb	√	√	
Switzerland	26-Feb		√	
Serbia and Montenegro	28-Feb	√	√	
Burkina Faso	1-Mar	√		
Poland	1-Mar		√	
Afghanistan	2-Mar	√	√	
Myanmar	8-Mar	√		
Denmark	12-Mar		√	
Israel	16-Mar	√		
Czech Republic	20-Mar		√	
Jordan	23-Mar	√		
United Kingdom	30-Mar		√	

Source: OIE disease information reports