



**Equine Infectious Diseases Report**

**for the 4<sup>th</sup> Quarter 2009 (No. 2)**

**for The Amlin Group**

**by The Animal Health Trust**



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## Introduction

Welcome to the second equine infectious diseases quarterly report produced for the Amlin Group by the Animal Health Trust. As introduced in the first report, this document provides a brief summary of the various equine infectious diseases that are currently believed to be of most importance to the British horse industry, whether they are present in the United Kingdom at the moment or not and looks to provide overall a qualitative assessment of the present risk to British horses. The diseases listed here (and others as necessary) and their associated risks will be reviewed on a quarterly basis with changes in perceived threat levels and new incidents of disease around the world being specifically highlighted as appropriate.

We should highlight in this report the Equine Infectious Anaemia outbreak in the UK, which enhances the importance of considering the risks and facing the prospect of several new and emerging equine infectious diseases, which were considered exotic until now.

## UK Endemic Equine Infectious Diseases

### **1. Equine influenza (EI) – highly contagious viral respiratory disease**

*Activity reported 4<sup>th</sup> quarter 2009*

**France:** EI was confirmed in non-Thoroughbred horses on five riding school premises. Horses on four premises were not vaccinated. Premise one was in Hérault involving nine horses with clinical signs that included fever, coughing and nasal discharge. Premise two was in Aude involving seven horses with clinical signs of coughing and nasal discharge. This outbreak could be linked via traders of horses with the affected premise in the department of Hérault located about 30 kms away. Premise three was in Lot and involved three horses with fever and coughing. Premise four was in Manche and involved five French saddle horses with signs that included fever, coughing and nasal discharge. Premise five was in Haute-Garonne involving seven horses. These animals were fully vaccinated and clinical signs included fever and coughing. Nasal swabs were confirmed using PCR and further results of strain typing are awaited.

**Germany:** Equine influenza was confirmed in two horses by PCR.

**Sweden:** An outbreak was confirmed by the SVA laboratory using PCR. The outbreak was limited affecting 10 Thoroughbreds on two premises. It was presumed there was poor vaccination status in these stables.

**UK:** Seven outbreaks of equine influenza were reported in this quarter.

#### *Outbreak descriptions*

In Monmouthshire, Wales two ponies (28 and 19 years old respectively) and a horse (unknown age), which showed pyrexia, mucopurulent nasal discharge, frequent coughing at rest and anorexia, tested positive for equine influenza by nucleoprotein (NP) ELISA on a nasopharyngeal swab. The virus was isolated and sequenced from only one horse. Serology by haemagglutination inhibition (HI) was



consistent with recent equine influenza viral activity. The outbreak occurred in a livery yard with 47 animals of which 30 unvaccinated horses showed clinical signs whereas 12 previously vaccinated horses were not clinically affected.

In Lanarkshire, Scotland a 10 year old unvaccinated horse was positive for equine influenza by NP ELISA on a nasopharyngeal swab. The horse had been in contact with a horse which came back from a show several days previously and subsequently developed respiratory signs.

In Nottinghamshire, England an unvaccinated mare which had been out hunting with other horses from different premises showed respiratory signs and pyrexia and tested positive for equine influenza by NP ELISA on a nasopharyngeal swab. No further cases were reported from the hunt.

In Dorset, England two ponies showing clinical signs tested positive for equine influenza by NP ELISA on a nasopharyngeal swab. Two weeks before this two other ponies had been shipped over from different locations in Ireland. Five ponies were involved in the outbreak, 3 of them un-vaccinated and all were affected. Virus was isolated and sequenced from one animal and paired serology by HI in 4 of the 5 ponies showed seroconversion.

In a livery yard in Perthshire, Scotland a mare which had been to a show jumping yard the previous week tested positive for equine influenza by NP ELISA on a nasopharyngeal swab. Another 5 year old horse which showed more severe signs was negative for equine influenza at the time of sampling.

After attending a hunt event in Yorkshire, England 12 un-vaccinated horses from 3 different yards showed respiratory signs. Four of them were swabbed and 3 of them tested positive for equine influenza by NP ELISA. Paired serology by HI was performed in 9 of the 12 horses and results showed seroconversion to H3N8 equine influenza virus consistent with infection in 6 horses and titres consistent with infection prior to the time of the first sample in the other 3 animals.

Two horses among a group of 30 in Bridgend, Wales tested positive for equine influenza by NP ELISA on a nasopharyngeal swab. Cases showed classical signs of influenza with 20 unvaccinated horses in the group being affected. None of the animals had apparently left the premises in the previous few months and it was believed that the virus could have been introduced indirectly by human contact.

#### *Equine influenza virus characterisation*

Genetic characterisation of the isolates obtained from the outbreaks in Monmouthshire, Lanarkshire, Nottinghamshire, Dorset and Bridgend showed that they belonged to the Florida sublineage clade 1 of the American lineage of H3N8 equine influenza virus. In contrast the isolates from the outbreaks in Yorkshire and probably Perthshire (for which only partial HA sequence was available) belonged to Florida sublineage clade 2 of the American lineage of H3N8 equine influenza virus. This suggests that clade 1 viruses are becoming more numerous and widespread within the United Kingdom compared to previous years since 2003 when the Florida sublineage first appeared in the UK. The virus responsible for the outbreak in Dorset may have been introduced with ponies imported from the Republic of Ireland.



**USA:** The final three months of 2009 has seen little evidence of equine influenza virus activity, with only sporadic cases of infection confirmed in Kentucky and Texas.

*AHT's subjective risk assessment for UK horses*

EI H3N8 remains a high risk for non-vaccinated animals that move and mix with other horses such as at events and shows with potential for moderate impact among such groups. Vaccines continue to confer good clinical protection although absence of recent OIE recommended updates in some vaccines increases the likelihood of viral shedding and onward spread from vaccinated horses. Divergence of evolution of viruses between the two clades of Florida sublineage requires close monitoring as is the most likely cause of vaccine failure. New non-H3N8 strains from other species are low risk of occurrence but carry potentially high impact as current vaccines would not be protective.

**2. Equine herpes virus-1 (EHV-1) – viral respiratory disease, also causing paralysis and/or abortion**

*Activity reported 4<sup>th</sup> quarter 2009*

**Australia:** Equine herpesvirus 1 (EHV-1) was associated with abortion in eight Thoroughbred mares from a mob of 13 in south-west Victoria in August 2009. The clinically normal mares aborted over a two-week period beginning three to four weeks after the introduction of a mare via commercial transport from another stud without clinical disease. Gross pathology was consistent with EHV-1, and the diagnosis was confirmed by PCR testing of pooled lung, liver, spleen and thymus of an aborted foetus at VDS Attwood laboratory. Following the first abortion, the mob was maintained in strict isolation with designated equipment and staff. These measures, along with disinfection and decontamination procedures, prevented spread of the infection to the remainder of the stud. Voluntary movement controls were in place until 30 days following the last abortion.

EHV-1 is endemic in the horse population of Australia and can cause abortion, stillbirth, neonatal death, respiratory disease and nervous disease in horses. Control strategies are aimed at minimising exposure and limiting spread.

**Argentina:** An EHV-1 outbreak commenced on 10<sup>th</sup> October with the last case reported on 11<sup>th</sup> November. Diagnosis was confirmed by Virology Institute INTA Castelar by agent isolation and PCR. The outbreak was limited affecting several Thoroughbreds and non-Thoroughbreds at three different premises. At the first premises five cases of stillbirth from 48 vaccinated pregnant mares were reported with only one foal being sent for diagnosis. At the second, eight abortions from 50 unvaccinated mares were reported, with only one case being sent for diagnosis. At the third, one abortion from 20 unvaccinated mares was reported and submitted for diagnosis. In all cases submitted to the laboratory, EHV-1 was isolated and the variant EHV-1 was determined by discriminative real time PCR and all were of the non-neuropathogenic type.

**France:** Two cases on two separate premises (two abortions) have been reported. One case was declared in a vaccinated French trotter located in Ain. No other cases were observed. The second case was in a vaccinated Thoroughbred horse in Orne. No other animals were affected on the premises.



**Germany:** One horse was confirmed EHV-1 positive by PCR.

**Japan:** An EHV-1 outbreak causing abortion was reported on 20<sup>th</sup> October 2009, and confirmed by Hokkaido Hidaka Livestock Hygiene Service Centre by serology. The outbreak was limited to one unvaccinated Thoroughbred breeding horse. An EHV-1 paralytic disease outbreak was reported on 2<sup>nd</sup> November 2009, and confirmed by Hokkaido Hidaka Livestock Hygiene Service Centre by serology. The outbreak was limited to one unvaccinated Thoroughbred breeding horse.

**South Africa:** An EHV-1 outbreak causing abortion was reported in June 2009 with the last case reported in October 2009. The confirming laboratory was University of Pretoria, Section of Pathology and Equine Research Centre by immunoperoxidase staining, histopathology and qPCR. The outbreak was limited affecting a mixture of 40 breeding stock, Thoroughbreds and non-Thoroughbreds at four premises. The outbreaks occurred in the Western and Northern Cape Provinces and in KwaZulu-Natal on Thoroughbred and Warmblood studs.

**South Korea:** One case was confirmed by PCR. Clinical signs included serous discharge from both nostrils and occasional coughing. The animal was treated and recovered without complications. No other animals were affected on the premises.

**Turkey:** An outbreak commenced on 2<sup>nd</sup> November 2009 with the last reported case on 20<sup>th</sup> December 2009. The confirming laboratory was Veterinary Faculty of Istanbul and Ankara by PCR and RT-PCR. The outbreak of EHV-1 and EHV-4 was limited to 41 breeding stock and Thoroughbred horses on one premises with severity of clinical signs ranging from mild to severe.

**United Kingdom:** One case of EHV-1 abortion in a Thoroughbred mare was diagnosed by virus isolation in fetal tissues. The mare was current for vaccinations against EHV-1/4.

On 4<sup>th</sup> January 2010 neurological EHV-1 was diagnosed by PCR in spinal cord tissues taken from a seven year-old Thoroughbred mare sent for post-mortem examination with a history of recumbent paralytic disease requiring euthanasia. The mare was in race training in a yard in southern England and all horses on the yard were current for EHV-1/4 vaccination.

Laboratory investigation in all horses in the yard commenced the day after the diagnosis of paralytic EHV-1 was confirmed. Serological screening by complement-fixation (CF) test demonstrated a wide range of titres to EHV-1 and EHV-4 which might indicate recent infection in some horses. EHV-1 has since been confirmed by virus isolation from nasopharyngeal (NP) swabs and/or heparinised blood samples in 12 of the 32 animals in the premises. No further clinical cases have been reported to date, although one horse which tested positive for EHV-1 on both NP swab and heparinised blood has had filled legs and has been off colour. The yard and their veterinary surgeons are working closely with the British Horseracing Authority and the Animal Health Trust in conducting further serological and virological laboratory tests required to provide the all clear prior to current restrictions being lifted.

**USA:** Respiratory disease associated with equine herpesvirus 1 was recorded on one premises in Maryland. A total of five abortions due to non-neuropathogenic strains of equine herpesvirus 1 have been confirmed in Kentucky. Two outbreaks of equine herpesvirus myeloencephalopathy, each



involving a single case of the disease, were reported at racetracks in Florida and Louisiana. The latter occurrence was associated with a non-neuropathogenic strain of equine herpesvirus 1. One of these cases had to be euthanized.

*AHT's subjective risk assessment for UK horses*

Risk probably remains unchanged. The outbreak in the UK is not an exceptional event and control measures are being well applied with productive liaison between all parties including racings regulatory authority. With effective quarantining of the horses in this yard until freedom from infection is demonstrated, British racehorses are considered to be currently at no greater risk than at any other time.

### **3. Equine coital exanthema (EHV-3) – viral venereal disease**

*Activity reported 4<sup>th</sup> quarter 2009*

**United Kingdom:** One horse showed a seroconversion to EHV-3 on the virus neutralization (VN) test. No further information could be obtained regarding this case.

*AHT's subjective risk assessment for UK horses*

Risk probably remains unchanged. Low risk of occurrence where there is an absence of overt disease but can be moderate impact if stallions severely affected. Care required with hygiene and biosecurity, particularly around actively and previously affected animals. HBLB Code of Practice is now available.

### **4. Strangles (*Streptococcus equi*) – bacterial respiratory disease**

*Activity reported 4<sup>th</sup> quarter 2009*

**France:** Thirty-one Strangles cases in non-Thoroughbred horses on nine premises have been reported in the departments of Oise, Ain, Seine-et-Marne, Loire-Atlantique, Calvados and Morbihan. On six premises, the animals displayed signs that included fever, nasal discharge, lymphadenopathy, dysphagia and cough. On the three other premises, the animals displayed moderate signs. None were vaccinated. The diagnoses were made using PCR.

**Germany:** Two horses from Germany were diagnosed of Strangles by agent isolation and PCR.

**South Africa:** Strangles is endemic in South Africa. The disease is limited and clinically mild affecting Thoroughbreds and non-Thoroughbreds. Diagnosis is usually confirmed by agent isolation.

**South Korea:** One case was confirmed by PCR. Clinical signs included anorexia and fever. The animal was treated and recovered without complications. No other animals on the premises were affected.

**Sweden:** Strangles is endemic throughout the country affecting all types of horses, with about 20 premises affected although not all cases verified by a laboratory.



**United Arab Emirates:** On 1<sup>st</sup> October 2009, 14 horses were imported from Italy and released from quarantine to an Arabian stud on 7<sup>th</sup> October. On 20<sup>th</sup> October the first of several horses at the stud was noted with abscessed submandibular lymph nodes that subsequently cultured positive for *Streptococcus equi*. Subsequent enquiries revealed that there had been an outbreak of strangles on the farm from which the horses were imported in Italy in July and September 2009. The Arabian stud was quarantined and a total of 14 horses identified with strangles. Suspected horses had their guttural pouches examined under endoscopy, cultured and sampled for PCR, then infused with penicillin. The entire herd was screened using cELISA. All clinically suspect (fever), positive to PCR or positive culture horses were isolated until three negative results were obtained from two weekly sampling. At the time of writing there were only two horses awaiting final confirmation before the outbreak could be declared resolved.

**UK:** Strangles is endemic and is regularly diagnosed buy culture by a several laboratories and by PCR and serology by the Animal Health Trust.

**USA:** Aside from rumoured reports of outbreaks of Strangles form a number of states, the disease was confirmed at a racetrack in Indiana and at five locations in Kentucky.

*AHT's subjective risk assessment for UK horses*

Risk remains unchanged. Moderate risk of occurrence where there is movement and mixing of horses of unknown disease history or if there is a known history of previous strangles and results in high impact. Extreme care with hygiene and biosecurity particularly around actively and previously affected animals. Laboratory testing required to confirm absence of infectious risk in accordance with the HBLB Codes of Practice Guidelines



## UK Exotic Equine Infectious Diseases

### **5. African Horse Sickness (AHS) – fatal, vector-borne (midges) viral disease**

*Activity reported 4<sup>th</sup> quarter 2009*

**Ethiopia:** No activity has been reported in this quarter. AHS remains endemic throughout Ethiopia according to the OIE.

**South Africa:** No cases have been reported to date in South Africa in the 2009/2010 AHS season.

*AHT's subjective risk assessment for UK horses*

**Risk of occurrence remains low but potentially very high impact for the entire UK equine industry were it to occur.**

### **6. Contagious Equine Metritis (CEM) – bacterial venereal disease**

*Activity reported 4<sup>th</sup> quarter 2009*

**France:** *Taylorella equigenitalis* was confirmed using agent isolation in a Belgian Warmblood horse in Calvados.

**Germany:** Two horses from Germany were diagnosed of CEM by agent isolation.

**United Arab Emirates:** One case in a Thoroughbred was reported on 14<sup>th</sup> October 2009. This was confirmed by VLA Weybridge by agent isolation and PCR. Further to the interim report submitted in November 2009, all in contact horses tested negative for CEM, the affected horse was treated with local and systemic antibodies and then tested negative for CEM by culture on three occasions. The horse was subsequently exported. The source of the infection remains unknown but is thought to have occurred prior to import into the UAE.

**UK:** The outbreak declared on 22nd October 2009 by the Department for Environment, Food, and Rural Affairs (Defra) on a premises near Milton Keynes, Buckinghamshire, England is ongoing. No further cases have been reported and the epidemiological investigations are continuing.

**USA:** The total number of stallions and mares confirmed positive for *Taylorella equigenitalis* in connection with the 2008/09 occurrence of the disease remains at 22 stallions and five mares. No further carrier animals were detected in the fourth quarter of 2009. Studies conducted at the USDA's National Veterinary Services Laboratory have confirmed all the stallion and mare isolates had the same banding pattern on pulse field gel electrophoresis. This differed from that of previous strains of the bacterium isolated in the United States as well as strains provided by several European laboratories.

*AHT's subjective risk assessment for UK horses*

**Risk of occurrence remains moderate with free movement of horses within the EU, moderate impact from Defra restrictions for affected premises when it occurs. Preventive measures covered by HBLB Codes of Practice.**

## 7. Eastern equine encephalitis (EEE)/Western equine encephalitis (WEE) – vector-borne (mosquitoes) viral neurological diseases

*Activity reported 4<sup>th</sup> quarter 2009*

**USA:** The annual total of cases of EEE is 296, an increase of 47 cases over the number reported up to the end of September 2009. The vast majority of cases were in the Southern States, with Florida (73), Georgia (43) Mississippi (43), Louisiana (28), Alabama (23) and North Carolina (23), having the highest totals. The annual number of 296 cases considerably exceeds the national total of 185 cases confirmed in 2008.

**Venezuela:** The OIE reported an on-going VEE outbreak in Venezuela, which was first reported in November 2009. The outbreak has involved 21 susceptible horses, 2 cases and 2 deaths. The horses in the premises were vaccinated in February 2009 with a trivalent vaccine against Eastern equine encephalomyelitis, Western equine encephalomyelitis and Venezuelan equine encephalomyelitis. Vaccination with a bivalent, otherwise trivalent vaccine in response to the outbreak is being applied. Besides, quarantine measures have been applied in a 50-km-radius zone around the outbreak and an information campaign is being carried out in order to detect new cases and to report them to the authorities.

### Location of the VEE outbreak in Venezuela



#### *AHT's subjective risk assessment for UK horses*

Risk of occurrence remains low but potentially high impact to horses in affected areas were it to become established in insect vectors. Vaccines are available elsewhere but would require special licensing for use in the UK.



## 8. Equine encephalosis – vector-borne (midges) viral disease

*Activity reported 4<sup>th</sup> quarter 2009*

No activity has been reported in this quarter.

*AHT's subjective risk assessment for UK horses*

*Risk of occurrence remains low but potentially low-moderate impact to horses in affected areas were it to become established in insect vectors.*

## 9. Equine Infectious Anaemia (EIA) – vector-borne (biting flies)/iatrogenic viral disease

*Activity reported 4<sup>th</sup> quarter 2009*

**France:** The outbreak starting in March 2009 and affecting the south-east of France was declared resolved in December 2009.

**Germany:** EIA was diagnosed in six horses on two premises in the administrative district of Kulmbach (Federal State of Bavaria) by Coggins Tests. The premises have been quarantined. One affected horse showed distinct clinical signs of dullness, pyrexia and severe ventral and distal oedema. As stipulated by law this horse was euthanized on 29<sup>th</sup> December 2009. Investigations on the other 61 horses residing on this premises, as well as three in-contact animals were initiated by the competent Veterinary Authority. The investigations on the in-contact premises remained negative for EIA. However, five more horses, in which EIA was officially confirmed, had to be euthanized. Epidemiological investigations on how the disease was introduced are still ongoing. All affected animals were recreational horses. No Thoroughbreds on Thoroughbred premises were affected.

A further case of EIA was diagnosed by Coggins Test in the administrative district of Zollernalbkreis (Federal State of Baden-Württemberg) in a pony used for recreational purposes. The horse of unknown origin came to the affected premises at the end of August. It was euthanized on 19<sup>th</sup> November 2009 after suffering from pyrexia of unknown origin for a period of more than two months and after the diagnosis of EIA was officially confirmed by the German reference laboratory, the Friedrich-Loeffler Institute in Greifswald (Insel Riems). The affected premises were quarantined and a protection zone established. Investigations of in-contact animals were initiated and surveillance measures implemented. So far all test results involving more than 350 horses on 25 premises remain negative for EIA and the results of the final screening tests are awaited.

After clinical signs caused suspicion, on 16<sup>th</sup> October 2009 EIA was diagnosed by Coggins Test on one premises in the administrative district of Wunsiedel/Fichtelgebirge (Federal State of Bavaria). The outbreak was limited to recreational horses and no Thoroughbreds were affected. The premise was quarantined and the two affected two horses were euthanized. Diagnosis of EIA could not be reached in another horse on this premises because the animal had already died. The origin of the infection remains unknown. As there are no more equidae left on the premises and that all investigations into the onward spread of the infection resulted in negative EIA test results, the competent authorities consider the disease eradicated in the affected administrative district.



**USA:** A single case of equine infectious anemia was reported from a premises in New Jersey. The infected animal, a pony, had recently been obtained by an equine rescue group from a sale in Pennsylvania.

**STOP PRESS:**

**UK:** On 19<sup>th</sup> January 2010 EIA was confirmed by positive Coggins (agar gel immuno diffusion assay) in two horses in Wiltshire, England, following importation from Romania via Belgium. The positive mares were part of a consignment of ten horses imported into Great Britain from Belgium on 22<sup>nd</sup> December 2009. Nine out of the ten horses had been previously imported into Belgium from Romania. The consignment was randomly checked as part of routine measures to confirm compliance with trade rules. Restrictions have been placed on the infected premises and one in-contact premises. Following humane slaughter and destruction of the two positive mares, all horses on the infected premises will be blood sampled and tested (Coggins test) and subsequent tests will be carried out at 30 day intervals up to 90 days. According to expert entomological opinion, mechanical transmissions by vectors (tabanids) seem not applicable as vectors are only present in Great Britain as larvae at this time of the year. The event is continuing, no further cases have been reported and a detailed epidemiological investigation is currently being carried out.

**Belgium:** Following the investigation launched on 20<sup>th</sup> January 2010 after the UK reported having confirmed the disease in two horses of a consignment from Romania via Belgium, EIA has been confirmed in one horse in Belgium on 2<sup>nd</sup> February 2010. On 21 October 2009, 18 horses arrived from Romania at a dealer's establishment at Drongen. On 22<sup>nd</sup> December 2009, nine of these horses were sent to the UK, where the disease was diagnosed. The investigation revealed that the other nine horses were sold mid-November to the same person at Assebroek. This person sold then one horse to his brother at Meetkerke; no movement of horses is permitted to or from these facilities. All horses having been in contact with the horses from Romania are being traced, movement controls will be applied in the farms and the animals will be tested for the disease. The positive animal is due to be euthanized and destroyed.

*AHT's subjective risk assessment for UK horses*

As reported previously risk of occurrence was considered to be moderate due to disease present elsewhere in Europe and presumed endemic status in neighbouring and accession states. There remains potentially high impact to UK horses and equine industry. In this case it is our preliminary view based on available information that given the time of year (when biting fly vectors are not generally active) and the known route of introduction, it would be unfortunate if this escalated into anything more significant than the current restrictions on a limited number of premises. This assessment may change as more information comes to light during Defra's ongoing investigations.

**10. Equine viral arteritis (EVA) – viral respiratory/venereal disease**

*Activity reported 4<sup>th</sup> quarter 2009*

**Germany:** Nine horses were diagnosed of EVA by agent isolation: five from Germany, three from Netherlands and one from Austria, confirmed by agent isolation.

*AHT's subjective risk assessment for UK horses*

Risk of occurrence remains moderate with free movement of horses within the EU, moderate impact from Defra restrictions for affected premises when it occurs. Preventive measures covered by HBLB Codes of Practice.

## 11. Hendra virus – fatal, viral respiratory/neurological disease

*Activity reported 4<sup>th</sup> quarter 2009*

**Australia:** Following the two un-connected Hendra virus (HeV) outbreaks in Queensland, Australia which started in August 2009 and September 2009 respectively, all quarantines have been lifted after the final VNTs were negative.

*AHT's subjective risk assessment for UK horses*

Risk of occurrence remains low but potentially very high impact for UK horses and particularly attending veterinary surgeons were it to occur. Absence of mammalian (fruit bat) host spp. makes endemic establishment very unlikely.

## 12. Piroplasmosis – vector-borne (ticks) parasitic disease

*Activity reported 4<sup>th</sup> quarter 2009*

**France:** Piroplasmosis remains endemic in France.

**Germany:** *Th. equi* was diagnosed by serology in a total of 42 horses: ten from Portugal, nine from France, nine from Belgium, six from Germany, five from Spain, two from Netherlands and one from Belgium. *B. caballi* was confirmed by serology in a total of six horses: three from Portugal, two from France and one from Belgium.

**Ireland:** The equine piroplasmosis outbreak confirmed in September by the Department of Agriculture Fisheries and Food in an equine facility in county Meath was declared resolved on 9<sup>th</sup> December 2009. The outbreak involved 69 susceptible equides (59 thoroughbred race horses and one pony), and 29 cases.

**South Africa:** An outbreak commenced in September with the last case reported in December. Confirmation was by serology and microscopic examination of blood smears. The outbreak was limited and clinically mild affecting multiple performance horses, Thoroughbreds and non-Thoroughbreds. *Theileria equi* and *Babesia caballi* are endemic in South Africa and clinical cases are reported during spring, summer and autumn (September to May).

**Spain:** Piroplasmosis remains endemic throughout Spain.

**Switzerland:** According to the results presented by Liv Ursula Sigg in her Doctoral thesis (Vetsuisse Faculty University Berne 2009), when a representative sample of 689 sera from horses kept in Switzerland was serologically investigated for antibodies against *T. equi* and *B. caballi* using the



Indirect Fluorescence Antibody Test (IFAT), a total of 50 (7.3%) horses were seropositive for equine piroplasmiasis: 30 horses (4.4%) for *T. equi*, 10 (1.5%) for *B. caballi* and 10 (1.5%) had antibodies against both parasite species. In domestic horses (animals bred and raised in Switzerland), seropositivity rate was 4.8% (11/230), whereas in imported horses, the EP-infection rate was 8.5% (39/459).

More than half of the imported horses that tested positive for EP originated from France. Horses imported from France, Spain and Portugal had a significantly higher and horses imported from Germany a significantly lower seroprevalence of EP compared to domestic horses.

The overall seroprevalence of 7.3% shows that equine piroplasmiasis is a threat to the health of the horses kept in Switzerland. With the presumed expansion of permissive tick vectors, EP has the potential to further increase in importance. Therefore, continuous monitoring is indicated.

**UAE:** Piroplasmiasis is endemic amongst non-Thoroughbreds in the UAE. Diagnosis is confirmed by the Central Veterinary Research Laboratory Dubai using serology and agent isolation.

**USA:** In early October, the USDA reported finding EP in 357 horses (all seropositive for *Theileria equi*), located in 12 states of which 289 were on the index ranch in Texas. The 62 positive horses detected in 11 other states were all epidemiologically linked to the index premises. Only one clinical case of EP was reported on the index premises. Follow-up testing of cohorts of the *T. equi* positive animals in these states failed to find any evidence of transmission of infection. All known positive horses are being held under official quarantine. *Amblyomma cajennense* ticks collected on the index premises have been shown capable of experimental transmission of *T. equi*.

**STOP PRESS:** As of 20th January 2010, over 1600 horses have been tested and equine piroplasmiasis has been found in 364 horses directly linked to the index ranch in Texas outbreak. The positive horses are currently located in 12 states, with 289 of them still on the index ranch in Texas. The remaining horses are on premises in Texas, Alabama, California, Florida, Indiana, Louisiana, Minnesota, North Carolina, New Jersey, Tennessee, Utah and Wisconsin. Georgia is now free of equine piroplasmiasis positive horses.

In late December, three additional cases of *T. equi* infection were detected in conjunction with a racetrack screening program in New Mexico, none of which displayed any clinical evidence of EP. There was no epidemiological connection between this group of positive horses and the ongoing investigation of widespread *T. equi* infection on the index premises in Southern Texas.

**STOP PRESS:** As of 25th January 2010 more than 3000 horses in the USA have so far been tested for equine piroplasmiasis in New Mexico with 13 testing positive and 5 horses being euthanized. A comprehensive investigation into all cases is continuing.

*AHT's subjective risk assessment for UK horses*

Risk of occurrence remains moderate with free movement of horses within the EU, moderate impact on trade of affected animals.

### 13. Venezuelan equine encephalitis (VEE) – vector-borne (mosquitoes) viral neurological disease

Activity reported 4<sup>th</sup> quarter 2009

**Central America:** The eight VEE outbreaks reported in three districts in Belize and the outbreak reported in Costa Rica are continuing. No information is available on the virus subtype involved or whether the horses involved had been vaccinated against VEE.

*AHT's subjective risk assessment for UK horses*

Risk of occurrence remains low but potentially high impact to horses and humans in affected areas were it to become established in insect vectors. Equine vaccines are available elsewhere but would require special licensing for use in the UK.

### 14. Vesicular stomatitis (VS) – vector-borne (sandflies) viral disease

Activity reported 4<sup>th</sup> quarter 2009

No activity has been reported in this quarter.

*AHT's subjective risk assessment for UK horses*

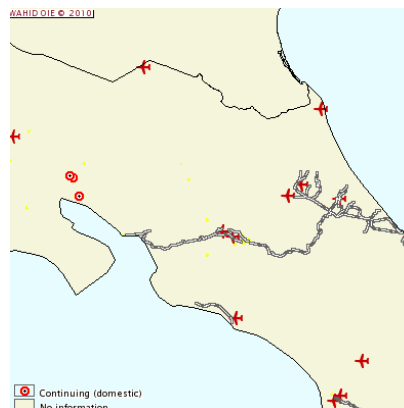
Risk of occurrence remains low but potentially high impact to horses in affected areas were it to become established in insect vectors.

### 15. West Nile virus (WNV) – vector-borne (mosquitoes) viral neurological disease

Activity reported 4<sup>th</sup> quarter 2009

**Costa Rica:** On 2<sup>nd</sup> November 2009 the OIE reported the first occurrence of WNV in Costa Rica. WNV was diagnosed by immunocapture ELISA in the National Veterinary Services Laboratory (OIE's Reference Laboratory); at the moment three outbreaks have been reported in a single district of the country, involving in total 90 susceptible horses, 4 cases and 3 deaths. Measures applied include quarantine, as well as movement control inside the country and control of arthropods. As of early December the OIE declared the event was continuing.

Location of 3 WNV outbreaks in Guanacaste, Costa Rica





**Italy:** Following the outbreak of WNV which commenced in August, the last case was reported on 14<sup>th</sup> October 2009. At that time, the number of outbreaks was 111, with 151 cases. Only 38 horses showed clinical signs and eight horses died. The mortality rate in 2009 was similar to the rate in 2008 (15.6% for 2008 and 21.05% for 2009). Vaccination has probably not yet been widely used.

**USA:** A total of 77 cases of WNV in horses were recorded in the fourth quarter, bringing the annual number of cases for 2009 to 241. States with the largest number of cases were Washington (72), Colorado (21) and California (18) and Texas (18). The total number of equine cases is significantly less than the corresponding figure of 663 cases of neuroinvasive disease reported in humans.

*AHT's subjective risk assessment for UK horses*

Risk of occurrence remains low-moderate but potentially high impact to horses and humans in affected areas were it to become established in insect vectors. Equine vaccines are available and licensed for use in the UK already.