



INTERNATIONAL BREEDERS' MEETING
INTERNATIONAL COLLATING CENTRE

Animal Health Trust

Information Exchange on Infectious Equine Disease

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REPORT FOR THE SECOND QUARTER 2009

ARGENTINA

Confirmed nothing to report.

AUSTRALIA

Regret no report received.

CANADA

Confirmed nothing to report

CHILE

Confirmed nothing to report.

DENMARK

Confirmed nothing to report.

FRANCE

(Information supplied via the RESPE, the French network for epidemiosurveillance of equine diseases)

Strangles (*Streptococcus equi*)

Seven strangles cases in non-racing horses on six premises have been reported (in the Departments of Loire Atlantique, Moselle, Calvados, Deux Sèvres, Seine et Marne, Essonne). The animals displayed signs that included fever, cough, anorexia, nasal discharge and lymph node enlargement, dysphagia in one case and abscessation in two cases. Laboratory diagnosis for these suspected horses was made using PCR.

Contagious Equine Metritis (*Taylorella equigenitalis*)

One case was confirmed at a medical laboratory using agent isolation. This case occurred in a non-racing horse in Mayenne.

Piroplasmosis (*Babesia caballi* and *Theileria equi*)

Remains endemic in France.

Equine Herpes Virus-1 Abortion

One EHV-1 abortion has been reported on a non-racing studfarm located in Ain. No other cases were observed on the farm.

Equine Influenza (EI)

An outbreak of EI was confirmed on eight premises in Standardbred (3), Thoroughbred (1) and non-Thoroughbred (4) horses. All the premises are epidemiologically linked to the first premise in Val de Marne (first quarter report). Clinical signs included fever, cough, nasal discharge, and conjunctivitis in one case. The outbreak occurred in Calvados, Oise, Ille et Vilaine, Tarn and Mayenne. The majority of these animals were vaccinated annually. One was unvaccinated. The nasal swabs were confirmed at a laboratory using rapid EIA and/or PCR. Results of strain typing indicate that the strain was genetically closely related to Ohio 2003 strain. This epizootic phenomenon seems to be under control using sanitary and medical prophylactic measures.

Equine Infectious Anemia (EIA)

Sixteen infected horses were identified on three premises using Coggins tests performed in epidemiological linked animals (from the previous ICC report). Infected animals were all non-Thoroughbred horses and were located in the south-east of France. Nationwide tracing, epidemiological and serological inquiries by the French Ministry are finishing without any new cases identified at this time.

No cases of EVA and WND have been reported.

GERMANY

Confirmed nothing to report.

HONG KONG

Confirmed nothing to report.

IRELAND (Republic of)

Regret no report received.

ITALY

West Nile Virus (WNV)

No new WNV have been reported since last quarter report. However, a vaccine is now available and practitioners have recently started to administer this.

JAPAN

Equine Herpes Virus-1 abortion

An outbreak commenced on 23rd April 2009 with the last case reported on 25th April 2009. The diagnosis was confirmed by Hokkaido Hidaka Livestock Hygiene Service Centre using serology. The outbreak was limited affecting two horses (breeding stock and Thoroughbred) on two premises. One horse had been vaccinated.

Tetanus

Two cases were reported on 2nd May and 20th in a Thoroughbred performance horse and a non-Thoroughbred performance horse. The laboratories used to confirm diagnosis were Bekkai Area Agricultural Mutual Aid Association and Iburi Area Agricultural Mutual Aid Association respectively. Clinical signs were used to confirm both diagnosis.

NEW ZEALAND

Confirmed nothing to report.

SINGAPORE

Confirmed nothing to report.

SOUTH AFRICA

Equine Herpes Virus-1

A limited outbreak was reported in May and is still ongoing. The laboratory confirming diagnosis was the University of Pretoria, Section of Pathology and Equine Research Centre with diagnosis by immunoperoxidase staining, histopathology and qPCR. Fourteen Thoroughbreds and breeding stock on one Thoroughbred stud were affected. There was no vaccination history.

Piroplasmosis (*Babesia caballi* and *Theileria equi*)

An outbreak was reported in September 2008 with the most recent case reported in June 2009. This was confirmed by a private practitioner using serology and microscopic examination of blood smear. The outbreak was limited and clinically mild affecting multiple Thoroughbreds, non-Thoroughbreds and breeding stock. No vaccination history was available. *Theileria equi* and *Babesia caballi* infections are endemic in South Africa and clinical cases are reported during spring, summer and autumn periods (September to May).

Strangles (*Streptococcus equi*)

There is an ongoing outbreak of Strangles diagnosed by agent isolation. This is limited and clinically mild affecting at least 30 Thoroughbreds and non-Thoroughbreds on three premises. There is no vaccination history.

African Horse Sickness (AHS)

An outbreak was reported in the third quarter of 2008 with the last case reported in June 2009. The confirming laboratory is Onderstepoort Veterinary Institute and Equine Research Centre, Faculty of Veterinary Science by serology, agent isolation, clinical signs and RT qPCR. The outbreak is clinically

mild affecting numerous Thoroughbreds and non-Thoroughbreds at various premises (mainly young unvaccinated animals with some vaccinated animals also affected). North-eastern parts of South Africa is endemic for AHS and cases are recorded annually. (See attached map from Department of Agriculture, South Africa.)

SOUTH KOREA

Regret no report received.

SPAIN

Regret no report received.

SWEDEN

Strangles (*Streptococcus equi*)

Strangles is endemic throughout the country affecting all types of horses – currently reported to be affecting 28 different premises, which have not all been laboratory confirmed.

Equine Influenza (EI)

An outbreak has been confirmed on two premises and the method of diagnosis was agent isolation.

SWITZERLAND

Anaplasmosis (*Anaplasma phagocytophila*)

An outbreak was reported in May 2009. The method of diagnosis was by agent isolation and clinical diagnosis. The outbreak was limited to one six year old non-Thoroughbred performance horse. The fever reached 41°C and lasted for three days and showed no improvement after treatment with penicillin, however, treatment with oxytetracyclin was successful. There was no vaccination history

Borreliosis (*Borrelia burgdorferi*)

An outbreak was reported in May 2009. The method of diagnosis was serology and clinical diagnosis. The outbreak was limited, affecting one non-Thoroughbred horse. There was no vaccination history.

Piroplasmosis (*Babesia caballi* and *Theileria equi*)

An outbreak was reported in May and June of 2009. The method of diagnosis was serology and clinical diagnosis. The outbreak was limited to five non-Thoroughbreds on five premises broken down as follows: three cases of *Babesia caballi* and two cases *Theileria equi*, all in the western part of the country. There was no vaccination history.

The attached scientific summaries have been provided and may be of interest:

Bluetongue and African Horse Sickness

The Bluetongue Virus did already infect ruminants in Switzerland and therefore one is aware of the possibility of the occurrence of the African Horse Sickness Virus. The transmission of both arboviruses is by certain species of *Culicoides* biting midges, therefore investigations in regard to the occurrence of midges is of interest of equine veterinarians, though they had been made in relation to bluetongue disease.

Monitoring of biting midges (*Culicoides* spp.), the potential vectors of the bluetongue virus, in the 12 climatic regions of Switzerland (Kaufmann et al.)

Midges of the genus *Culicoides* are the only known biological vectors of the blue-tongue disease virus. Their occurrence at altitudes below 900 metres above sea level (a.s.l.) is monitored in Switzerland by the

Swiss Federal Veterinary Office, to determine vector-free periods around winter. In this study, data about the number of midges caught at stations representing the 12 climatic regions of Switzerland are shown. The tiny midges of 1-3 mm in size were caught once per week with UV light traps and grouped under the stereomicroscope into *Obsoletus* complex, *Pulicaris* complex and other *Culicoides* spp. Midges were caught at all stations, albeit in very different numbers. The highest monthly average was 10,000 midges per night (North-Switzerland); the third highest average of all 12 stations was recorded for the highest-located station (Grisons, 2130 m a.s.l.). At stations below 1500 m a.s.l., midges of the *Obsoletus* complex (98% in North Switzerland), which in Central Europe are most likely considered to be responsible for the transmission of BTV, were predominant. With increasing altitude, midges of the *Pulicaris* complex prevailed (91% in the Grisons). Hence, there are no regions of the populated areas in Switzerland which are free of midges, but the vector competence regarding BTV of the various midges needs to be urgently clarified.

References:

Kaufmann C., Schaffner F. und Mathis A. (2009): Monitoring von Gnitzen (*Culicoides* spp.), den potentiellen Vektoren des Blauzungenkrankheitsvirus, in den 12 Klimaregionen der Schweiz; Schweiz Arch.Tierheilk. 151 (5), 205-213
DOI 10.1024/0036-7281.151.5.205

Occurrence of biting midges (*Culicoides* spp.) at three different altitudes in an alpine region of Switzerland (Tschuor et al.)

The aim of this field study was to investigate the occurrence of biting midges (*Culicoides* spp.), the potential vectors of the bluetongue virus (BTV), in an alpine region of Switzerland (Grisons) at altitudes between 1300 and 2000 meters above sea level. For this purpose, insects were caught with UV-light traps once weekly from the end of June to the end of October 2008. Midges were found on all altitudes investigated, but distinct differences in the abundance at different stations were noticed. Most midges were caught at the intermediate station (about 1500 m a.s.l.), whereas the catches on the two alps (approx. 2000 m a.s.l.) varied considerably. The predominance of midges belonging to the *Pulicaris* complex, whose vector competence regarding BTV is largely unknown, rose with increasing altitude. To identify potential breeding habitats, 17 soil samples of three farms were incubated in the laboratory. Different insects emerged but none of them was a *Culicoides* spp. And, therefore, the habitats of juvenile stages remain unknown. From our results we can conclude that most likely there are no midges-free zones in all of the agriculturally utilized areas (including the alpine summer pastures) of Switzerland. This strongly indicates that cattle, sheep, goats and camelids which are permanently or temporarily kept in regions of higher altitude in Switzerland should be vaccinated against bluetongue.

Tschuor A.C., Kaufmann C., Schaffner F. und Mathis A. (2009): Vorkommen von Gnitzen (*Culicoides* spp.) in drei Höhenlagen einer alpinen Region der Schweiz; Schweiz.Arch.Tierheilk. 151 (5), 215-221
DOI 10.1024/0036-7281.151.5.215
Bern, 07.07.09 / HPM

Identification of a toxic molecular trigger in equine fatal myodystrophy (Unger et al.)

Equine fatal muscle dystrophy, likewise known as equine atypical myopathy (EAM), is a pasture-associated disease of unknown etiology. It is characterized by a degeneration and acute paralysis of muscle fibres, which leads to sudden death due to collapse of the vasculorespiratory system. Since the disease cannot be treated either prophylactically or symptomatically, the lethality rate exceeds 90%. The economic impact of such animal losses can be devastating. Here, we show that the lethal toxin (LT) of *Clostridium sordellii* is present in the skeletal muscles of horses with EAM. Myofibers of affected horses reacted not only with an anti-body specific for LT, which failed to bind to the myofibers of either healthy

horses or those with other myopathies, but also with sera derived from horses with EAM. Hitherto, this *C.sordellii*-derived LT has been shown to cause the gas gangrene syndrome in cattle and sheep and the toxic shock syndrome in humans. Its presence in the myofibers of horses suffering from EAM suggests that it plays a role as trigger or even as lethal factor in the etiology of this disease. Our data may be of pertinence in the development of a protective vaccine.

Reference:

Unger L., Baum O., Lehman A., Grabner F., Frey J., Hoppeler H., Stahl C., Gerber V., Straub R. (2009): Schweiz. Arch. Tierheilk., Netzwerk Pferdeforschung Schweiz, 151 (4), 184

TURKEY

Regret no report received.

UNITED ARAB EMIRATES

Piroplasmosis (*Babesia caballi* and *Theileria equi*)

This is endemic in the UAE and cases are reported periodically. The confirming laboratory is the Central Ventral Research Laboratory Dubai and the method of diagnosis are serology and agent isolation. Outbreaks are limited and affect non-Thoroughbreds.

UNITED KINGDOM

Equine Herpes Virus-1 abortion

Fourteen cases of EHV-1 abortion have been diagnosed by histology, immunohistochemistry, PCR and/or virus isolation. This includes a foal which was born normally but developed respiratory complications and died at four days of age (diagnosis with immunohistochemistry on the fetal lung), an outbreak on a polo yard with a total of three abortions (only one with laboratory diagnosis of EHV-1; pregnant mares in contact with yearlings) and a farm with three stillborn foals (only one with laboratory diagnosis of EHV-1).

Equine Herpes Virus-1 paralytic disease

A mare presented off colour for a few weeks (was positive on strangles ELISA) and then developed mucopurulent nasal discharge and neurological signs (including incoordination). Histology of the brain showed changes consistent with viral encephalitis and PCR was EHV-1-positive on the brain tissue. No virus could be isolated from a nasalpharyngeal swab, brain tissue or CSF. All the six in-contacts were clinically fine but two of them showed a seroconversion to EHV-1 in the complement fixation-test. Virus isolation was negative on heparinised blood of the in-contacts with the exception of one sample where EHV-2 was isolated.

A five year old Welsh A gelding showed typical signs of paralytic EHV-1 infection including bilateral hind limb paresis, ataxia and urinary retention. Virus isolation on heparinised blood was negative but the horse showed a seroconversion to EHV-1 on the CF-test. No other horses from the same premises were affected.

A nine year old thoroughbred gelding presented neurological signs including ataxia and urinary incontinence. EHV-1 was isolated from a heparinised blood sample. Serology also suggested recent contact with EHV. The horse recovered well with symptomatic treatment. Some of the 30 in-contacts at a riding school developed respiratory, but no neurological signs. The yard has been isolated. Further results are awaited.

Equine Herpes Virus-4 respiratory infection

One case of EHV-4 respiratory infection was reported this quarter.

Equine Herpes Virus-2

In a 20 year old TB mare EHV-2 was isolated from a nasalpharyngeal swab but not from heparin blood sample.

In a two year old filly from a racing yard EHV-2 was isolated from heparinised blood but not from an nasalpharyngeal swab. Paired serology for Influenza, EHV-1/-4, ERV A/B and Adenovirus did not show viral activity.

In a nine year old pony gelding and another animal EHV-2 was isolated from heparinised blood

Equine Influenza (EI)

In Northumberland a 14 year old pony stallion which showed respiratory signs, tested positive for equine influenza by nucleoprotein ELISA on a nasopharyngeal swab. Subsequently influenza virus was isolated and sequenced. This pony had not been vaccinated against influenza for five years. The same pony also tested positive for *S.equi* by culture on a nasalpharyngeal swab. It was the only influenza case on the yard. It was not possible to do further virus analysis on this case.

In a trekking yard in Scotland equine influenza was diagnosed in four horses. The outbreak appears to have started after a new horse was bought in from central Holland and started coughing two days after arrival. There were a total of eight affected horses and five in-contacts. The affected horses showed serous profuse nasal discharge, coughing at rest or occasional, glandular swelling, anorexia and pyrexia up to 105° F. The isolate belonged to clade 2 of the Florida sublineage of the American lineage of H3N8 equine influenza virus.

Equine Herpes Virus-3:

No cases have been observed in this quarter.

UNITED STATES OF AMERICA

Contagious Equine Metritis (*Taylorella equigenitalis*)

The most recent update from the USDA dated May 26 provided the following information.

Twenty stallions and one gelding have been confirmed as positive for CEM since the outbreak was first reported in December 2008. Cases were distributed as follows: - Georgia (1), Illinois (3), Indiana (3), Kentucky (4), Texas (1), Wisconsin (8), and one gelding in Iowa. Five mares have been identified as positive in California (2), Illinois (2) and Wisconsin (1). All positive stallions have or are in the process of being treated and test bred to two mares and retested for CEM. Positive mares are also being treated and retested. Nine of the positive stallions (four in Kentucky, three in Indiana, one in Texas and one in Wisconsin) have completed treatment and retesting and are now CEM free. All the stallions, primarily non-Thoroughbreds had stood at premises specializing in semen collection for artificial insemination (AI) and had relocated on numerous occasions in recent years. Lateral (on farm) transmission between stallions as a result of communal use of AI equipment played a significant role in the transmission with little evidence of venereal spread from stallions to mares. A positive Thoroughbred stallion in Wisconsin had semen collected only for AI. Antibiotic sensitivity has indicated the identical streptomycin resistant profile of CEM isolates examined. There is no evidence at present to suggest the outbreak has affected the

Thoroughbred breeding population in the USA. The last outbreak of CEM in the USA occurred in 2006 among three Lipizzaner stallions imported to Wisconsin from Eastern Europe.

Easter Equine Encephalitis (EEE)

Cases have been reported from Florida, Georgia and Louisiana.

Piroplasmosis (*Babesia caballi* and *Theileria equi*)

The Missouri Department of Agriculture announced seven horses had tested positive for equine piroplasmosis on a single premise in early June. The index case was a seven year old Quarter horse which exhibited clinical signs.

Vesicular Stomatitis (VS)

During June cases of VS were reported in New Mexico and Texas

REGARDS
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(Total pages = 8)