



DEFRA / AHT / BEVA EQUINE QUARTERLY DISEASE SURVEILLANCE REPORT Volume 2, No. 4: October - December 2006



Highlights in this issue:

- Update on EIA outbreak in Ireland and current industry recommendations and legislation
- HBLB CEM laboratory accreditation scheme
- Equine grass sickness surveillance

Important note:

The data presented in this report must be interpreted with caution, as there is likely to be some bias in the way that samples are submitted for laboratory testing. For example they are influenced by factors such as owner attitude or financial constraints or are being conducted for routine screening as well as clinical investigation purposes. Consequently these data do not necessarily reflect true disease frequency within the equine population of Great Britain.



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Introduction

Welcome to the fourth quarterly equine disease surveillance report for 2006 produced by DEFRA, BEVA and the Animal Health Trust. Regular readers will be aware that this report collates equine disease data arising from multiple diagnostic laboratories and veterinary practices throughout the United Kingdom giving a unique insight into equine disease occurrence on a national scale.

The fourth quarter of 2006 saw the Animal Welfare Bill receive Royal assent, on the 8th of November. Ben Bradshaw, the Minister for Animal Health and Welfare, hailed the Bill as the most important piece of animal welfare legislation for nearly a century. The Bill introduces a duty of care to ensure the needs of any animal for which a person is responsible are met. The Bill creates a new offence for failing to provide these needs and allows preventive action to be taken at an earlier stage before suffering is caused. The Bill also places more emphasis on owners and keepers to understand their responsibilities and to take steps to provide for their animals. We aim to contribute to the improvement of equine welfare by providing useful and up to date information on equine disease in our quarterly surveillance reports.

On the 13th December 2006 Professor Josh Slater was inaugurated as President of the British Equine Veterinary Association (BEVA) at The Royal College of Physicians in London, during BEVA's AGM. In his inaugural speech Professor Slater said "It is a great honour and privilege to become the 45th BEVA president". He also vowed to do everything in his power to ensure that the association continues to develop in its goals to be the world's premiere equine veterinary association. BEVA's mission revolves around the three cornerstones of world class education, leadership for the equine veterinary profession and collegiality and community, all of which are aimed at improving equine welfare.

At the BEVA annual congress in September 2006, Professor Peter Clegg and colleagues of Liverpool University swabbed the noses of 276 delegates to examine them for presence of methicillin resistant *Staphylococcus aureus* (MRSA). The study aimed to identify the prevalence of MRSA carriage in the delegates attending the congress with samples cultured on selective media and then subjected to PCR identification of a gene that defines MRSA. Overall 8% of swabs were found to be positive for MRSA. Work is continuing to type the MRSA to see if delegates were carrying human epidemiological strains that are seen in both human and small animal hospitals or more specific horse adapted strains. Further information on the study is available by personal communication with Nicola Williams (njwillms@liverpool.ac.uk), however work is still continuing on the project, and the results will be published as soon as they are available.

With the recent outbreak of H5N1 avian influenza in Suffolk, people are again concerned over the welfare of their horses and if they are at risk from this infection. Despite the occurrence of the H5N1 influenza virus strain in several countries there are no reports of horses ever having been infected with this virus. In fact in a recent study reported in The New Scientist (Ref: doi: 10.1186/1465-9921-7-43, Author Jiahai Lu *et al.*), antibodies derived from horses against H5N1 prevented mice from dying of the disease.



The fourth quarter of 2006 also saw the continuation of the outbreak of equine infectious anaemia (EIA or 'swamp fever') in Ireland. However, with strict control measures in place and extensive surveillance being undertaken, it is hoped that the outbreak is drawing to a close. In this report **Annie Cooke**, MRCVS, a surveillance veterinary surgeon in the Epidemiology Unit at the AHT, provides an update on the situation in Ireland and summarises industry initiatives against EIA and recent developments in English legislation relevant to the disease.

In October 2006 the Horserace Betting Levy Board (HBLB) launched the 2007 Codes of Practice on infectious equine diseases. The 2007 Codes have a greater emphasis on artificial insemination than in previous years, thereby hopefully widening their relevance to non-Thoroughbred breeders and their veterinary surgeons. Following the emergence of EIA in Ireland and elsewhere in Europe during 2006, the Codes include notes on this disease and were circulated with a copy of the Defra Code of Practice on EIA. To mark the launch of the latest version of the HBLB Codes of Practice and publication in December of the list of approved laboratories, **Jessica Dean**, Equine Grants Officer at the HBLB has kindly contributed an article on the history and working of the HBLB's CEM (contagious equine metritis) laboratory testing approval scheme.

In November 2006 the Horse Trust notified the AHT that the Epidemiology Unit had been awarded a grant to conduct a two-year project to develop and implement a nationwide surveillance system for equine grass sickness in the UK. In this issue **Claire Wylie**, MRCVS, the new grass sickness surveillance research assistant employed on the project, outlines in a focus article the key steps planned for the development of the scheme.

We reiterate that the views expressed in these focus articles are the authors' own and should not be interpreted as official statements of DEFRA, BEVA or the AHT.

Access to all of the equine disease surveillance reports can be made on a dedicated page on the Animal Health Trust website at http://www.aht.org.uk/equine_disease.html or via the BEVA and DEFRA websites:

<http://www.beva.org.uk/>

<http://www.defra.gov.uk/animalh/diseases/vetsurveillance/species/horses/index.htm>

We would remind readers and their colleagues that there is available on the AHT website a form for registration to receive free of charge reports regularly via e-mail as they are produced. The link for this registration form is available via http://www.aht.org.uk/equine_disease_registration.html.



Virology Disease Report for the fourth quarter of 2006

The results of virological testing for October to December 2006, are summarised in Table 1, and include data relating to equine viral arteritis virus testing from the Veterinary Laboratories Agency (VLA), Weybridge. The sample population for the VLA is different from that for the other contributing laboratories, as the VLA's tests are principally in relation to international trade. Of the 13 EVA VN positives detected by the VLA, 2 were among export samples, 3 from imports, 1 was from overseas and 4 were private requests. The 7 semen samples received for virus isolation were negative for EVA virus isolation after 3 passages in RK13 cell culture and negative for EVA by the one-tube RT-PCR

Table 1: Diagnostic virology sample throughput and positive results for fourth quarter 2006

	Number of Samples Tested	Number Positive	Number of Contributing Laboratories
<u>Serological Tests</u>			
EVA VN/ELISA	1845	14 [#]	3
VLA EVA VN	1004	13 [#]	1
EHV-1/-4 CF test	721	37*	1
EHV-3 VN test	1	1*	1
ERV-1/-2 CF test	262	1*	1
Influenza HI test	268	0	1
EIA (Coggins)	966	0	1
<u>Virus Detection</u>			
EHV-1/-4 PCR	72	2	1
EHV-2/-5 PCR	0	0	1
Influenza NP ELISA	12	1	1
Influenza VI in eggs	1	1	1
EHV VI	185	3	1
EVA VI/ PCR	0	0	1
VLA EVA VI/ PCR	7	0	1
Rotavirus	8	1	5

VN = virus neutralisation, ELISA = enzyme-linked immunosorbent assay, CF = complement fixation, HI = haemagglutination inhibition, PCR = polymerase chain reaction, NP ELISA = nasopharyngeal swab VI = virus isolation, ERV = equine rhinovirus, [#] = Seropositives include vaccinated stallions

* = Diagnosed positive on basis of seroconversion between paired sera

Virological Diagnoses for the Fourth Quarter of 2006

EHV-1 Abortion

Two cases of EHV-1 abortion and one case of EHV-4 abortion were confirmed in this quarter. In October a crossbred mare of unknown vaccination status aborted producing a 5 kg fetus with diagnosis based on positive immunostaining of chorionic villi. In November an unvaccinated mare aborted at 4 months gestation and in December a vaccinated



thoroughbred mare aborted at 230 days gestation with diagnosis in both cases by immunostaining of the chorion. There were no contacts affected in these three cases.

EHV-1 Neurological Disease

A presumptive diagnosis of EHV-1 neurological disease was made in an unvaccinated cross bred horse that was found to have high antibody titres to EHV-1 whilst displaying ataxia and bladder paresis. In contact animals remained seronegative.

EHV-3 Coital Exanthema

In December a cob stallion from Wales was EHV-3 positive, with one covered mare affected. Diagnosis was confirmed by serology.

Equine Influenza

In November a circus pony was diagnosed positive for influenza virus by nucleoprotein ELISA on a nasopharyngeal swab, confirmed by virus isolation in eggs. The confirmed case and 6 affected in contact animals, all Friesian geldings, had been recently imported from Holland.

FOCUS ARTICLE: EQUINE INFECTIOUS ANAEMIA - UPDATE ON THE IRISH OUTBREAK AND CURRENT INDUSTRY RECOMMENDATIONS AND LEGISLATION **Annie Cooke MRCVS, Epidemiology Unit, Animal Health Trust**

Review of the Irish outbreak

Hopes are gradually rising that the current Irish outbreak, centred around the Meath/Kildare area, which started in June 2006, is being successfully controlled and will soon be coming to an end. In January alone The Irish Equine Centre tested in excess of 14,000 blood samples for EIA. In total more than 42,000 samples have been tested since the first cases were confirmed and this figure is expected to rise to 50,000 by March 2007, with continuing surveillance.

The situation as at 14th February 2007 was that a total of 28 cases have been identified with the last one confirmed 66 days previously on 10th December 2006. The last three confirmed cases have had the longest interval between them (27, 20 & 25 days respectively), which is taken as an encouraging development. There were no primary or secondary in contact animals traced to mainland Britain, associated with the last case.

In Ireland a total of 53 premises have been placed under restriction with only 8 premises now having restrictions remaining in place. In Britain 22 horses were placed under restriction due to their in contact status on 9 different premises. All restrictions have now been lifted as all 22 horses have had negative Coggins tests at least 90 days after the last possible exposure. In Britain no positive cases have been detected since the outbreak was initially notified in Ireland, however one case was found in Northern Ireland on 1st September 2006. This was the first case of EIA in the UK for more than 30 years and the animal was euthanased. Further details on EIA in Europe can be found on the Defra website ([Click here](#)).

Equine industry initiated controls for EIA

The Horseracing Regulatory Authority (HRA) requires runners from Ireland to have a negative Coggins result no more than 14 days prior to racing. UK trained horses that have been to Ireland should have a Coggins test 90-120 days after their return, failure to produce a negative certificate results in suspension from racing. Form EIA1 is used to



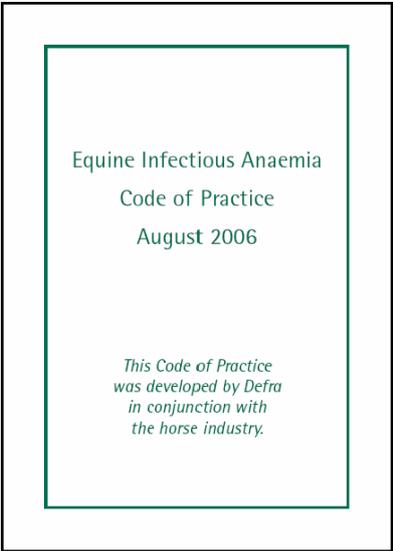
declare negative Coggins results and form EIA2 is used to declare movements of equidae to and from Ireland. Both forms are available on the HRA website ([Click here](#)). The current advice is to travel directly to the racecourse and to return home as quickly as possible.

The Irish Thoroughbred Breeders Association (ITBA) has developed EIA Guidelines for the 2007 breeding season. Mares require two negative EIA certificates from approved laboratories, the first in January and the second within 28 days prior to movement on to studs or foaling units. So far 50 Irish studs have signed up to the scheme. Further details are available via the ITBA website ([Click here](#)).

The Newmarket Stud Farmers Association (NSFA) has new breeding regulations for 2007 that were revised on 1st February. These are summarized below:

- 1) Mares from mainland Britain require one negative Coggins test after 1st January before covering. This can be done from the blood sample taken for prebreeding EVA testing.
- 2) Mares from Ireland (including Northern Ireland) require a negative Coggins test no more than 14 days prior to arrival in the UK. A second sample is required in the UK not more than 21 days prior to and as close as possible to first covering.
- 3) All other mares require a negative Coggins test no more than 14 days prior to arrival in the UK. A second negative sample is required at the boarding stud prior to covering, a minimum of 14 days after arrival. Further tests are needed within 21 days of covering and as close as possible to each covering, until a period of 60 days from import has elapsed.
- 4) Mares from Italy need sampling as for 3) above but also any foals at foot require a negative Coggins a minimum of 14 days after arrival.

Once these and other disease criteria are met a freedom from infection certificate may be signed. For further information visit the NSFA website ([Click here](#)).



Equine Infectious Anaemia
Code of Practice
August 2006

*This Code of Practice
was developed by Defra
in conjunction with
the horse industry.*

DEFRA in response to developments in Ireland and in collaboration with the British equine industry also produced a Code of Practice for EIA in August 2006. A brief summary of its contents is provided here but it is available in full from the Defra website ([Click here](#)).

Background information on EIA the disease and its consequences.

- 1) Advice to those in the industry on precautions to minimize the risk of possible infection.
- 2) Notification procedures.
- 3) Trade implications. Control measures and recommendations for prevention.
- 4) Advice on transport of horses to and from affected countries, definitions of primary and secondary contact status and how to deal with such animals.

Recent developments in English and European legislation for EIA

The Specified Diseases (Notification and Slaughter) Order 2006 came into force in England on 29th August 2006. It amended the Specified Diseases (Notification and Slaughter) Order 1992 by adding EIA to the list of diseases to which section 32 of the Animal Health Act 1981 applies (under which the Secretary of State may cause animals to be slaughtered). It also amended the Specified Diseases (Notification) Order 1996 by



adding EIA to the list of specified diseases in relation to which the notification provisions in article 3 of that Order apply. ([Click here](#) to view this legislation).

The Equine Infectious Anaemia (Compensation) (England) Order 2006 came into force on the 6th November 2006, which stipulated compensation to the value of £1 per animal for those horses compulsorily slaughtered for EIA ([Click here](#) to view this legislation). On 5th March 2007 legislation, on the EU commission decision on protective measures with regard to EIA in Romania, was released. ([Click here](#) to view this legislation).

Bacteriology Disease Report for the fourth quarter 2006

A summary of the diagnostic bacteriology testing undertaken by different contributing laboratories is presented in Table 2. For contagious equine metritis organism (CEMO) 9 of 29 HBLB approved laboratories contributed data.

VLA CEMO data for the period October, November and December 2006.

We are again pleased to include data relating to CEMO testing from the Veterinary Laboratories Agency (VLA), in this quarterly report. The sample population for the VLA is different from that for the other contributing laboratories as the VLA tests are principally in relation to international trade.

Submissions for international trade pre-export tests continue the upward trend with swab numbers up 5.3% when compared with the same quarter in 2005. Of the 1223 animals tested one stallion had two positive swabs by culture. The horse was treated and it and animals in contact with it subsequently swabbed three further times, with negative results prior to being exported.

Table 2: Diagnostic bacteriology sample throughput and positive results for fourth quarter 2006

	Number of Samples Tested	Number Positive	Number of Contributing Laboratories
CEMO (HBLB)	1207	1	9
CEMO (VLA)	2889	2	1
Strangles*	592	53	11
Salmonellosis	403	21	11
MRSA	50	1	5
Clostridium perfringens	14	1	1
Clostridium difficile (toxin by ELISA)	41	40	5
Cryptosporidium	3	0	1
Lawsonia intracellularis (PCR)	25	5	1

CEMO = contagious equine metritis organism (*Taylorella equigenitalis*); HBLB = HBLB accredited laboratories; VLA = VLA reference laboratory; *Streptococcus equi; MRSA = methicillin resistant *Staphylococcus aureus*.

Of the 403 samples tested for *Salmonella* spp., 142 were sent directly to the VLA for testing and of these 15 (10.6%) were found to be positive. The other 6 positive samples were among 261 samples tested by other laboratories. There were two *S. agama*, one *S. Newport* and three *S. Typhimurium*. The 15 strains typed at the VLA, included one *S. agama*, one *S. Enteritidis* 8, two *S. Newport* and one each of *S. Typhimurium* 135, 193, 40, 41, 5, 6 (including two variants) and two U288.



FOCUS ARTICLE: HBLB CEM LABORATORY APPROVAL SCHEME Jessica Dean, Equine Grants Office, Horserace Betting Levy Board

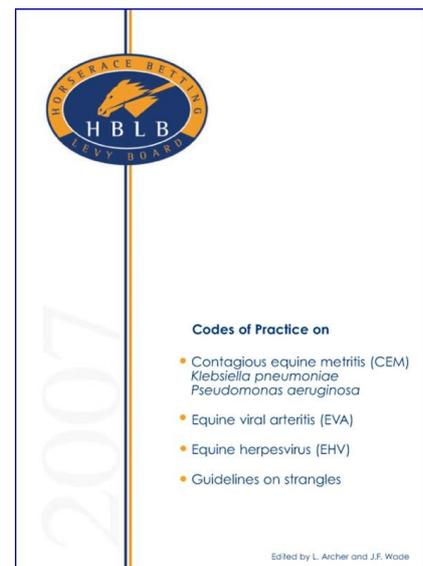
During the first outbreaks of contagious equine metritis (CEM) that disrupted horse breeding so severely in the late 1970s, the Horserace Betting Levy Board's Veterinary Advisory Committee (VAC) recognised the need to protect the Thoroughbred breeding industry from the potential economic and welfare impact of this new disease. As a consequence, the VAC developed a Code of Practice for the prevention and control of CEM and launched it in November 1977 to coincide with the 1978 breeding season, targeting primarily the Thoroughbred sector. The frequency of CEM dropped markedly that season and, in the 30 years of the Code's existence, has remained limited to sporadic cases, mainly in non-Thoroughbreds. This is testament to the rigorous application of the Code by horse breeders and the equine veterinary profession.

From 1980, the scope of the original Code for *Taylorella equigenitalis* was expanded to include two other bacteria; *Pseudomonas aeruginosa* and *Klebsiella pneumoniae*. Later, two further codes were added, on equine viral arteritis (EVA) and equine herpesvirus (EHV) and the Codes were re-worked to increase their relevance to the non-Thoroughbred sector as well as the four other main European Thoroughbred-breeding countries of France, Ireland, Italy and Germany, which remain signatories to this day.

From the outset the Code recommended that all breeding mares and stallions should be tested for *Taylorella equigenitalis* and then other bacterial venereal pathogens by bacteriological examination of a series of swabs prior to covering in each breeding season. It became clear that it was essential that this testing must be carried out to the highest standards by competent diagnostic laboratories, not least to provide reassurance of accurate results to veterinary surgeons and their clients.

In the first years of the CEM Code, the then Ministry of Agriculture, Fisheries & Food (MAFF) provided support in the form of quality assurance (QA) testing for the Designated Laboratories to which swabs were sent for examination. In 1979, the HBLB took over responsibility for administration of the approval scheme for private diagnostic laboratories and for several years quality assessment was operated by the Animal Health Trust on the HBLB's behalf. Subsequently, the QA scheme on which approval depends was provided by the Central Veterinary Laboratory, now the Veterinary Laboratories Agency (VLA).

Laboratories wishing to apply for approval are required to undertake an initial QA test and, if successful, are approved. Approved laboratories undertake biannual QA in order to ensure that high standards are maintained. Laboratories are required to report fully correct results in the QA tests to demonstrate their competence in isolating and identifying *Taylorella equigenitalis*, *P. aeruginosa* and *K. pneumoniae*. Approved laboratories are provided with HBLB-issued laboratory certificates for reporting field results. The frequency of approved laboratories reporting incorrect results is rare. When this does happen, the laboratory is asked to take a further test in which it must report correct results – if it does not, approval is usually withdrawn.





Most studs, particularly Thoroughbred studs, insist on mare owners producing a negative HBLB approved laboratory certificate before or on the mare's arrival at the stud. Likewise, mare owners should request a copy of the certificate declaring the disease-free status of the stallion before sending their mare for mating. The widespread use of the certificates illustrates the confidence of studs and owners in the laboratory approval scheme and the Code of Practice, ensuring that cases of CEM and other equine bacterial venereal diseases remain rare in the UK.

There are currently 29 laboratories in the scheme, which is open to private laboratories in England, Scotland and Wales. The scheme runs annually from 1st December to 30th November and a list of the approved laboratories is published in the Veterinary Record in December each year. For further information, including details on applying for approval, see the Board's website ([Click here](#)).

Note: swabs taken for examination for CEMO from horses in the UK for the purpose of official export health certification must be sent to a VLA designated laboratory.

Toxic and Parasitic Disease Report for the Fourth Quarter of 2006

A summary of diagnostic toxicosis and parasitology testing undertaken by contributing laboratories is presented in Tables 3 and 4 respectively.

Table 3: Diagnostic toxicosis sample throughput and positive results for fourth quarter 2006

	Number of Samples Tested	Number Positive	Number of Contributing Laboratories
Grass Sickness	4	3	1
Hepatic toxicoses	7	3	2
Botulism (toxin test)	1	0	1

Table 4: Diagnostic parasitology sample throughput and positive results for fourth quarter 2006

	Number of Samples Tested	Number Positive	Number of Contributing Laboratories
<u>Endoparasites</u>			
Ascarids	534	14	2
Cyathostomes	584	179	5
Dictyocaulus	117	4	3
Parascaris	41	13	1
Strongyles	327	46	7
Strongyloides	6	2	1
Trichostrongylus	41	8	1
Tapeworms	260	2	2
<u>Ectoparasites</u>			
Lice	6	3	2
Mites	134	3	3
Ringworm	226	62	5



FOCUS ARTICLE: EQUINE GRASS SICKNESS SURVEILLANCE **Claire Wylie MRCVS, Epidemiology Unit, Animal Health Trust**

Following notification of funding by the Horse Trust in November 2006, the Animal Health Trust (AHT) is currently in the process of developing and implementing the first nationwide system for the surveillance of equine grass sickness (EGS), a debilitating and frequently fatal dysautonomia of horses. At present, while anecdotal reports suggest that EGS is becoming more common in previously unaffected areas of Britain, there is no national surveillance scheme in operation. Consequently the true impact of EGS in terms of annual equine mortality is unknown and the beneficial effects of new interventions, such as any future botulinum-based vaccine, will be difficult to assess. The aim of the AHT project is therefore to develop a system to collate details of clinical cases and produce an accurate representation of the current frequency of the disease in Great Britain.

The key steps in the development of the new EGS surveillance scheme will be:

1. **Establishing and maintaining a confidential database of premises affected by EGS in Great Britain.** Utilising established collaborations and creating new links with veterinary practices, veterinary laboratories and universities, this database will provide up-to-date records of equine grass sickness cases occurring throughout the country.
2. **Development of a system to collect data from EGS cases and in-contact horses.** Development and promotion of a novel, dedicated web-based/telephone/postal questionnaire system to produce a sustainable system in order to record data on the number of cases of EGS (numerator data) and to allow for owners to easily and efficiently provide details of other horses grazing on EGS affected premises (denominator data). Data from the National Equine Database will also be used to provide estimates of national and regional denominator statistics.
3. **Calculation of EGS frequency rates.** Generation of rates of occurrence of EGS at a premises, regional and national level to allow calculation of frequency measures of EGS occurrence within Great Britain.
4. **Monitoring and analysis of regional and national trends in EGS occurrence throughout Great Britain.** It is hoped that as well as quantifying the true frequency, and therefore impact of EGS this work will also demonstrate trends in disease occurrence over time.



In future it is hoped that the data from the nationwide surveillance system for equine grass sickness will be utilised in the calculation of sample size requirements necessary for future EGS vaccine field trials, and will allow the welfare benefits of such preventive strategies to be rapidly and accurately assessed. In addition, a dedicated and regularly updated confidential database of cases of EGS occurring throughout Britain will be an invaluable potential resource for future research into all aspects of equine grass sickness.

It is intended that following the initial development of the EGS nationwide surveillance scheme results arising from the system will be included in these quarterly equine disease surveillance reports and their abridged versions published in The Veterinary Record.



Report on *Post Mortem* Examinations for Fourth Quarter 2006

East Anglia

61 cases were examined this quarter:

A large number of these, 49, were investigations into aborted fetuses or neonatal deaths. Of these 27 were inconclusive or no further details were given, 11 were due to umbilical cord torsion, thought due to the cords length being longer than normal. Two were due to placental insufficiency and one due to bacterial placentitis. One case was found to have cervical necrosis leading to vascular compromise of the caudal body of the chorion. One set of twins was seen. Another fetus had marked hydrocephalus. Two cases had placental infection with EHV-1 and one with EHV-4 (as mentioned in the virology section of the report). Two Shetland pony fetuses were examined and alongside further investigations it was thought a nutritional abnormality had caused the abortions. Three neurological cases were seen in adults. One was found to be weakly positive for EHV-4, and unfortunately no further details were given of the other two cases. Three cases of lymphosarcoma were examined, along with a single case of proliferative enteropathy, a single case of mitral valve incompetence and one sudden death of indeterminate cause.

Two welfare cases were examined on behalf of the RSPCA:

One was a thin animal found to have lice, cyathomiasis, bots, and strongyles which had caused damage to the root of the mesentery. The second had marked hepatopathy thought to be due to ragwort poisoning. It also had a severe wound involving deep tissues around the fetlock joint. These included the flexor tendons which had marked tenosynovitis. The wound was grossly infected including with maggots.

Home Counties

Twelve cases were examined this quarter:

A mid-gestational aborted fetus was examined and found to have an umbilical cord torsion. A 3 year old warmblood was found to have pharyngeal abscessation and suppurative meningioencephalitis associated with streptococcal infection. An aged Hunter type gelding had deep ulcerative keratitis, either post traumatic or immune mediated. As age contra-indicated surgery, euthanasia was performed on humane grounds. Two animals had typhocolitis, one yearling due to Cyathomiasis and secondary salmonellosis. The other a cross bred adult where no aetiology could be determined. The animal also showed signs of renal tubular necrosis and uraemic encephalopathy. Other diagnoses in adult animals included, acute idiopathic gastric rupture (no histological evidence of dysautonomia), acute idiopathic caecal rupture, nephrosplenic entrapment and a malignant perianal melanoma with metastases to the liver, spleen, lymph nodes and skeletal muscle. In aged animals findings included small intestinal (ileal), fibrosarcoma with metastases to kidney, diaphragm, mesentery and lung. A pituitary adenoma and associated pituitary dependent hyperadrenocorticalism. An acute idiopathic gastric rupture, (again with no histological evidence of dysautonomia).



South West

Fifteen cases were examined this quarter:

Two neurological cases, one in a 6 month old foal and the other in a 12 year old, both due to wallerian degeneration of the spinal cord. Two cases of granulosa cell tumours, one pulmonary haemorrhage and one chronic toxic hepatopathy. Gastrointestinal cases included one small intestinal torsion and two possible parasitic conditions. One consisting of eosinophilic granulomatous lesions in the small intestine and the other having oedematous intestinal walls. Three traumatic cases included one of bursitis, one fractured scapula and one tenosynovitis with digital arterial thrombosis and pedal bone necrosis. Three aged donkeys were examined; an obese 35 year old found to have ulcerative typhitis and colitis as well as pedal bone rotation; A 40 year old gelding with poor teeth and a non-specific digestive disorder. Incidental findings in this case included a resolving dislocated hip, sclerosis of the aortic valves, old fibrosed infarcts in the left ventricle and arterosclerotic plaques in the aortic arch. Apparently negative findings on auscultation in aged donkeys are quite common even with these lesions; A 25 year old emaciated donkey with poor teeth and a non-specific digestive disorder. The animal was euthanized due to lack of response to anthelmintic treatment, and the possibility of resistance, however a relatively small worm burden was found *post mortem*.

Scotland

Five cases were examined this quarter:

One aborted foetus, where no firm conclusion as to the cause could be found. Four animals died from acute diarrhoea, a 6 month old foal and its 20 year old dam, a 5 month old foal and a 12 year old horse all from the same yard. The 6 month old foal had previously been hospitalised for orthopaedic problems, it was treated with antibacterials. It developed diarrhoea on its return home. *Clostridium difficile* toxin was detected in all four cases. Histology showed dramatic intestinal oedema. No other toxins were detected. It is suspected that the stress and antibacterials given to the 6 month old foal had allowed *C.difficile* overgrowth and that the dam was infected from its foal, with the organism then spreading round the stable yard.

Northern Ireland (AFBINI)

Eleven cases were examined this quarter:

Cases included four aborted fetuses, three of which were inconclusive. One was found to have streptococcal infection of the foetus and placenta. Six cases of sudden death were examined these included, two foals with ruptured stomachs and associated peritonitis, one foal with a gastric ulcer, another foal with a non-specific enteritis. A mare with Black disease and a horse with a colon impaction were also examined. One case of *Rhodococcus equi* pneumonia in a foal was also reported.



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**This report was compiled by the Animal Health Trust.
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Agri-Food and Biosciences Institute of Northern Ireland
Beaufort Cottage Laboratories
BioBest Laboratories Ltd
Chine House Equine Hospital
Donkey Sanctuary
Equine Veterinary Hospital, Arundel
Greenwood, Ellis and Partners
JSC Equine Laboratory
Liphook Equine Hospital
NationWide Laboratories
Royal Veterinary College, London
SAC Veterinary Services
Three Counties Equine Hospital
University of Bristol, Department of Pathology
University of Liverpool, Equine Hospital, Leahurst
Veterinary Laboratories Agency

All laboratories contributing to this report operate Quality Assurance schemes. These schemes differ between laboratories, however, all the contagious equine metritis testing reported was accredited by the Horserace Betting Levy Board with the exception of the VLA, which acts as the reference laboratory.

**We would welcome feedback including contributions on focus articles
and/or case reports to the following address:**

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