Welcome to our winter newsletter of 2014 and we hope you find it an interesting update on some of our activities and a few key equine issues.

As 2014 draws towards its close, we would like to thank all our clients and sponsors for their continued support during the year. Without you, we would not be able to do the work that we do.

And as the 2015 season is nearly upon us, we wish all breeders, owners, trainer, riders and consignors a successful year and everyone at the Irish Equine Centre will be delighted to help you in any way we can.

Happy Christmas and best wishes for a successful 2015!

“Strangles” – it may be more common than you think!
D.P. Leadon MA, MVB, MSc, FRCVS, DipECEIM, European College & RCVS Registered Consultant/Specialist in Equine Medicine

“Strangles” has been documented as a highly infectious disease of horses, since the Middle Ages, when “Strangulina”, was described in De Medicine Equorum by Giordano Ruffo which was written between 1251 and 1256 and its aftermath, or chronic sequelae, were reported by Albertus Magnus – a Dominican Bishop, between 1258 and 1262. The infection with the causal bacterial organism, known as Streptococcus equi var equi results in a contagious respiratory disease of all types of equidae, that results in swollen lymph glands (especially those at the back of the throat perhaps akin to “tonsils”) that become greatly inflamed and can literally burst open with discharge of foul smelling pus in the acute form in horses that have had no previous exposure.

The disease can spread to other organs and the resultant infection, known as “bastard strangles” can be life threatening. Although these are the text book symptoms, the disease can be much more insidious and can be almost inapparent, but still potentially performance limiting. These “milder” forms of the disease can be difficult to detect on clinical examination and laboratory tests are essential for identification and control.

A recent small scale collaborative study carried out by the Clinical Pathology Unit of the IEC and the School of Veterinary Medicine in University College Dublin, used the “Strangles Blood Test” to survey a number of Thoroughbred stud farms and racing stables, to determine the incidence of exposure to the Strangles causal organism.

The results which were relayed to the ITBA Autumn series of Seminars for Breeders and Veterinarians, related to samples collected from 161 horses on 16 studfarms and four racing stables. Horses on six of these 16 studs showed evidence of exposure to Strangles as did three of the four racing stables.

Further studies to determine the overall exposure of thoroughbreds in Ireland to the Strangles organism are required, but the moral of this tale is that screening of all new arrivals for Strangles, using the Strangles blood test is a valuable investment in biosecurity, especially for stables and studs that are receiving horses from the upcoming auction sales. Strangles should also be included more often in the differential diagnosis of respiratory disease and poor performance.

Guidelines on the significance and interpretation of the Strangles blood test are available from the Clinical Pathology Unit at the IEC who can also run the test for you.
Advances in the art of drug detection
Mark Sherry, BBS, FCCA, Head of Finance

The detection of prohibited substances is a huge concern for regulatory authorities and governments alike. The detection of these substances is regarded as the major challenge facing the horse and food industries for the foreseeable future. Traditional forensic testing methods are focused on screening for particular substances and depending on results, confirming the presence of particular compounds.

The IEC is involved in two EU funded research projects, both of which are concerned with the detection of prohibited substances in horses and food producing animals, particularly cows, using novel technology and new analytical techniques. The use of metabolomics, which seeks to detect metabolic change in the target animal will be used to widen the scope of testing profiles and will be used to target analysis for a much wider range of compounds and substances. The beneficial outcome for the IEC will be the acquisition of new diagnostic methods and the training of key scientific staff.

The first project, DeTECH 21, involves the development of new forensic testing techniques based on metabolomics profiling which will identify the misuse of prohibited and licensed substances in target animals. The project will run over two years and will deliver a database against which changes in metabolism can be used to highlight the presence of prohibited drugs. The results are anticipated to offer an innovative approach to drug analysis based on the monitoring of biological responses to drug use in animals, rather than the direct detection of compounds which forms the basis of current testing.

The partners in this project are Queens University Belfast under the direction of Professor Chris Elliott and Dr Mark Mooney, LCH laboratories in Paris, the Veterinary College at Nantes and Norwest Foods International, a UK food company.

MET-A-FOR, the second project, is also in collaboration with Queens. The project is a training programme which involves skills and technology transfers between QUB and the IEC. The programme will train three early stage researchers in high level analytical techniques and will seek to bridge the knowledge gap surrounding metabolomics profiling and the commercialization of new diagnostic services.

The end result of both of these projects will be the introduction of new diagnostic testing in horses and other food producing animals. The Equine Centre will have acquired highly skilled analytical staff at no cost to the industry.

If you would like more information on these projects, feel free to contact Mark Sherry on 045 866266.

Atypical Myopathy update
Ursula M. Fogarty, MVB, PhD, MRCVS, Head of Pathology

We are aware of in excess of 100 cases of ATM that have occurred countrywide (as of mid November). The mortality rate is high and is in excess of 80%-90%. This is consistent with previous Irish and European cases. In Europe when there has been a high incidence in the autumn, cases may still occur in the spring. While all the factors predisposing to the occurrence of ATM are not fully elucidated, avoiding exposure to the seeds and leaves seems to be the best route to follow.

Exposure can be minimised by ideally not using the paddocks surrounded by sycamore trees or where possible temporarily fencing off areas of a field where there is a high seed / leaf burden. Limiting access to a paddock and providing additional feeding, either concentrate or herbage, can also reduce the likelihood but not eliminate the possibility of its occurrence.

Information regarding the cases is only currently being collated. We would encourage people to either fill out the form that can be downloaded from the ATM website www.myopathie-atypique.be or return the forms already circulated from the centre to veterinary surgeons with cases of ATM. We are investigating the possibility of assaying the seeds for hypoglycin - be this at the IEC or in Europe. We would encourage people to collect sycamore seeds from affected and non-affected premises and make them available to us. Seeds can be air-dried at room temperature on absorbent material, for example newspaper, and stored in paper bags under dry conditions.

If you have any questions or concerns about ATM, please contact Dr. Ursula Fogarty on 045 866266.
Contagious equine metritis (CEM) – A guide to keeping it out of Ireland

Professor Tom Buckley, MSc, FIBMS, FAMLS, Head of Microbiology

Contagious equine metritis (CEM) is a venereal disease of mares and stallions. The causal organism is *Taylorella equigenitalis* which was first isolated in Newmarket in 1977 and subsequently in Ireland. These outbreaks resulted in a ban on the importation of Irish horses into the USA, Australia and Japan. One cannot underestimate the catastrophic economic loss due to such a ban were it to occur again. Infected stallions show no clinical signs. They are mechanical carriers and transmit the organism during covering. Infected mares show clinical signs that vary from discharges to little or no clinical signs. Mares may also be carriers showing no symptoms whatsoever.

The good news is that infected horses can be treated and *T. equigenitalis* is typically susceptible to most common antibiotics. Local treatment and repeated flushing of the external genitalia of infected horses is also part of the treatment regimen. Compared to other diseases, the spread of CEM is also relatively easy to control as it is only transmitted by breeding (either live cover or artificial insemination). The major problem is that this disease is also one that can easily “fly under the radar” as infected stallions, in particular, may expose many mares before the bacterium is discovered. The other venereal pathogens, *Pseudomonas* and *Klebsiella*, are not notifiable but Ireland is not free from them.

Within the thoroughbred industry, lessons learned from initial outbreaks in the late 1970s here resulted in a dramatic reduction in the incidences of CEM, to the stage where no positive cases of CEM have been reported in thoroughbred animals since 1982. This was, and still is, due to the strict adherence to the Code of Practice of thoroughbred breeders in Ireland, the UK and France. This Code of Practice has also been successfully adopted by other countries, i.e. Italy and Germany, but there are other countries that do not adopt this Code.

The increasingly free movement of horses means that there is an ever increasing risk of a disease outbreak in Ireland. The disease may be prevented by routine screening of mares and stallions, both thoroughbred and non-thoroughbred animals. The Code of Practice requires two separate swabs to be taken from the appropriate areas by your veterinary surgeon every year prior to commencement of the breeding season. These swabs should be immediately sent to an approved laboratory, such as the IEC, to arrive within 48 hours of collection.

Mares and stallions should not be used for mating until the CEM results are available and studs should not accept mares for covering without the required test results. It is very important for all sectors of the industry to screen for CEM and the other venereal pathogens *Pseudomonas aeruginosa* and *Klebsiella pneumoniae*. This will help to maintain our disease-free status and ensure the Irish equine industry remains “open for business”. Your veterinary surgeon will advise on what samples need to be taken, especially on animals from the USA and other countries that have CEM. The continued CEM-free status is the responsibility of all us involved in the Irish horse industry. It is better to be safe than sorry.

*If you have any questions on CEM, feel free to contact Prof Tom Buckley on 045 866266.*

Meet some of the IEC team

**Name:**
Maura Nelly

**Department:**
Virology

**Role:**
Chief Scientist

- Maura has an MSc in from UCD
- She has worked in the Virology Unit at the Irish Equine Centre since 1990
- Prior to working at the IEC she worked for 5 years for the British National Health Service at various London Hospitals

**Name:**
Anna Collins

**Department:**
Histopathology

**Role:**
Senior Medical Scientist

- Anna has an MSc in Animal Science from UCD
- She has worked at the IEC since 1985 and has worked in several of our labs over the years, including Microbiology and Haematology
- Anna has also spent time studying equine reproduction in France with Eric Palmer and in Italy with Dr. Stefania Bucca
IEC influenza research in Equine Veterinary Journal’s Top Ten

A recent paper published by the IEC in the Equine Veterinary Journal (EVJ) was in the Top Ten when the Journal’s 2011 and 2012 content was ranked according to the number of citations in 2013. The EVJ is an international scientific journal that publishes high quality peer-reviewed research that improves all aspects of equine veterinary practice.

The research concerned the management of equine influenza outbreaks in Ireland and was carried out by Sarah Gildea as part of her PhD project under the supervision of Professor Ann Cullinane, Head of the Virology Unit at the IEC and Professor Sean Arkins, Head of the Department of Life Sciences, University of Limerick.

The insights gained by Sarah re the risk factors for spread within a premise and the control measures to reduce the impact of an outbreak, were also the subject of an article in the summer edition of the European Trainer magazine. A second study performed at the IEC relating to the efficacy of different primary vaccination regimes for equine influenza was also discussed in the article in European Trainer and was the subject of a recent interview for TheHorse.com. The EVJ has generously made both papers available free of charge at wileyonlinelibrary/journal/evj - Gildea, S., Arkins, S. and Cullinane, A. (2011) Management and environmental factors involved in equine influenza outbreaks in Ireland 2007-2010. Equine Vet. J. 43, 608-617 and Cullinane, A, Gildea, S and Weldon, E. (2014) Comparison of primary vaccination regimes for equine influenza – working towards an evidence based regime. Equine Vet. J. 46(8):669-73. Copies of the papers are also available from the IEC.

Both studies were funded by the Department of Agriculture. This funding enables the IEC to fulfil its obligations as a World Organisation for Animal Health Reference laboratory, to publish and disseminate data relevant to the epidemiology and control of equine influenza.

Disease Prevention Note – Rotavirus
Professor Ann Cullinane, MVB,PhD,MRCVS, Head of Virology

Last season several farms experienced problems with rotavirus diarrhoea. Rotaviruses are highly resistant and can survive up to nine months in the environment. Thus, they can survive on a contaminated premises, from one breeding season to the next causing a recurrent disease problem. Faeces and bedding from the stables of infected foals should not be spread on pasture.

Good management will help to prevent a build up of virus in the environment. Mares and foals visiting a stud should be isolated from resident mares and foals. Povidone or iodine scrubs should be provided for handwashing and disposable gloves should be worn by anyone handling a foal. Rotating mares through a foaling unit can lead to a build up of virus unless strict attention is paid to cleaning and disinfection procedures. After each foaling, the foaling box should be thoroughly cleaned with detergent prior to disinfection with a product, which is active against rotaviruses, e.g. phenol (a component of Jeyes Fluid) or iodine.

Studies in other animals have indicated that antibody in the small intestine plays a much greater role in resistance to rotavirus disease, than antibodies in the blood, A killed virus vaccine is administered by intramuscular injection to mares at 8, 9 and 10 months of pregnancy. This vaccination is aimed at affecting adequate lactogenic immunity i.e. antibodies in the colostrum and milk of the dam. These antibodies then provide protection by inactivating the rotavirus in the foal’s intestine.

Did you know?
The Microbiology department has also developed a range of PCR tests for equine bacterial diseases. The tests available include:
- CEM;
- CEM, Pseudomonas and Klebsiella (multiplex);
- Strept. equi (Strangles);
- R. equi (x 2); and
- Lawsonia