



Full-Circle-Responsibility Crusade Widens the Circle in 2015

Awesome App and tools help owners give the best possible care to their horses

Equine Guelph is launching several new tools and resources in 2015 for savvy horse owners who want to give the ultimate in care to their animals. The Horse Health Tracker App allows you to track vital health data in real-time on your smart-phone or tablet for one horse or the whole herd!

Another tool will be available through Equine Guelph's monthly e-communications program – the Code Decoder. This tool will deliver key points and explore important topics from the National Code of Practice for the Care and Handling of Equines.

Finally, Equine Guelph and Greenhawk are pleased to offer the Equine Guelph First Aid Kit to you and your horse!

Get the App

The Horse Health Tracker App is a must-have management tool for you to become the leading advocate for your horse's health. Assess your horse's vital health



data, body condition score and body weight with a few simple clicks and easily share this information with your veterinarian. Upgrades allow you to track data such as heart rate, temperature and respiration for up to 50 horses! Instructional videos are also included in the upgrade. Appointment reminders sync with your smart phone calendar making it

easy to stay on top of your horse's health care regime. The App is available for download at Google Play and is coming soon to the App Store.

Code Decoder Tool

Over the past two years, Equine Guelph has chosen a specific topic for its annual communications program. In 2013, the "Year of Colic Prevention" was well-received. This was followed in 2014 with the "Full-Circle-Responsibility" welfare initiative promoting raising the standards

continued on page 2...

At Equine Guelph, we are always looking for ways to forge ahead and improve our offerings to you, and we have succeeded again in this issue. The popular research content from the Fall issue has been moved into one annual Spring issue.

We look forward to presenting practical research-based evidence on important issues of healthcare and the welfare of your equine charges in new ways to increase distribution and benefit a larger number of horse owners and horses. This will include electronic distribution and social media. The wider our audience, the more we help improve the health and welfare of horses - and that is rewarding.

*Dr. Jeff Thomason, Co-Chair
Equine Guelph Research Committee*

UNIVERSITY of GUELPH	INSIDE	Volume 12
CHANGING LIVES IMPROVING LIFE	Campbell Centre and Equine Guelph Unite.....	2
	Capsule Endoscopic Technology	3
	Infection Control in Canada's Horse Industry.....	4
	Biosecurity - Spread the word not the germs	4
	Emerging Diseases in the Equine Industry	5
	Early Embryonic Loss	6
	Footing Affects How Horses Move.....	6
	Whip Use in Quarter Horse Racing.....	7
EquiMania! Celebrates 10 Years at Can-Am!.....	7	

Full-Circle-Responsibility continued from page 1

of horse care – a topic that resonated with our industry.

In 2015, Equine Guelph continues with the “Full-Circle-Responsibility” campaign focusing on a specific chapter of the new National Code of Practice for the Care and Handling of Equines in every monthly e-communication. After many collaborative hours of research by industry professionals, the Code of Practice outlines science-based, best practices to keep our industry moving forward in its support of equine welfare. Equine Guelph’s Code Decoder will highlight the key points and show its application for daily management practices.

Equine welfare is an important priority for every horse owner, association and club to intertwine in all programs, rules, procedures and daily care. In 2015, we invite the industry to join us throughout the year as we learn more about the Code of Practice. We challenge you to ‘widen the circle’ by sending our monthly e-News to all your horse owner acquaintances and

association members and show your support for equine welfare.

Equine Guelph & Greenhawk Partner on First Aid Kit

Equine Guelph and Greenhawk have partnered to offer a fantastic first aid kit complete with resource manual, checklists, bandaging tips and contents to equip horse owners for emergencies. Available soon at select stores: Mississauga, Ottawa, Gormley, London, Beamsville, Barrie, Orangeville, Campbellville, Whitby and Toronto (Avenue Road). Proceeds from the Equine Guelph First Aid Kit will be donated by Greenhawk to Equine Guelph in support of its welfare education programs.

Support Equine Welfare and Give the Best Possible Care to Your Horse

Check out our new Horse Health Tracker App available at Google Play and coming soon to the App Store. Our new First Aid kit will be available at participating Greenhawk stores. Not only will our new

tools benefit your horse healthcare program, your purchase will support Equine Guelph in our mission to ‘Help Horses for Life’ as proceeds are invested into our welfare education programs. Give your friends the key to the code for the care and handling of equines by encouraging them to sign up for e-News at EquineGuelph.ca.

This project is funded in part through *Growing Forward 2 (GF2)*, a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of *GF2* in Ontario.

Other partners include: Campbell Centre for the Study of Animal Welfare; Equine Canada; Farm & Food Care Ontario; Greenhawk Harness & Equestrian Supplies; Omega Alpha Equine; Ontario Equestrian Federation; the Ontario Ministry of Agriculture, Food and Rural Affairs; Ontario Racing Commission; Ontario Society for the Prevention of Cruelty to Animals and Standardbred Canada.

Story By – Jackie Bellamy-Zions

Campbell Centre and Equine Guelph Unite on Equine Welfare

Equine Guelph and the Campbell Centre for the Study of Animal Welfare have developed strong partnerships with the University of Guelph’s Ontario Veterinary College (OVC). An example of this partnership is the new, online Equine Welfare Certificate. Researchers and educators work together to improve the lives of equine species, educate members of the general public and equine industry, and improve the standards set in the equine industry as a whole.

As technology becomes more advanced and accessible, researchers can adapt technology for use on horses. The focus has shifted to maximizing equine health and welfare, while at the same time minimizing adverse effects brought on by domestication of equine species. A continuing and combined effort from industry leaders is necessary in order to



Photo by: Janice Wright

Equine Guelph’s Welfare Education display travels to many events spreading important information to horse owners

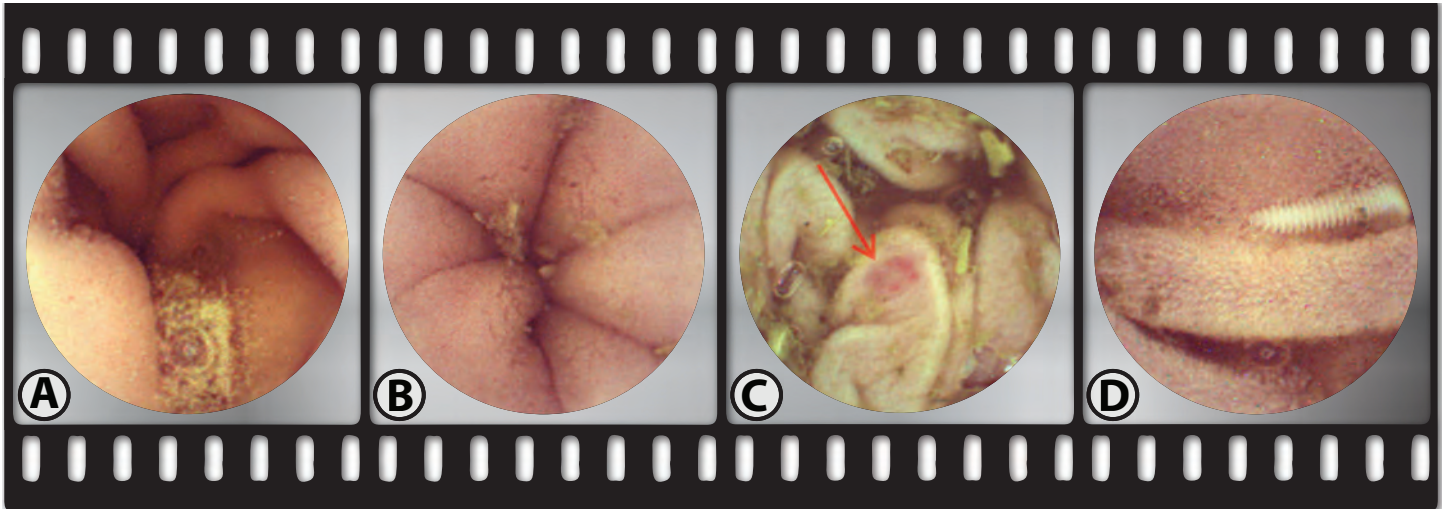
fully support and improve the health and welfare of horses for the future.

The University of Guelph was the first institution to establish an animal care policy for animals used for research and

teaching. Together with the OVC, Equine Guelph, and the Campbell Centre, the University of Guelph strives to uphold and exceed high standards for the welfare and health of horses.

Story by – Jillian Dasti

Capsule Endoscopic Technology



Live images of equine small intestine captured by capsule endoscope A: small intestine B: peristalsis (contraction) of the small intestine C: lesion and mild inflammation D: tapeworm in the small intestine

Horses can experience many different types of abdominal pain – commonly referred to as colic. Often the problem is gastrointestinal in nature, but many factors may be involved as well. This makes diagnosis and accurate treatment often difficult.

Graduate research by Diane Gibbard and Dr. Jeff Thomason of the OVC is aimed at improving diagnosis accuracy. Their research focused on the assessment of capsule-endoscopic technology to image the small intestine in two trial horses, involving an untethered camera capsule with about 12 hours of battery life for capturing images as it moved through the intestinal tract. In this study, Gibbard and Thomason's camera, developed by Intromedic Inc. of Korea, was about the size

of a large pill, and was inserted by an endoscope into the digestive tracts of two horses. High quality video footage of the inside of the horses' gastrointestinal tract was successfully captured, showing common parasites, and lesions in various parts of the small intestine.

This technology has primarily been used in humans, so it must be small enough for humans to swallow; horses, however, can swallow larger objects. Thomason says that enlarging future camera capsules could mean longer battery life, stronger signals for mapping out the exact location and path of the equipment, and higher quality video footage.

"If the technology can be standardized as a diagnostic tool, veterinarians could more

accurately diagnose some types of colic, or other afflictions, that horses suffer from, leading to better and targeted treatment of patients," says Gibbard. Veterinarians could then significantly decrease the amount of stress horses experience, as having patients swallow the equipment is appreciably less stressful and invasive than other diagnostic tools, such as tethered endoscopes and exploratory surgery.

Funding for this project has been provided through Equine Guelph, Mr. Claude Margue (private donor), OVC Dean's Fellowship Scholarship with support from Halton Equine Veterinary Services and Intromedic Inc.

Story by – Jillian Dasti

You Can Help Horses for Life

Your donations make a difference in the lives of horses. Contributions to Equine Guelph are directed towards research into health issues and education/training programs which support equine welfare.

We value your support.

For donations by phone or mail, please contact: **1-888-266-3108**. To donate online please visit: **www.EquineGuelph.ca** and click on "Donations".

Donations to Equine Guelph can also be made by credit card (Visa or Mastercard) or by cheque. Please make cheques payable to University of Guelph/Equine Guelph. An official tax receipt will be sent for donations over \$10. Our charitable registration number is 10816 1829 RR 0001.

Please return to:

Equine Guelph, c/o Alumni House, University of Guelph, Guelph, ON, N1G 2W1





Spread the Word

not the germs

Infection Control in Canada's Horse Industry

Global and continent-specific pathogens lurk everywhere, and as a result, countries have enforced strict regulations for animal imports and exports. In Canada, surveillance systems are in place to monitor and assess risks, both inside the country and internationally, and strict quarantine regulations are also enforced for all imported equines.

Dr. Scott Weese's research focuses on improving biosecurity measures. Weese estimates that 30 to 70 percent of infectious diseases in Canada are preventable, emphasizing the need to develop and enforce a strong biosecurity action plan. The three main areas to focus

on are decreasing exposure, decreasing susceptibility and increasing resistance to these pathogens. In particular, Weese's research contributes to understanding how infectious diseases spread, and developing counter-measures to prevent outbreaks.

Weese emphasizes infection control measures for all aspects of the equine industry. "Any farm can make changes to reduce the risk to their horses. Things such as controlling vector populations such as rodents, ticks and mosquitoes, enforcing quarantines, limiting contact between groups of horses, using individual tack and grooming supplies for each horse rather than sharing equipment, and using basic

hygiene practices such as washing hands, can reduce the potential for infection," says Weese.

Decreasing susceptibility by optimizing overall horse health and increasing resistance through vaccinations and keeping the horse's microbial gut populations balanced are equally as important; horses naturally come across potential health threats despite exposure precautions, so they must have strong immune systems as a line of defence. According to Weese, "We should ideally be working towards preventing infections, rather than treating, so that horses do not need to suffer in the first place."

Story by – Jillian Dasti

BIOSECURITY – Spread the word not the germs

Equine Guelph, in partnership with the Ontario horse racing industry, is launching a targeted, racing-specific biosecurity training program for all levels of the racing industry - from key stakeholders all the way down to grassroots. Training sessions, tools, resources and videos will be made available by May 2015 to all three horse racing disciplines – Standardbred/Thoroughbred/Quarter Horse – to help protect the industry from the threat of infectious disease.

In the first stage, Equine Guelph will be tailoring its successful two-week online biosecurity course to cover racing specific topics and delivering this information to Ontario Racing Commission officials (ORC) in a half day workshop and subsequent online course. In the second stage, a 'Virtual Video Tour' featuring

biosecurity expert Dr. Scott Weese will be developed. This video will offer assessments and practical solutions for racetrack paddocks and large training centre barns. In stage three, racehorse owners, trainers and grooms will receive material distributed by the ORC and racetrack officials. Videos and printed resources will reach all ten Ontario race tracks, paddocks and offices as well as approximately twenty major training centres. Stay tuned to EquineGuelph.ca for more details.

In partnership with the Ontario Ministry of Agriculture, Food and Rural Affairs, Equine Guelph is developing a 'Full-Circle-Responsibility' equine welfare educational initiative which stands to benefit horses in both the racing and non-racing sectors.

This project is funded in part through *Growing Forward 2 (GF2)*, a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of *GF2* in Ontario.

Other partners include: Central Ontario Standardbred Association, Equine Canada, Grand River Agricultural Society, Horsemen's Benevolent and Protective Association, Ontario Harness Horse Association, Ontario Ministry of Agriculture, Food and Rural Affairs, Ontario Racing Commission, Ontario Veterinary College, Quarter Horse Racing Association, Standardbred Canada and Vétoquinol Canada Inc..

Story by – Jackie Bellamy-Zions

Emerging Diseases in the Equine Industry

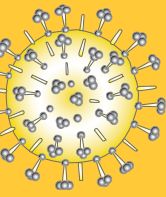
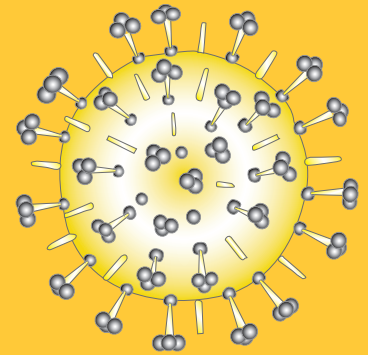
Horse health is one of the most important issues in the equine industry. Just like humans, horses have their own health concerns, including emerging infectious diseases. Horses by nature are social creatures, and many travel extensively, locally, nationally or internationally through competing and global sales. This means the risk of infection has never been more prevalent. Scientists have developed vaccines and treatments for various infections, but the pathogens involved have adapted, becoming more drug-resistant and infectious.

To combat this situation, researchers such as Dr. Scott Weese, from the Ontario Veterinary College, are investigating known and emerging infectious diseases. Weese studies the effects and changes in microbial populations in the horses' digestive tracts, sources and carriers of infections, and investigates methods to control transmission of pathogens. In particular, he focuses on bacterial changes that can cause diarrhea or colic (including *Clostridium difficile*, a spore-forming bacterium that can cause diarrhea and inflammation of the colon) and various other important causes of disease such as

equine influenza virus and equine herpesvirus. Infectious diseases are often the cause of changes in horse health trends.

Weese's research contributes to understanding how these pathogens operate and spread and their effects. This provides vital information for learning how to treat infected horses. "Scientists will never be able to completely eradicate infectious diseases, and pathogens will always evolve," says Weese, "but this research will enable veterinarians to more easily recognize signs of disease, diagnose problems, and ultimately reduce sickness and suffering."

Story by – Jillian Dasti



Investigating the Impact of Equine Guelph Research

To find out how the horse industry is using Equine Guelph Research, Dr. Jeff Thomason initiated the Equine Research Uptake Project. Sponsored by OMAFRA, to assess the awareness, perception and uptake of Equine Guelph research by the Ontario horse industry, the aim is to improve dissemination of useful research information.

Student investigators Amy Binning and Erin Massender interviewed veterinarians, farriers, breeders and trainers. Online surveys were sent to different sectors of the industry to gain a broader perspective on the awareness of research. The project team compiled many references to Equine Guelph from online forums, and other popular sources. It quickly became clear that Equine Guelph is a trusted source for research information by the Ontario horse industry.

Over 800 people participated in the online surveys. Impressively, over 86% of Ontario respondents knew of the Equine Guelph research program, and 57% of these have changed their horse management practices as a result of Equine Guelph research. Dr. Weese's biosecurity recommendations and Dr. Bienzle's respiratory research were most commonly cited as leading to a change in management. But it is clear that few participants incorporate research evidence regularly.

Online references to Equine Guelph were frequent and diverse, from discussions of the best universities for equine education, to deliberations about the merits of specific research articles.

Interviewees and survey respondents were both quick to point out that practices of horse people often lack scientific basis. The positive results from the Equine Research Uptake Project suggest that this sentiment might be changing. By ensuring research is relevant to the needs of the industry and maintaining high levels of awareness through strong communication programs, Equine Guelph research aims to become part of the day-to-day life of the horse industry. For further information, look for the final report of the Equine Research Uptake Project, which will be published soon at EquineGuelph.ca.

Early Embryonic Loss

In the last few decades, technology has greatly expanded scientists' understanding of pregnancy in horses. For example, ultrasound has made it possible to diagnose pregnancy as early as within two weeks after conception. Using ultrasound, researchers found that the rate of conception in horses was much higher than previously thought but that the pregnancies were often lost within the first month; mares were conceiving, but not carrying the pregnancy to term.



Photo by: Barbara Sheridan Photography

Researchers investigate how the mare and embryo communicate with each other.

What triggers this early embryonic loss? Dr. Keith Betteridge, a professor and researcher at the OVC, seeks to answer this question by studying mares and their embryos during pregnancies deliberately made to fail by prostaglandin injection. In the past,

scientists believed the embryo was just a “passenger”, only receiving signals from the mother. But that’s not so – it turns out the embryo is an active participant in pregnancy; mother and embryo communicate with each other by exchanging signals. Betteridge’s research involves studying what and how they communicate.

The results of this research will be important for further studies being done in the field of Developmental Origins of Health and Disease, a new area exploring how environmental factors such as diet during early pregnancy, affect offspring throughout their lives. Evidence of these factors are well-documented in humans, notably as a result of the Dutch famine of 1944, when starving pregnant women produced generations of underweight offspring who developed various health problems in early and adult life. “From this research, we can determine what needs to be communicated to produce healthier offspring, and how breakdown in communication can lead to pregnancy failure,” says Betteridge.

Breeders stand to benefit from this research mostly through offspring but also through the mothers; scientists could potentially identify mares that are particularly susceptible to early embryonic loss, and even protect against its occurrence.

Funding for this research has been provided by the Natural Sciences and Engineering Research Council (NSERC), the Grayson-Jockey Club Research Foundation, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), and Equine Guelph.

Story by – Jillian Dasti

Footing Affects How Horses Move

Horses’ sensitive hooves can detect differences in the surfaces they’re on, affecting how they move. Thoroughbreds and Standardbreds, bred lighter for speed, are susceptible to damage brought on by the high intensity work in racing. Racetrack geometry and consistency are therefore important factors in preventing this.

Research by Dr. Jeff Thomason focuses on hoof interactions with surfaces, effects of various surface material, and slopes. His research of different footing used in other disciplines has revealed that some injuries are discipline – specific, partially because the horse loads its feet differently depending on the activity. Thomason says, “to maximize the horse’s performance, track surfaces must be uniform so the horse doesn’t have to consciously focus on how to load its feet.”

Thomason’s research is important for quantifying the footing consistency and geometry each discipline needs, reducing the impact surfaces have on the legs, reducing injuries and fatalities, and ultimately increasing the number of horses continuing to race and having second careers.

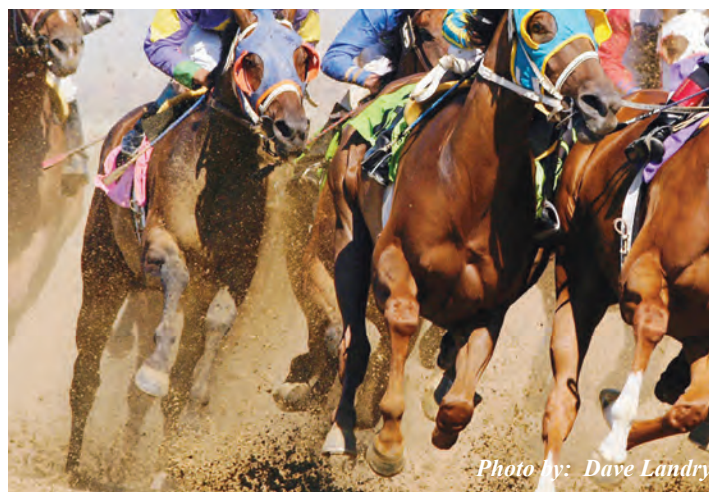


Photo by: Dave Landry

To maximize the horse’s performance, track surfaces must be uniform

Funding for this research has been provided through Equine Guelph from the Ontario Racing Commission and the Horsemen’s Benevolent and Protective Association of Ontario.

Story by – Jillian Dasti

Whip Use in Quarter Horse Racing

Traditional horse training often involves whip use in an attempt to make racehorses run faster. The main concern lies in the excessive use of the whip, as whip use can have negative physical and psychological effects on the horse. All horse racing organizations regulate whip use in races, and some countries have even completely banned its use.

Undergraduate research completed with Dr. Katrina Merckies at the University of Guelph's Kemptville Campus evaluated Quarter Horse races, finding no correlation between frequency of whip use on each horse and its speed and placing in the race; additionally, experienced jockeys were found to use their whips more, despite not placing higher in races than less experienced jockeys. This has significant implications for equine welfare: the racing industry could evolve to emphasize more accountability and transparency from the tracks, horse owners, trainers, and jockeys; and change to a more strategic and technical approach in training.

To view the expanded version of this news story visit: www.equineguelph.ca/news/index.php?content=432



Photo by: Helen Macgregor

Some countries have banned whip use.

Story by – Jillian Dasti

EquiMania! Celebrates 10 Years at Can-Am!

Equine Guelph's interactive youth education attraction is the perfect fit where education meets fun! From sitting on top of everyone's favorite fiberglass horse, "Shorty Legs", to learning the inner workings of the horses skeletal and digestive system – EquiMania! delivers information in the most entertaining way for the whole family.



EquiMania! - entertainment and education for the whole family!

The EquiMania! Explorer safety program tours youth through the entire display learning how to be safe around horses, in the stable, around equipment and in the barn yard. Our new helmet safety display is proving popular, teaching riders why it is so important to use their head and always wear a helmet when working around horses. This youth safety education initiative is made possible

**Bring EquiMania!
to your event!
Contact
horses@uoguelph.ca**

each year by our partners: Kubota Canada, Ontario Equestrian Federation, SSG Gloves, System Fencing and Workplace Safety and Prevention Services. Equine Guelph also thanks Greenhawk, Shur-Gain and Zoetis for their generous support as sponsors of our healthcare displays.

Our next stop will be at Can-Am Equine All Breeds Emporium, April 3 - 5 at the new location of Markham Fairgrounds. Help us celebrate our 10th year at Can-Am! Bring the kids to enter a new colouring contest (up to age 10). And for horse enthusiasts new to riding, the Ticket to Ride program will trot out again. Brought to you by Equine Guelph and the Ontario Equestrian Federation, "Ticket to Ride", offers youth an opportunity for a free assessment lesson, discounted lesson package or free introduction to horses barn tour at participating OEF member riding facilities. Pick up your Explorer Passport at the EquiMania! display and let the learning begin!

UPDATE ON EQUINE GUELPH'S WORK



Visit our **HEALTHCARE TOOLS WEB PAGE** for **FREE** interactive checklists, videos, calculators, quiz's, pdf's and games to help you give the best possible care to your horse.

Learn what vaccinations your horse needs this spring with **VACCINATION EQUI-PLANNER**. Over 30 handy PDF's await your download from annual expense sheets to pasture management guidelines.

Equine Guelph thanks the following animal health companies for investing in our online healthcare tools:



invested in our SENIOR HORSE CHALLENGE – going well beyond general stable management, nutrition, hoof care and dental needs; this tool helps horse owners understand challenges including diseases, disorders and conditions that are common to the aging equid. There is even a special section on becoming adept at pain recognition.



invested in our COLIC RISK RATER – a crucial tool in the horse caregiver's arsenal, designed to identify the risk factors and provide prevention tips, aiming to minimize needless pain and suffering. Given that colic is the number one killer of horses (other than old age), the ten minute investment in this free tool, to evaluate your horse's risk, is invaluable.



invested in our BIOSECURITY RISK CALCULATOR – giving horse owners a great starting point to assess biosecurity risk on their farms by revealing the potential risks currently present and the most practical ways to decrease those risks. Having a solid understanding of equine health, infectious disease and disease control is paramount in reducing biosecurity risk.



invested in JOURNEY THROUGH THE JOINTS and LAMENESS LAB – taking horse owners on a 360° tour of the horse's leg joints. Journey through the Joints educates caretakers about the different stages of joint degeneration, explaining arthritis including prevention and care. Then visit Lameness Lab - test your knowledge on detecting lameness and find out how the vets do it!

EVENTS Mark your calendar!

Horse Behaviour & Safety eWorkshop
Feb 23 – Mar 8

Can-Am All Breed Equine Expo (Markham)– EquiMania!
Apr 3 – 5

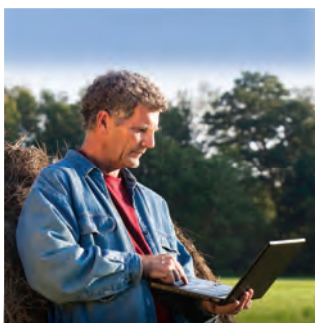
Equine Biosecurity eWorkshop
Apr 20 – May 4

Equine Care & Welfare – Life Stages (Milverton)
March 17

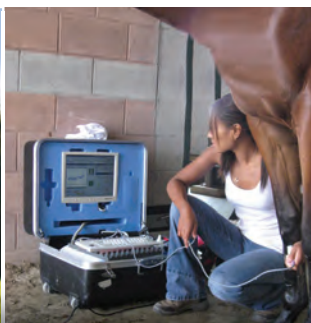
Colic Prevention eWorkshop
Apr 13 – 26

Equine Guelph's Online Courses
Next offering May 2015

Anyone wishing to excerpt Equine Guelph should contact: Jackie Bellamy-Zions ext 54756 jbellamy@uoguelph.ca



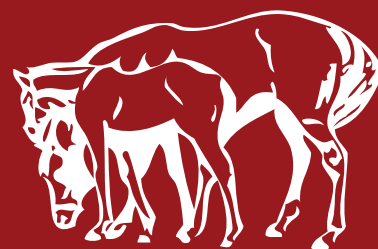
educating horsepeople



funding industry research



promoting health & performance



EQUINE GUELPH
helping horses for life™