

Equine Guelph's Equine Excellence Initiative

Equine Industry and University working together to achieve international distinction

The University of Guelph has a long and proud history of providing service for horses and horse owners, dating to the establishment of the Ontario Veterinary College (OVC) in 1862. Today, the industry benefits from Guelph's unique combination of resources and campus-wide expertise in the life sciences. In 2003, the University and the equine industry formally came together to establish Equine Guelph with an initial focus on equine research, performance and education. Recently, Equine Guelph's mandate was broadened to include all equine activities at the University (see side bar), including fundraising. The efforts of the fundraising campaign, the Equine Excellence Initiative (EEI), will build on existing programs, facilities and services with the goal of moving Guelph from being world recognized to being the premier centre for the horse. This will require transformative investment in the five interrelated areas and hence, the vital importance of the EEI.



- Photo by Dave Landry

Equine Guelph broadens mandate

Founded in 2003, Equine Guelph is the horse owner's Centre at the University of Guelph, dedicated to improving, initially through the provision of research, performance and education programs, the health and well-being of horses. Recently, Equine Guelph's mandate was broadened to include all equine activities at the University. In order to better meet industry needs, Equine Guelph now focuses on five interrelated areas: research, education and training, performance, healthcare and industry development. This expanded role will support the horse throughout its lifespan by providing a comprehensive continuum of care that optimizes health, addresses performance issues and fully supports the diagnosis and treatment of sick and injured horses.

Research

Equine research is evolving rapidly, and hence the EEI calls for an expanded research program that pursues the enormous potential of exciting new tools such as proteomics, genomics and enhanced research technologies. Funds raised by the EEI will accelerate the work of equine researchers and augment our multidisciplinary thematic (e.g. respiratory diseases) team approach to the discovery process. This will strengthen Guelph's expertise in the clinical and basic sciences, and lead to advanced diagnostic and treatment strategies that move quickly from laboratory to clinical application. An investment into equine research is critical for the health of both the horse and the industry.

Education and Training

Working with equine industry and University leaders, Equine Guelph's award-winning education programs focus on lifelong learning for industry people thus supporting career advancement and staff retention. These integrated equine education programs, which use evidence-based research, industry input and technology, are designed to meet the needs of the beginning learner through to the industry veteran.

Funds raised by the EEI will support the growth of the education program with the creation of new courses.

Performance

The EEI will support the equine athlete by raising funds to acquire state-of-the-art facilities and equipment, and through the adoption of the latest diagnostic techniques, to anticipate and address performance issues in otherwise healthy animals. This

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UPDATE ON EQUINE GUELPH'S WORK

Research

This year the Quarter Racing Owners of Ontario joined the Ontario Thoroughbred and Standardbred Racing Industry, and private donors to help fund Equine Guelph's Research Program. Their generous support has enabled the program to celebrate an important milestone with funds surpassing \$500,000 for 2007-2008 for equine research. This support ensures continued long term research that can lead not only to increased understanding of performance in the equine athlete, but also improved healthcare to prevent and treat conditions that afflict the horse.

With the growth of the equine industry, the need for research continues to increase and researchers at the University of Guelph strive to meet that need. Highlights of the current research program include projects investigating the transmission and diagnosis of infectious disease from resistant bacteria, colic, the impact of horse behavior on racing performance, the incidence of horse injuries at the racetrack and the use of new diagnostic tools. To learn more about current equine research studies please visit: www.EquineGuelph.ca

Performance

Equine Guelph thanks Woodbine Entertainment Group (WEG) for their efforts to raise funds in support of laminitis research. "Laminitis is a serious problem for many horses in Canada," says Gayle Ecker, Senior Manager of Equine Guelph. "The support of the racing community at Woodbine Racetrack and WEG is so important. This assistance will help raise money to fund research that helps us understand this painful ailment."

In celebration of Barbaro's Kentucky Derby victory wristbands were available, for a donation, to WEG employees and backstretch personnel with wristbands also available to the general public during this past Derby Day at Woodbine.

Anyone interested in knowing more about the Barbaro Memorial Fund can do so at a special Web site - RidingwithBarbaro.org - which has been established by the National Thoroughbred Racing Association. Donations to equine research can be made to Equine Guelph, www.EquineGuelph.ca.

Education

Equine Guelph and the Office of Open Learning are pleased to announce a major change to the multi-award winning Equine Science Certificate online program. In the future, students will be able to select electives, due to the addition of a new course - Equine Behaviour. The new course provides students with access to the most recent evidence-based insights into horse behaviour and its interpretation, including the challenges placed on them due to domestication.

The program will be comprised of four core courses (Management of the Equine Environment, Nutrition, Health and Disease Prevention and Functional Anatomy), and two electives. Students can choose two of Growth & Development, Exercise Physiology and Equine Behaviour.

Sign up for our e-news or visit www.EquineScienceCertificate.com to learn more about the first offering of **Equine Behaviour**.

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investment will allow early detection and management, and ultimately prevention, of potentially critical problems in the equine athlete. Currently no facility in Canada offers a complete array of performance assessment services, and owners must often take their animals out of the province for such comprehensive assessments. All horses, from pleasure animals to elite athletes will benefit from these new facilities.

Healthcare

With the help of funds raised by the EEI, sick and injured horses will receive advanced medical care in new OVC Equine Hospital facilities that will be built to the highest infection control and bio-containment standards. Plans include a specialized ward for mares and foals, a new intensive care unit and an isolation facility that will be physically separate from the main Hospital building.

Industry Development

The proposed Ontario Equine Centre (see Equine Guelph Update, Spring 2007) at Arkell, an equine industry initiative in

partnership with the University of Guelph, will be a 600-acre equine facility that advances the industry as a whole, thereby helping ensure it remains strong and well positioned for future generations. It will compliment University programs and facilities, and bring together under one roof key industry organizations, research, continuing education, indoor and outdoor show facilities, a three-day Olympic-caliber eventing course and an on-site veterinary clinic.

A common goal to benefit many

'The equine industry is pleased to be working closely with the University of Guelph in support of the Equine Excellence Initiative. We are united in this effort and committed to building the future together', says Al Patterson, President, Equine Canada. 'Working together we can raise the needed funds and establish Guelph as one of the pre-eminent locations in the world for all things equine. This will result in many

benefits for the industry including advanced research, new and upgraded facilities, and new educational opportunities'.

Focusing on the above five interrelated areas will provide a continuum of care to ensure the wellbeing of horses at all stages of their lives. It will meet the needs of the industry through knowledge generation, technology transfer, education, support for the performance horse, and the expert care and treatment of sick animals. It will provide horse owners and private equine veterinarians access to the most advanced facilities, equipment and techniques, and capitalize on the unique concentration of veterinary expertise at OVC. And it will ultimately strengthen the industry through increased collaboration among its various sectors, and with the University of Guelph, culminating in a world renowned centre for the horse in the heartland of Ontario's equine community.

More information on the Equine Excellence Initiative fundraising goals and priorities will be made available in the coming months.

Good to the bone

The prevention of catastrophic bone injuries in racehorses

What if we could predict a bone injury before it happened and thereby prevent it? An ‘equine crystal ball’ perhaps? Dr. Antonio Cruz, Ontario Veterinary College (OVC) researcher and orthopaedic equine surgeon, says he hopes that in the not too distant future we will be able to see into the future – of our horses’ bones.

“The number one cause of poor performance and career-ending injury in racehorses is catastrophic bone and joint failure,” states Cruz. He has spent a great deal of time trying to gauge injuries in both Thoroughbreds and Standardbreds by determining rates and frequency of break-downs and causes of death.

The ultimate goal of his research is to reduce such catastrophic injuries in racehorses. Cruz believes that if the strength and quality of horses’ bones were monitored on a routine basis, potential career-ending injuries might be largely prevented.

“I believe we can develop a stall-side tool, to be used by vets and potentially trainers, that can monitor how the body is responding to exercise,” says Cruz. “This technology could be used on a regular, possibly monthly, basis to follow changes in bone quality and strength, and hence, measure the adaptation of the bone to training.”

Over the next two years, Cruz, with Drs. Luis Rubio, Juan Tabar, Catherine Filejski and graduate student, Richelle Neundorf, will evaluate the ‘changing bones’ of two and three-year-old Thoroughbred racehorses on a monthly basis during Woodbine’s racing season. Specifically, the research will monitor the cannon bones and joint health of these horses, and will determine their response and adaptation to exercise intensity.



Numbers Tell the Story

- Up to 30% of racehorses entering into training leave within 3 months
- The cannon bone accounts for approximately 70% of catastrophic bone failure
- Approximately 70% of severe joint diseases occur in the fetlock and knee joints

OVC student, Cathy Cruz, uses quantitative ultrasound (QUS) to measure cannon bone strength of Thoroughbred racehorse

- Photo by Dr. Antonio Cruz

Quantitative ultrasound (QUS) will be used as the primary diagnostic tool for this research. QUS indirectly evaluates bone density and structure, which can be used as a proxy indicator of bone strength.

In addition to using QUS, Cruz will examine biomarkers of bone and cartilage. Biomarkers are molecules present in body fluids which reveal if a tissue is being degraded or being synthesized. These molecules will be collected by means of a simple blood sample. This data will then be correlated with the information gained using QUS.

In the foreseeable future, it is possible that a battery of stall-side tests, including QUS and biomarkers, might be a routine procedure done in the shed-row. “We hope that through this research, we can develop a practical means to screen horses to detect those at higher risk of injury,” states Cruz.

Imagine the benefits of this ‘equine crystal ball’ approach to the future health of our horses – not to mention the financial livelihood of the racing industry!

- Henrietta Coole

Tips to diminish injuries

1. Ensure proper hoof trimming, balance and shoeing.
2. Avoid long toe grabs.
3. Prevent accumulation of high speed work in a short period of time.
4. Condition the horse properly.
5. Ensure early intervention (i.e. diagnosis) before an injury deteriorates.
6. Recognize the value of rest in the treatment of injuries.

About Equine Guelph

Equine Guelph is the horse owner and caregiver's Centre at the University of Guelph. We are dedicated to improving the health and well-being of horses through the provision and promotion of research, performance and education.

We welcome your views and encourage you to contact us with your comments or suggestions. Anyone wishing to excerpt *Equine Guelph Update* should contact:

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Equine Guelph also publishes a bi-monthly e-newsletter, Horses@Guelph. To subscribe to the e-newsletter, please visit www.equineguelph.ca

Equine First Aid and Wound Management workshop – made possible by our Sponsors!

Equine Guelph is proud to announce the initial offering of the First Aid and Wound Management workshop to be held on October 20, 2007. As part of Equine Guelph's multi-award winning education program, this interactive workshop will bring practical, up-to-date, hands-on information to those directly working with horses, for all disciplines and levels of experience. Topics include; wound care, insurance, transport and handling issues, as well as, how to deal with various first aid situations in the field. How well an emergency is dealt with by a caregiver has a dramatic impact on the outcome for the affected horse. Those attending this workshop will be given the tools needed to have a positive impact if such an unexpected situation arises.

Equine Guelph thanks John Deere, Insemination Technics and Supplies International Inc., and Intercity Insurance Services Inc., sponsors of this exciting workshop. Generous donations of supplies and teaching aids were also made by Bioniche Animal Health, Cavalier Equestrian Inc., Equiface™ Saver and Tyco International Ltd.



Would you like to help us?

We value your support.

For donations by phone, please contact: **1 888 266-3108**. To donate online please visit: www.alumni.uoguelph.ca and click on "Supporting Guelph". You will find Equine Guelph listed in the dropdown menu.

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 receipt will be sent for donations. Our charitable registration number is 10816 1829 RR 0001.

Please return to:
Equine Guelph Fund
c/o Alumni House
University of Guelph, Guelph,
ON, N1G 2W1

To learn more about Equine Guelph's Education Program please visit www.EquineGuelph.ca.

EVENTS

Mark your calendar!

September 10, 2007

Equine Science Certificate courses begin

October 13, 2007

Equine Photography Workshop

October 2007

Watch for launch of new Equine Guelph website!

October 20, 2007

First Aid and Wound Management Workshop

October 2007

Watch for Equine Guelph's Donor Appreciation Day!

November 2 – 11, 2007

EquiMania! at the Royal Agricultural Winter Fair

October 6, 2007

Equine Journalism Workshop

November 23 – 25, 2007

EquiMania! at the Ontario Equestrian Federation's Annual Conference

Keep up to date! Sign up for Equine Guelph's bimonthly E-News at www.EquineGuelph.ca