

**UNIVERSITY
of GUELPH**

Equine Guelph



**Annual Report
May 1, 2017 – April 30, 2018**

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Executive Summary

Animal health and well-being continues to be a growing area of awareness and we are seeing changes both internationally and nationally through societal pressure and increased legislation. Our society today expects standards of care to be followed to support the welfare of the horse under all circumstances. Canada continues to see progress in animal welfare through the development of several new Codes of Practice for many animals in the agricultural sector including horses.

In a unique partnership of the equine industry and Equine Guelph, at the University of Guelph, progress continues to be made through the program of Research focusing on health and welfare of horses. In turn, this contributes to the Education/Training and Communications programs that mobilize this knowledge for the participants of the equine industry in Canada in accessible formats.

In 2018, Equine Guelph celebrates its 15th anniversary, and in turn celebrates the partners in our equine industry that have helped achieve this progress. Over the last 15 years, Equine Guelph, through our research funding partners and donors, has supported over 100 research projects in health, diagnostics and prevention. It has also developed award-winning programs – including three international awards -- for its educational programming at many levels and for communications of the research findings and best practices to the industry nationally and internationally.

These programs support continued progress for the industry in identified priority areas, including the care and management of the equine in Canada. Equine welfare is a recognized priority for both the racing and non-racing sectors of our industry and the Research program at the University of Guelph continues to provide tangible benefits to equine veterinarians, owners and caretakers that support health and well-being of horses.

The members of the Equine Guelph Research Committee spend many hours each year reviewing the research proposals to ensure they meet industry priorities for their funding group. Final decisions are based on the results of the external peer review and the relation of the research goals for the current priorities. In 2017-2018, approximately \$400,000 was allocated to research programs for new and continuing projects.

Industry-designated priority projects included many areas of study:

- ❖ Advances in stem cell treatments and drug formulations for joint conditions
- ❖ Disease prevention and prevalence in the Ontario equine industry
- ❖ Investigations into the cause of catastrophic injury in racehorses
- ❖ Studies on gut health using an in-vitro model for the horse
- ❖ Calcification of pulmonary arteries, impact of Lasix and EIPH, inflammatory airway disease in Ontario racehorses and lung disease, 3D models for training of equine practitioners for joint injections, shockwave therapy, and emerging disease issues plus several more.

These have been designated priority areas for funding from the industry-supported research program allocated through the Equine Guelph Research Committee. More information on these and other studies can be found in the Appendices.

As part of the unique partnership between the industry and Equine Guelph, the results of the research studies are then fed into the Education and Communications program, which provides yet another tangible benefit from the investment into research. New information is included in the 20+ online courses and this is also cycled into the communications program providing researcher

interviews, updates, videos, monthly articles, e-blasts, seminars and many other venues. This cycle of new information developed through research helps continue to provide a stream of up-to-date, evidence-based research in plain language so that owners and caretakers can apply this knowledge in care and best management practices for the health, welfare and safety of their equine charges. A new program now launched is TheHorsePortal, which hosts a series of short, focused and economical courses for the horse owner. After launching a pilot program for members of the racing industry (Gut Health & Colic prevention), development of new courses progressed based on priorities set by participants of the horse racing survey conducted by Equine Guelph. This helps to continue the cycle of information dissemination by removing time and cost barriers to continuing education, making it accessible to a wider audience and representing the designated priorities of the industry.

A special thank you is extended to all past and present members of the Advisory Council and to those who have served and continue to serve on the Research Committee for their ongoing support and volunteer hours, while providing their expertise. Many donors, volunteers and sponsors contribute to the ongoing success of Equine Guelph and its programs in support of the industry; their dedication and contribution is greatly appreciated.

Equine Guelph acknowledges with sincere appreciation the Council partners as they continue to provide support and guidance for the programs of Equine Guelph on industry priorities – the Alcohol and Gaming Commission of Ontario, the E.P. Taylor Equine Research Fund, Equestrian Canada, the Horsemen’s Benevolent and Protective Association of Ontario, Ontario Equestrian, the Ontario Harness Horse Association, Ontario Racing, Ontario Ministry of Agriculture and Food, Standardbred Canada, the Quarter Racing Owners of Ontario, Inc. and the University of Guelph.

This annual report provides the details on the 2017-2018 activities of Equine Guelph and salutes the partnerships that make these achievements possible for the benefit of the equine industry and the horse. This partnership continues to provide important support to the horse industry for the future sustainability of our industry.





Dear Partners and Supporters of Equine Guelph,

Over the last year, there have been multiple consultations, meetings and discussions about the future of the horse industry and the role of Equine Guelph and the University of Guelph (UofG). One of the most common phrases from those outside the industry is “they are so passionate about the horse industry!” And indeed that is true.

Equine Guelph and the UofG share that passion, for certainly we are “horse people” too. We value the role of research and education/training for advancing our industry through education, research and clinical care and the campus partnership of the Ontario Veterinary College, the Ontario Agricultural College and Equine Guelph. We value the partnership with the equine industry at the provincial and national level through the Advisory Council of Equine Guelph, where these shared priorities for the industry can be discussed and advanced through partnerships.

The industry has continued to work through the challenges of re-structuring within the Ontario racing industry. The impact of that continues to be felt with diminished funding for the research program as well as lack of funding for the communications program to continue to disseminate the research results.

From the inception of Equine Guelph, the partnership of industry and UofG has provided many benefits for both partners. Funding is made available for equine researchers to progress the science on areas of priority for the industry through an external peer-reviewed process, followed by the prioritization of projects based by designated representatives of the funding associations to ensure that critical areas are being addressed by the expertise available within the University. It also provides a special pathway to directly fund the research without the major costs associated with the process. The small investment made into the communications program then disseminates the results of the research through: E-News, press releases, social media, distribution through association memberships, tradeshow, seminars and several other venues so that the return on this investment is the practical application by the caregivers for the horses.

In the Equine Guelph 15th anniversary edition of the Research newsletter, special attention was drawn to the global advances in veterinary practices resultant of EG funded projects. These include advances in embryo transfer and reproduction technologies and a procedure called Transvenous Electrical Cardioversion (TVEC) to treat atrial fibrillation and many more.

This funding has also helped train future veterinarians and specialists, and also, importantly, helped researchers access larger amounts of funding as they develop their areas of research. The importance of the “domino effect” of the Equine Guelph funding program to move forward the state of knowledge at many levels, and leverage further funding, cannot be overstated and needs to be protected for the industry.

We are also fortunate to have so many researchers who are well-known internationally by their peers and who collaborate with their global partners and networks, with many as invited keynote speakers at international conferences and meetings.

Equine Guelph's educational programs continue to gain international recognition, now including students from over 40 different countries! One of the tangible benefits from the research program is the development of course materials based on research results which enables this information to be mobilized through the educational courses. In this way, the investment of the money into the research program continues to pay back dividends by providing opportunities for learning.

These learning opportunities have been developed at many levels and are provided by the education program of Equine Guelph and the UofG. There are free learning tools on EG's website focused on horse health care. They can be completed in about 30 minutes and include opportunities for self-assessments to support best practices for health and well-being of horses. Examples of this include: the Colic Risk Rater, the Vaccination Planner, the Code of Practice tool, Lameness Lab and several others.

Equine Guelph, in partnership with every English-speaking provincial federation, offers several short online courses on TheHorsePortal. After a successful launch, this program provided a free pilot for both racing and non-racing sectors in a cost-effective and accessible venue. We now have partners from the national and international level, as well as Ontario Racing and welfare groups who have joined in support of this important development.

Over the last 13 years, the unique and fun travelling exhibit called EquiMania!, has grown from a small display on horse teeth to an international show, with exhibits now scheduled at 4 National/State events in Canada and the U.S.A. The sought after exhibit has received two international awards for best exhibit and innovative new partnership. EquiMania! has expanded once again, thanks to the support of sponsors and partners. It is now building a component on TheHorsePortal to extend the reach of the program. Quite an accomplishment for a zero-based budget program! It now attracts sponsorships and partnerships that help expand the reach of this important program to bring youth and families into the exhibit to learn about horse health, welfare, safety and careers in the horse industry. New partnerships with the equine industry can continue to build and advance the effectiveness of this innovative program.

We would like to express our sincere thanks to Gayle and her team, to the partners, the many associations and federations, the corporate sponsors, the members of the Advisory Council and Research Committee, the donors and the volunteers. Without their ongoing and dedicated support, Equine Guelph would not have achieved the growth of programs that has led to national and international recognition. The strong commitment made by the UofG is evident with the programs of Equine Guelph, OVC, OAC and other groups at the UofG – this continued commitment to the equine industry can be helpful for working together to build the successful and strong future of the equine industry with a robust research program on priority concerns and an effective and multi-level education and training program that will benefit present and future industry participants of the industry to support health, welfare and safety of the horses and the people that care for them.

Yours sincerely,



Dr. Jeffrey Wichtel
Co-Chair, Equine Guelph
Dean, Ontario Veterinary College



Mr. Al Patterson
Co-Chair, Equine Guelph

Introduction

Equine Guelph celebrates 15 years on July 1, 2018!

“The Centre for the horse owner at the University of Guelph” -- Equine Guelph was created in 2003 by the horse industry to create and operate programs for the horse industry as an important partner in future sustainability.

In 2002, a group of forward-thinking individuals from the equine industry and the University of Guelph came together to discuss an important concept that would fill an essential need for the industry - a centre “created by the industry for the industry” at the University. There was an identified need for discussion in order to create an opportunity for a 2-way portal for on-going and structured discussions about research needs, information dissemination to the industry and educational/training programming for people in the industry. Equine Guelph was born out of those discussions and 15 years later is delivering on the research and education needs for the equine industry.

International concern for the welfare of horses continues to hold a prominent place in the horse industry and there are several initiatives underway in many countries, including the Fédération Equestre Internationale (International Equestrian Federation), World Horse Welfare and many other groups to push forward on improvements as this becomes a global issue of importance. The unique partnership of the equine industry and Equine Guelph is an important contributor to that global movement thanks to the dedication, concern and passion for the horse within the Ontario and Canadian industry and the University of Guelph.

The Advisory Council of Equine Guelph represents an initiative of the leaders of the industry, working together for the common goal of supporting the health and welfare of the equine industry and identifying new and emerging issues. Membership includes Equestrian Canada, The Horsemen’s Benevolent and Protective Association of Ontario, Ontario Equestrian, Ontario Harness Horse Association, Ontario Ministry of Agriculture, Food and Rural Affairs, Ontario Racing, Standardbred Canada, Quarter Racing Owners of Ontario, Inc. and the University of Guelph. Funding for research is also contributed by the E.P. Taylor Equine Research Fund, managed by the UofG.

The Co-Chairs of the Equine Guelph Council, OVC Dean, Dr. Jeff Wichtel and Mr. Al Patterson, representing Equestrian Canada, oversee the funding process and program initiatives of the Council to ensure the ongoing focus on industry priorities and a return of the industry investment. As part of this initiative, there is ongoing review and updating of the Terms of Reference for the Advisory Council and the EG Research Committee.

Over its 15 years of development, Equine Guelph has grown and changed with the changing needs and environment of the equine industry.

A robust equine research program has been made possible by the industry working with the University of Guelph to run an external peer-reviewed and industry priority allocation of funding to researchers at the UofG. The information from the research is in turn, fed back into the Communications program and disseminated out to the industry through several communications channels including a monthly e-news, social media, website, tradeshow, seminars and newsletters. Further extending the value of the research is the inclusion of research information and up-dates in the equine education program which provides plain language summaries, and practical application in continuing education programs with the Office of Open Learning and

Educational Support and through a new partnership education and training platform called TheHorsePortal. Hands-on education is accomplished through the fun and engaging EquiMania! youth and family travelling exhibit that delights many people at fairs, tradeshow and as part of the education program at the Royal Agricultural Winter Fair every year.

This Annual Report for the 2017-2018 fiscal year will highlight important achievements and showcase the interesting new initiatives and progress made within the programs of Equine Guelph.

Programs of Equine Guelph

Research

The unique partnership that exists between the equine industry and the University of Guelph, through the Equine Guelph Advisory Council and its Research Committee shows the power that can be gained through industry and academia working together. The industry, through a common interest in the health and welfare of their horses, helps to set priorities and fund the research program and in turn this strengthens the industry through advancements in veterinary training, skills and knowledge for practicing veterinarians in the field and a higher level of knowledge within the industry, for trainers, grooms, coaches, facility owners and more.

Traditionally the majority of funding for the equine research program through Equine Guelph came through the Horse Improvement Program of the Ontario racing industry. This has been an important role of the racing industry to facilitate the research program and enables researchers to conduct quality research on industry priorities. These funds from the racing industry have contributed to over 100 projects in the past 15 years. Funding also comes directly from the HBPA and the E.P. Taylor Foundation. While there were delays and holdbacks due to re-organization and industry development issues, there was just over \$400,000 allocated for Research projects.

This year, Equine Guelph was pleased to announce the Ontario Equestrian Federation (now Ontario Equestrian) stepped up to the plate to help provide over \$28,000 towards the research program to be aimed at research on gut health in horses.

The support of the racing industry and Ontario Equestrian, along with the generous donations from individuals, is a critical and valued part of the research program in support of horse health and welfare. Equine Guelph and the equine researchers extend a special thank you to the support of the racing industry.

In response to the changing environment for the equine industry, the Advisory Council has also reviewed and updated the Terms of Reference for both the Advisory Council and the Research Committee, with the addition of two UofG researchers to the Advisory Council and the Research Committee, and added representation from the Ontario Association of Equine Practitioners. There is also provision for adding Ex-Officio members as recommended by the Council as needed for projects or strategic initiatives.

Dr. Thomas Koch has been named as the new Co-Chair of the EG Research Committee, taking over the position from Dr. Jeff Thomason. Dr. Koch may be a familiar name for many in the industry, as he is well known for his research into advancement of stem cell use in horses. Sincere thanks are due to Dr. Thomason for his many years of dedication to the Research Committee and working with the industry members who also serve on that committee.

Dr. Koch and the University of Guelph team are looking to work closely with the industry to develop funding mechanisms that will provide predictable and robust research funding to sustain the

world-class research conducted in Ontario for the benefit of the equine industry. Research funding is at a critical impasse due to the continued challenges within the racing industry following the termination of the SARP program and there is a real risk of losing research capacity to support both emerging and established health and welfare research programs.

The research program also enables a strong education program of equine veterinary students, practitioners and specialists, which provides the foundation for state-of-the-art emergency preparedness programs within the province.

The many hours dedicated by volunteers of the EG Research Committee, reviewing and working on behalf of the industry is also gratefully acknowledged.

There is a great diversity of projects ongoing for 2017-2018 studying many areas of health and well-being of horses, including hindgut microflora and gut health, emerging diseases and health risks for horses, airway disease and management, stem cell advances, track surfaces along with lameness and injury studies, 3D modelling and many more.

Summaries of each project are found in Appendix 5, and a list of publications and research presentations in Appendices 6 and 7.

Education and Training

Online Education Program for Certificates and Diplomas

Horse owners know the challenges of keeping up with new information for horse care and taking courses at a university or college is often impossible for many. Yet many in the industry acknowledge the importance of having quality education and training programs to continue to develop knowledgeable and skilled people for a sustainable and thriving industry in a world of constant change. It is also a priority to ensure that up-to-date research results are disseminated to the industry as a whole and to individuals.

The goal of Equine Guelph over our last 15 years has been to provide relevant, educational opportunities through an accessible online platform that would:

- ❖ include high-quality and evidence-based information from leading researchers, practitioners and experts in the equine industry
- ❖ provide practical skills and science-based knowledge to improve the health and welfare of the horse
- ❖ be flexible for scheduling to balance work, family and horse care
- ❖ encourage lasting relationships with members of the global equine community who share a love of horses and are willing to share experiences to support health, welfare and safety
- ❖ be viewed as a recognized certification to improve employment opportunities and advance careers for individuals in the equine industry

In the first year of the education program, Equine Guelph had created 5 online courses, that eventually led to the creation of the Equine Science Certificate, the first online equine studies Continuing Education program offered by an accredited university.

Over 15 years, Equine Guelph, working in partnership with the Office of Open Learning and Educational Support at the University of Guelph, has grown and now offers 20 different courses

for our students. Over 20 courses are offered each year, with 16 different subjects on offer. Courses are offered during three semesters per year - in winter, summer and fall - and are accepted by Equestrian Canada for professional development credits for coaches.

Students can work to achieve:

- the Equine Science Certificate
- the Certificate in Business Management
- the Equine Welfare Certificate
- the Diploma in Equine Studies

Initially, the majority of the students came from Ontario but as the program grew, it truly became an international learning community attracting students from every province in Canada, over 30 states in the U.S.A. and 50 different countries!

Since the offering of our program, 371 students have graduated with the Equine Science Certificate, 52 for the Certificate in Equine Business, 199 have achieved the Diploma and 7 now have completed the Equine Welfare Certificate. During this past year, 900 registrations were received, from both the racing and non-racing sectors, with student community ages ranging from 16 years of age to over 80!

As part of the Quality Matters standards program, courses have continued to be re-developed, upgraded and enhanced over the past year. Our dedicated instructors include researchers, industry experts along with special guests from around the world to provide our students with an engaging and challenging learning experience and we continue to be a world-leader for offerings from an accredited university.

Detailed information on course offerings can be found in Appendix 9 and 10.

A New Approach – TheHorsePortal

In the industry survey conducted by Equine Guelph, participants responded that learning more about horses was an important pursuit for them but “time” and “money” were barriers to that goal.

Working with the provincial equestrian federations and the national equestrian federation, Equine Guelph developed the next step in industry training and education - a national industry partnership with every English-speaking federation to create TheHorsePortal. Thanks to a grant from the Growing Forward funding program, Equine Guelph was able to develop an industry training platform with input from the federations to provide economical and accessible training opportunities online. Starting with the designated priorities of the Code of Practice for Equine and the National standard on Equine Biosecurity, TheHorsePortal offered short, flexible 3 week courses with a narrow focus. There are now 5 short courses on offer and the go-forward plan is to work with our partners and sponsors to develop more on-demand courses on industry-designated topics. Federation members received a discount on the low tuition fee and a portion is returned to the provincial federation.

In both 2017 and again in 2018, there were 5 courses offered on TheHorsePortal with over 260 students joining the learning community in 2017 and over 230 students so far in 2018. Courses included:

- Gut Health and Colic Prevention

- Sickness Prevention (formerly the Canadian standard for Equine Biosecurity)
- Equine Behaviour and Safety (for adults)
- Equine Behaviour and Safety (for youth)
- Horse Care and Welfare (formerly the Equine Code of Practice)

A new feature that Equine Guelph offered, thanks to the funding grant, was free tuition for the racing sector, coaches, facility managers and OSPCA officers in the pilot program.

The partners currently include:

Provincial Horse Federations

- ❖ Alberta Equestrian Federation
- ❖ Equine Association of Yukon
- ❖ Horse Council of British Columbia
- ❖ Island Horse Council
- ❖ Manitoba Horse Council
- ❖ New Brunswick Equestrian Association
- ❖ Newfoundland and Labrador Equestrian Association
- ❖ Nova Scotia Equestrian Federation
- ❖ Saskatchewan Horse Federation

Racing Organizations

- ❖ Ontario Racing

Animal Welfare Organizations

- ❖ Campbell Centre for the Study of Animal Welfare

- ❖ Ontario SPCA

Accreditation Partners

- ❖ Equestrian Canada

International Partners

- ❖ Saddle Up Safely (a program of the University of Kentucky Health Care, UK college of Agriculture and many community organizations)

Supporting Partners

- ❖ Farm & Food Care
- ❖ Greenhawk Equestrian Sport
- ❖ Growing Forward2
- ❖ Omega Alpha
- ❖ Standardbred Canada
- ❖ Manitoba Horse Council

TheHorsePortal provides an important new opportunity for the equine industry in Canada for both the racing and non-racing sectors. Partnerships can be developed for specialized or regional courses and for special topics or emerging issues while working with industry groups, associations, disciplines, sponsors or training-linked-to-licensing, as a cost-effective method to expand the training opportunities for their members.

In 2017-2018, the five HorsePortal short online courses had a total enrollment of 434 students, and represented \$19,067.75 in revenue. Nearly one half of these students (2017) are members of one of the 10 partnering Provincial and Territorial Sport Organizations, and while a large percentage of these students come from Ontario (90), a growing number of students are PTSO members from across Canada, notably from British Columbia (32), Alberta (29), Nova Scotia (21), and Saskatchewan (15). An additional 24 students from across the United States joined our online learning community. Thanks in part to a grant from the Grand River Agricultural Society, 107 members from the three sectors of Ontario Racing registered for our Gut Health and Colic Prevention course free of charge.

What our students are saying:

"This course was very informative and truly interesting. There was a lot of information covered on the subject and it was broken down in sections each day. Was very enjoyable to take."

"The Gut Health and Colic Prevention course was packed full of relevant and useful information along with practical applications that I can immediately implement with my horses."

Other highlights include:

New Education Tuition Awards Announced

Equine Guelph was very pleased to work with industry donors to develop two new scholarships to help individuals from the racing industry to pursue further studies with Equine Guelph. The Stuart Stocks family have teamed up to develop an annual scholarship in loving memory of Stuart Stocks, a passionate follower of the racing industry. The award was won by Catherine Chouinard. (See the full story in the Communications section). Equine Guelph is sincerely grateful to the Stocks family for this moving tribute to their beloved brother, son and uncle in a way that gives industry participants an important opportunity to continue in their goals to achieve higher education and knowledge.

A second tuition award was also announced: the Roger L'Heureux Memorial Award. The winner, Cameron Lago, was thrilled by the opportunity to continue with his studies. The award was generously offered by the L'Heureux family and Crystal Fountains, Inc. in loving memory of Standardbred driver, trainer and groom, Roger L'Heureux. (See the full story in the Communications section).

These generous and moving tributes to exceptional individuals who were passionate about the racing industry make an important statement of the value of education for our industry and have given two special individuals opportunities for continuing education.

EquiMania!

EquiMania! is the innovative and engaging youth and family travelling education centre, which has won two international awards and appeared at national and major events in Canada and the U.S.

Internationally, EquiMania! continues to receive rave reviews. The successful partnership with the Minnesota State Fair continues into its 6th year as part of a renewed 5 year contract. EquiMania! was also invited to the FEI World Cup in Omaha, Nebraska! A dedicated team travelled to the two U.S. locations, thanks to generous sponsorship by the Kiewit Corporation, to help youth and families learn about health, welfare and safety and introduce many people to the educational programs of Equine Guelph.

The Royal Agricultural Winter Fair saw the launch of the innovative "Stop, Think, Act" activity in collaboration with Workplace Safety and Imperial Oil and Esso as part of EquiMania!. As a featured exhibit for the education centres, EquiMania! at The Royal provides a valuable platform to reach youth in the equine industry and introduce them to horses. This was complemented by the EquiMania! Challenge! which directed youth to TheHorsePortal to continue learning more about safety and horse care online.

Willie Win, the fuzzy and popular racehorse mascot and world champion Standardbred driver James MacDonald joined in the fun, with lots of smiles and making friends near the Standardbred racing display.

EquiMania! continues to be a featured exhibit at the Can-Am All Breeds Expo in Markham, the International Competition in Omaha, Nebraska, the Canadian National Exhibition, Horse Capades, the Royal, and has been invited to several fairs and smaller events over the year.

A new fair, the Georgia Agricultural State Fair, will be added to the roster for 2018, making a total of 4 major national or state fairs and events where EquiMania! was a featured exhibit!

Equine Guelph is about partnerships and sincerely thanks the ongoing support of the strategic partners that continue to work with us to develop and maintain new and existing programs. Sincere thanks goes out to our wonderful EquiMania! sponsors: Can-Am All Breeds Expo, Equestrian Canada, Greenhawk, Intercity Insurance Services, Kubota Canada, Ontario Equestrian, The Royal Agricultural Winter Fair, Shur-Gain, SSG Gloves, Standardbred Canada, System Fencing, Workplace Safety & Prevention Services, and Zoetis.

Our sponsors and our dedicated and passionate support crew are the lifeline of EquiMania! as Equine Guelph could not develop new and fun displays nor be at as many events throughout Ontario and across the borders without each of you as we continue our mission to give back to the horse industry.

Large Animal Rescue Training Program

All large animal incidents regardless of cause or scope, present a risk of injury to first responders. Through proper training and the use of specialized rescue equipment, risks can be significantly mitigated and the odds of a favorable outcome for animals, responders and non-responders can be improved.

Equine Guelph continues to position itself to be the leader in Large Animal Rescue training in Ontario. The program has evolved from general awareness level instruction to hands-on operational instruction and is customized for the audience. Training is supported by a qualified team of instructors. Through new and ongoing partnerships more responders and industry professionals can participate in this much needed training.



Training summary May 1, 2017 – April 30, 2018

November 2017: 2 ½ day Operational Level Training Course, Meaford Training Centre, Meaford, Ontario

Based on the success of the April course (2017) and the demand for an additional offering, a second course was delivered by the Ontario Team in November.

Of the 30 participants in this offering 11 fire departments, 2 mounted police units, a volunteer mounted unit and a veterinarian were represented.

January, 2018: Large Animal Rescue, Ice Water Considerations, Lake Seneca

Central York Fire Services invited Equine Guelph to present on Large Animal Rescue with an emphasis on Ice Water rescue at their Ice Water Workshop.

March 20 and 21, 2018: Puslinch Fire Department, Puslinch, Ontario

Puslinch Fire Department invited Equine Guelph to provide awareness training (2hrs – repeated) for the department.

March 25 and 26, 2018: Organization of Racing Investigators 2018 Training Conference, Woodbine Racetrack, Toronto, Ontario

A ½ day Awareness level course targeted towards horse racing industry professionals.

April 21 and 22: Awareness Level Training Course, Mildmay Fire Department, Mildmay, Ontario

Equine Guelph was invited to hold the 2 day course as part of the department's wider program of a weekend of fire fighter training. The Large Animal Rescue course was one of five specialised offerings for fire fighters with attendance from 7 fire departments.

Communications and Marketing

Great feedback continues to be received from our equine industry for the communications program and extensive pickup of our articles continues from the horse industry and its publications in published print and web articles. Equine Guelph has enjoyed an over 40% increase in the uptake of articles released over last year!

The media paid special attention to the launch of TheHorsePortal in January 2017 and this momentum continues with over 66 articles announcing new short course offerings published in popular horse journals all across Canada including 10 provincial equestrian federations!

There is continued interest in Equine Guelph's barn fire prevention articles with the most popular news release this year being "Combustible Clean Up." Equine Guelph's fire safety resources have also been referenced on many websites and in articles such as Ontario Racing's new Fire Safety Infographic.

Exceptional coverage has also resulted from Equine Guelph's Large Animal Emergency Rescue courses providing valuable training to fire fighters, first responders and the racing industry (including at Woodbine for the 2018 Organization of Racing Investigators International Training Conference). Over 24 articles announced the workshops and provided feedback from participants who expressed the importance and need for this kind of training. (See Education section special report on Large Animal Rescue courses offered by Equine Guelph).

Much coverage was recorded after Ontario Equestrian announced their Member Equine Research Fund would donate \$1.50 per OE member annually as part of the Equine Guelph annual research allocation. The donation of over \$28,000 was featured by over 15 equine media outlets across Canada as well as the U.S. and even New Zealand.

Nintey three articles pertaining to research coming out of the Ontario Veterinary College were picked up including a strong representation of Equine Guelph research featured in the 2018 Canadian Horse Annual.

NEWSLETTER



A special 15th anniversary edition of Equine Guelph Research update was released for spring 2018. It featured research which had global impact and techniques that have been adopted broadly around the world. Equine Guelph's colour, printed newsletter has a major research focus along with providing updates on our other programs. The newsletter is partially supported by the industry investment into the research program as it extends distribution of research findings to the industry. Distribution exceeds 26,000 including members of the horse industry and media, with a PDF copy available on the website. Distribution of the newsletter has been supported by Ontario Equestrian as an inclusion in their e-newsletter and it is also distributed through Canadian Thoroughbred magazine.

E-news & HEALTHflash

A monthly distribution of e-news keeps our readers up-to-date and informed. The media pick-up of Equine Guelph communications continues to indicate that there is a strong interest in the articles and a value for re-distribution to their audience to let them know of new information, research findings and special events. The e-news enjoys a high “open rate” for the articles – 10% higher than the industry average.

In partnership with our sponsors, *HEALTHflash*, consisting of 4 seasonal email reminders + monthly health alerts, was introduced in January 2013. This publication continues to be highly popular and links have been created from equine media across North America including: Equestrian Canada, Horse-Canada.com and EquiMed, among a growing number of others.

Website

The overarching goal of the website is to create a virtual portal for the equine industry to have a place for updated information on research, events and educational opportunities. Equine Guelph’s website continues to remain popular with the horse industry with over 200,000 page views from those seeking to improve welfare to the horse including; research advances, diagnostic developments and educational/training programs.

Equine Guelph’s website has reached over 39,400 new unique visitors with the most popular pages continuing to be Job Track and Education. This is followed by the Equine Guelph Vaccination healthcare tool page and the colic prevention tool page.

Media, Seminars and Presentations, Association Targeted Communication

For a complete list of seminars and presentations given by Equine Guelph staff, please see Appendix 8. Regular communications are released to the equine media in formats that are easily included in their publications, whether in print or electronic form. Over 336 articles have been published about the programs of Equine Guelph (an over 40% increase from last year) in the industry media, (see Appendix 12).

Media intern, Nicole Weidner joined the Equine Guelph team in May 2017 and has been instrumental in the creation of fact sheets and research stories as well as helping out with the day to day operations of the communication program. While simultaneously working on her PhD at the University of Guelph in Animal Nutrition, Nicole’s passion for communications and horses have married well to produce very useful articles especially in area of equine nutrition.

A broad range of coverage continues from a large variety of industry publications, including both racing and non-racing interests. Equine Guelph staff regularly review and monitor industry magazines, newsletters and websites to follow and record the ongoing coverage.

In 2017-18, there has been extensive coverage from: StandardbredCanada.com, TheRider, HarnessLink.com, Horsejournals.com and Horse-Canada.com. Equine Guelph stories were also featured in the 2018 Canadian Horse Annual, COSAonline.com, HBPA.com, Holistichorse.com, OntarioRacing.com, Raceline, Quarter Racing Owners of Ontario Inc., Horse Sport Magazine, the Ontario Veterinary College bulletin and EquiMed.com among others.

In addition, Equine Guelph received coverage from international horse industry websites such as; TheHorse.com, HorseTalk.co.nz, StableManagement.com, HorseNation.com, EquineDiseasecc.org, Eurosport.co.uk and Equine Science Update.

Links to Equine Guelph resources continue to be created from sites including: Equestrian Canada, Provincial Equestrian Federation websites, veterinarian web sites, and blogs from social media sites (i.e. Barn Mice, Facebook and Twitter). Information and service sites are also actively posting links to Equine Guelph resources e.g.: Intercityinsurance.com and SystemsFence.com directing the public to Equine Guelph's online courses, horse owner tools and research.

Ontario Equestrian (OE) continues their strong and on-going support of Equine Guelph with their e-broadcast program to OE members (over 20,000). This provides important assistance in alerting their members to new educational opportunities, thus helping to boost student enrollment and increase tuition revenue. Important new partnerships have been developing with OE including the new program to contribute to research support, partnering for OE/EquiMania! displays at the Royal Agricultural Winter Fair and other events.

Several other sponsors and provincial equine organizations have been posting buttons on their sites to help promote the communications, research and education/training initiatives including the tuition awards for racing, HorsePortal course offerings, 12 –week course offerings and others.

TheHorsePortal has linked 10 provincial equestrian federations nation-wide, as well as the OSPCA, Ontario Racing, 4-H Ontario and Saddle Up Safely, each with their own unique landing page generating traffic to the new short courses offered by Equine Guelph.

Information Inquiries

Each year Equine Guelph receives many information requests from the industry on a wide variety of concerns and topics and the small staff continue to provide resources and contacts for the significant number of emails, phone calls, information packages, walk-ins and letters. This includes a significant number of people looking for employment opportunities.

Tradeshows are a common venue for information requests as many visit the booths, displays and attend the seminars, indicating ongoing confidence in the evidence-based information that is provided to the horse industry. Providing an information portal for the industry as well as JobTrack is important to the industry for ongoing industry development and sustainability. Equine Guelph was developed by the industry for the industry to play the role of “portal” between the industry and the knowledge developers in the equine research and extension programs at the University of Guelph, and this program remains without a funding basis by the industry or government. An important opportunity remains to be developed for enhancements to this “portal” role to continue to attract new people to the horse industry as workers or horse owners and provide them with important lifelong learning pathways to contribute to the industry.

Popular topics include information requests on large animal emergency rescue courses, fire prevention and safety, biosecurity for horse owners, identifying sources of information on new and emerging diseases, concerns about real or perceived welfare issues such as over population of horses and rehoming/retraining questions, management and nutritional questions.

Development

A. Equine Guelph 'Helping Horses for Life' Development Campaign:

The following information reflects fundraising initiatives and private donations as well as corporate sponsorship sales over the past fiscal year:

Donated To	FY16-17 Amount Raised	FY17-18 Amount Raised	FY17-18 No. of Unique Donors	FY17-18 Median Gift
Area of Greatest Need	\$17,606.00	\$22,261.47	76	\$50.00
Education	\$7,645.00	\$7,086.20	6	\$235.00
Research	\$1,347.00	\$34,221.66*	9	\$100.00
OE- Welfare Education Fund	\$64.00	\$5,506.30**	155	\$20.00
Sponsorship	\$60,995.00	\$87,995.04	12	\$5,000.00
Equine Guelph – Stuart Stocks Memorial Award	\$2,000.00	\$1,000.00	1	\$1,000.00
Equine Guelph – Roger L'Heureux Memorial Equine Award	-	\$10,400.00	3	\$5,000.00
TOTAL	\$88,241.00	\$162,470.67	262	\$25.00

TABLE I - Funds raised from private donations and sponsorship to EG accounts during FY16-17 and FY17-18 including the number of unique donors and the median size of gift for each account.

* Includes donation for research from Ontario Equestrian for \$28,636.66

** Included in this total is \$5,016.30 which represents donations from Ontario Equestrian members collected by Ontario Equestrian from April 2016-June 2017 and paid to EG in FY2017-18

The amount raised in the FY17-18 increased dramatically from the year before as a result of increased private donations, a major research donation from Ontario Equestrian, an expanded corporate sponsorship program as well as the establishment of memorial tuition awards.

EG is encouraged by the upward trend of the development campaign and looks forward to continued momentum as a result of expanded partnerships and programs.

1. Annual Appeal: Equine Guelph includes donation cards with its annual spring newsletter.

Newsletter Mailing	Total Value Gifts Returned	Total # Gifts Returned
2013-14 Newsletter Mailings (fall and spring)	\$6,788.00	88
2014-15 Newsletter Mailings (fall and spring)	\$4,317.00	73
2015-16 Newsletter Mailing (spring only)	\$3,566.00	107
2016-17 Newsletter Mailing (spring only)	\$12,124.00	31
2017-18 Newsletter Mailing (spring only)	\$1,940.00	21

TABLE II – Comparison of select metrics for the past five fiscal years.

The 2018 spring newsletter mailing included a newsletter (focus on research and TheHorsePortal), donation card and return envelope. This year represents our first full year reporting with new reporting tools (through Cannon CRM). It means that our stats are much more precise and accurate, even though it appears to have fewer responses. This is consistent with the trend across all college and U of G reporting.

One month after the mailing, a chaser appeal followed, encouraging those who had not yet responded to please do so. This was sent electronically to past donors with active e-mail addresses who had not yet given in FY17-18 – a total of 148 individuals. Stats related to the e-mail message are below. Given that there is zero cost to this initiative, it is worth repeating next year to monitor result trends.

	FY2016-17	FY2017-18
Recipients	199	148
Open rate	79 (44%)	53 (36%)
Recipient click-throughs	7 (3.9%)	3 (2%)
Recipient actions	3 (1.6%)	2 (1.4%)
Revenue	unknown	\$158
Forwarded opens	47	36
Unsubscribes/Opt-outs	0	1

TABLE III – FY16-17 and FY17-18 chaser e-mail results

- Ontario Equestrian Annual Membership Mailing Fundraising Program:** Each year the Ontario Equestrian (OE), through its annual membership renewal form, gives members an opportunity to donate to a cause (Equine Guelph is one on a list of choices). The FY2017-18 amount totals **\$5,016.30** and includes member donations received by OE from April 2016-June 2017.

3. Corporate Sponsorship Program:

The FY2017-18 sponsorship program has resulted in the addition of one *new sponsor and the renewal of 10 sponsors (including two** sponsors investing in more programs). Total revenue from the corporate sponsorship program was **\$87,995.04**:

Online Tools & Other Education Programs – \$51,495.04:

- a. **Heartland Insurance** – barn fire prevention tool + fire safety flyer ▪ \$6,500
- b. **Bucas** – thermo-regulation tool ▪ \$5,000
- c. ****Duck et associates (on behalf of Merck)** – HEALTHflash initiative, vaccination tool + portal short course ▪ \$10,000
- d. **Boehringer Ingelheim** – senior horse tool ▪ \$4,995
- e. ****Capri/Intercity** – colic tool, Hoofprints program, portal short course + portal PTSO pages ▪ \$13,000
- f. ***Pfera** – reproduction tool – \$7,000 (3-year contract commitment for \$15,000)
- g. **Vétoquinol** – biosecurity tool – \$5,000.04

EquiMania! – \$36,500:

- a. **SSG Gloves** – youth safety activity ▪ \$15,000
- b. **Workplace Safety & Prevention Services** – youth safety activity ▪ \$10,000
- c. **Kubota** – youth safety activity ▪ \$5,000
- d. **Nutreco/Shur-Gain** – nutrition display ▪ \$5,000
- e. **Standardbred Canada** – harness racing display ▪ \$1,500

B. Equine Guelph Grants:

In FY2017-18, Equine Guelph secured a philanthropic donation of \$20,000 from the Grand River Agricultural Society (GRAS) for the 'Online Industry Training Pilot Project for Youth and Racing.' The program delivered free training on TheHorsePortal to these segments of the horse industry. Horse racing trainers and grooms were trained in gut health and colic prevention and youth (Ontario Equestrian and Ontario 4-H members) in horse safety and behaviour.

In February of 2018, Equine Guelph submitted a philanthropic donation request to GRAS and was successful in securing \$29,949 for an Equine First Aid Training Pilot program and the funds will be forthcoming in FY2018-19. This future funding has been used to leverage a Canadian Agricultural Partnership program grant which was submitted in May of 2018.

C. Equine Guelph Store:

Made possible by a GF2 grant secured in FY2012-13, Equine Guelph has developed new tools which will help grassroots caregivers give the best possible care to their horses when they're healthy and sick. Not only do these three tools support the welfare of the horse, but they provide critical revenue to support Equine Guelph's welfare education program.

Total revenue raised in FY2017-18 is **\$3,125.00** with a breakdown by item below:

Horse Health Check (HHC) Posters: Posters are available at 30 Greenhawk locations across Canada (including the Greenhawk online store). Equine Guelph wholesales the posters to Greenhawk. Total poster revenue was **\$1,000.00**.



Horse Health App: The *Horse Health Tracker App* has been developed for both GooglePlay and Apple iTunes. The tool allows horse caregivers to be active participants in their horse's healthcare. Total revenue generated in FY2017-18 was **\$1,116.52** (Note: Apple sales were \$949.63 and Google Play sales were \$166.89).

First Aid Kits: This extensive equine first aid kit was specifically developed for horse caregivers by Equine Guelph. Designed to keep horse caregivers organized, the kit will prepare them to be ready to deal with emergency situations with their horses. The Equine Guelph First Aid Kit is available at eight Greenhawk corporate stores in Ontario. Equine Guelph wholesales the kits to Greenhawk and further proceeds from kit sales are donated by Greenhawk to Equine Guelph in support of its welfare education programs. Total revenue generated in FY2017-18 was **\$880**.



Financial Report

The Year End Financial Report is included in the Appendices. Quarterly reports are produced for the Equine Guelph Advisory Council. Financial reports include forecasting of revenue and expenditure for each of the program areas and year-to-date statements.

Equine Guelph revenue totaled \$788,806 (compared to \$910,875 for previous year) for the fiscal year with funding provided by our funding partners, donations, tuition and a substantial portion coming from grants and increased sponsorships. Program expenditures totaled \$860,691 (\$1,028,622 last fiscal year) using planned carry forwards from the previous year to buffer the anticipated decrease in revenue.

The research program allocated \$409,696 for research projects. Expenditures for the education program were \$323,888 which included program development and exhibits as specified from grant money or sponsorship agreements. Expenditures for the Communications and Marketing program were \$92,820. The workshops and online education tuition returned \$90,377.

Challenges of stability in funding for the racing industry remain under discussion and this in turn has continued to impact funding for Equine Guelph with industry funding of only \$51,500. This funding is used for the support of administration and communications related to the research and overall communications program back to the industry.

The majority of funding for the education/communications program continues to come from tuition, sponsorships and successful grant proposals. Research funding continues to be a source of significant concern going forward without specific designated funding identified and protected. The goal of stable consistent funding for the programs of Equine Guelph, as a Centre at the University for the horse industry will continue to be an issue of high priority as the industry continues with its efforts to develop a re-organized model that provides it with a sustainable business model. Research and education/training of the members of the racing and non-racing community will continue to be an important part of future success.

Highlights and Special Events

May 2017 – April 2018

EDUCATORS FOR EQUINES

Equine Guelph is headlining a group of Ontario educators extolling the merits of the Youth Literary Derby.

“The Derby is a wonderful initiative encouraging youth of Ontario to express themselves, engage and celebrate in the wonderful world of horses,” said Gayle Ecker, director of Equine Guelph. “As an enthusiastic partner in the promotion of the Youth Literary Derby and a strong supporter of education for budding horse enthusiasts, Equine Guelph is pleased to provide **online Horse Behaviour and Safety courses** for the winners of the Youth Literary Derby. We hope the Derby winners will enjoy furthering their interest in horses and learning the language of the horse during this highly interactive course.”



Full Story: <http://www.equineguelph.ca/news/index.php?content=561>

EquiMania! Kicks off 2018 at Can-Am

EquiMania! would like to extend a sincere thank you to everyone at the Can-Am Equine Expo in Markham, ON. *It was the 13th consecutive year of participation* at yet another brilliant show!



“My heartfelt thanks go out to Ross Millar and the Can-Am team, especially auction organizer Janice Blakeney, for their dedication in putting together the annual Art Auction featured at the Can-Am Saturday Evening Extravaganza,” says Gayle Ecker. The auction raised \$4275.00 in under 15 minutes, with all proceeds going to Equine Guelph. Many thanks to the ladies who donated their beautiful pieces of art including: Nola McConnan, Ann Clifford, Kelly Plitz and Shawn Hamilton.

Equine Guelph would also like to acknowledge Heartland star, Amber Marshall for her role in the art auction.

Full Story: <http://www.equineguelph.ca/news/index.php?content=560>

CAMERON LAGO: CHARTING A COURSE FOR SUCCESS



There's no doubt Cameron Lago has charted a successful course in the Standardbred industry, thanks to an exceptional educational experience through Equine Guelph. He applied for and won the Stuart Stocks Memorial Tuition Award (**Equine Guelph Tuition Awards**) through Equine Guelph in 2016.

"I was thrilled to be chosen," he said. "I think education within the industry will continue to grow. It's extremely important. I would highly encourage

anyone to get connected with Equine Guelph and Ontario Racing. There's a lot to learn from one another."

Lago, also received two online courses through Equine Guelph (valued at \$549 each) after being selected as the recipient of the inaugural Roger L'Heureux Award in 2017.

Full Story: <http://www.equineguelph.ca/news/index.php?content=559>

Airway Disease in Racehorses More Prevalent Than Previously Thought, Study Reveals

New research in the Ontario Veterinary College at the University of Guelph shows that inflammatory airway disease (IAD) is much more common than previously thought.

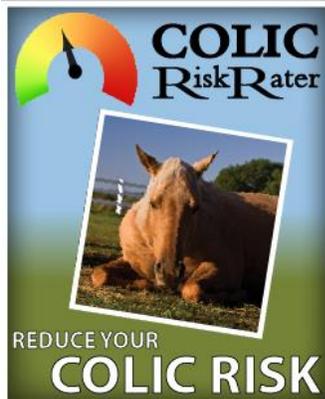


"The disease was known to be common in racehorses, but not as widespread as this study reveals," said pathobiology professor Jeff Caswell. "The findings suggest that IAD does not result from unique exposure of an affected horse to the stimulus that causes the disease. But rather the research suggests that all racehorses may be exposed, with inflammation of the airways experienced by many."

Full Story: <http://www.equineguelph.ca/news/index.php?content=558>

What is your Risk of Colic this Spring? – Use the Colic Risk Rater

The Colic Risk Rater, healthcare tool was performed by over 100 students in the winter 2018 offering of Equine Guelph's Gut Health & Colic course. Feedback indicates participants were keen to learn the simple management changes that could reduce



chances of colic. Many were surprised to learn approximately 80% of colic episodes may be related to management and therefore can be prevented. Available on the Equine Guelph website, the free Colic Risk Rater tool provides individual feedback to help horse owners identify risk factors and develop preventative strategies to help reduce the risk of colic.

During the last Gut Health and Colic course, guest speaker and experienced equine nutritionist, Don Kapper was on hand dispelling myths and discussing nutrition as it pertains to horse health and performance.

“The Gut Health and Colic Prevention course was packed full of relevant and useful information along with practical applications that I can immediately implement with my horses.” - student Donna Elkow-Nash

Visit Equine Guelph’s interactive [Colic Risk Rater healthcare tool](#) to learn how you can reduce your horse’s risk of Colic.

Full Story: <http://www.equineguelph.ca/news/index.php?content=557>

Major Threats to Equine Welfare Identified in Research Study

The research team asked equine professionals to participate in a survey. Results revealed a major risk to a horse’s well-being is a care-giver who does not know that what they are doing may negatively impact the health and well-being of the horse.



Participants then brainstormed ways to address issues related to equine welfare in Canada and ranked them in order of effectiveness. Increased education for all people who work with horses was one of the top solutions. This would provide care-givers with knowledge of current standards of care, while highlighting potential dangers to a horse’s well-being.

Overall, DuBois states, *“This study provides us with baseline data in the previously under-explored area of welfare perceptions in the Canadian equine industry. Additionally, data from surveys like this can help direct industry-wide strategies to improve welfare as well as future research into areas of concern.”*

Test your knowledge of the National Code of Practice for the Care and Handling of Equines with [Equine Guelph’s Code Decoder](#).

Full story: <http://www.equineguelph.ca/news/index.php?content=555>

Gut Health & Colic Course for Racing Industry Hugely Successful

Colic is the number one killer of horses, other than old age, so knowing how to reduce the risk of colic and gut issues ranks very high (3rd in fact according to the 2016 Equine Guelph Horse Racing Industry Survey – right behind respiratory issues and injuries). From January 22 – February 11, 2018, over 100 grooms and trainers in the Ontario horse racing industry received online training in the topic of digestive health that is so crucial for every horse owner and caretaker.

“Thank you for providing this course! My husband is a 3rd generation full-time Standardbred trainer and was pretty much born and raised at the race track. We thought he knew everything there was to know based on the generations of knowledge he had in his head. By the end of the first day of the course, we were already discussing possible new strategies and techniques. By the end of the 3rd week, we realized how little we actually knew and are now implementing many new methods to lessen the chances of colic happening at the track and at the farm.”

– Student of the winter 2018 Gut Health & Colic course.

Similar participant reviews reinforced the positive impact and multitude of lessons learned in this very important course on equine digestive health. With over 650 discussion posts the hunger for knowledge on this topic was highly evident! Feedback included students announcing they planned to alter their feed programs in a way that will reduce colic risks. Many students were surprised to learn that approximately 80% of colic episodes may be related to management and therefore can be prevented. Other risk factors such as: amount of forage fed, turn out time and dehydration and electrolyte status were major topics of discussion.

Guest speaker and highly experienced equine nutritionist, Don Kapper was on hand dispelling myths and discussing nutrition as it pertains to horse health and performance. The following are just a few of the interesting topics that were discussed: Salt, Feeding to Maintain Body Condition for Athletic Performance, Seasonal Feeding Considerations - Preventing Acid Gut Syndrome & Horses Going “off” Feed, and Electrolytes for Recovery.



This program is an online training partnership between Ontario Racing and Equine Guelph, with funding provided by Grand River Agricultural Society.

Project partners include: Central Ontario Standardbred Association, The Horsemen’s Benevolent and Protective Association of Ontario, Ontario Harness Horse Association, Quarter Racing Owners of Ontario Inc. and Standardbred Canada. The online course is sponsored by Intercity Insurance Services Inc. and Capri Insurance Services Ltd.

Full story: <http://www.equineguelph.ca/news/index.php?content=554>

Vaccination – Don't be Pokey about Making Your Plan

Now more than ever, we are aware of disease outbreaks with strong lines of communication keeping us up to date. A pivotal part of your sickness prevention plan includes a vaccination program. Only vaccination can prevent death from certain diseases such as rabies, which has seen its fair share of announcements of late in certain parts of Canada. Ontario Veterinary College Dean Wichtel says, “according to new information presented at an Ontario Association of Equine Practitioners (OAEP) meeting, the need for vaccination is greater than ever, with emerging new disease patterns that may be due in part to climate change.”

In times where kids cannot attend school unless they produce up-to-date immunization records, we need to think of horses in the same way. **The FEI requires proof of equine influenza vaccinations for horses competing at FEI events.** Competing or not, any horse that travels to events, or comes into contact with horses that travel, are exposed to inherent risks of contracting disease.

A great starting point for horse owners and veterinarians to discuss their annual vaccination program is Equine Guelph's healthcare tool – the **Vaccination Equi-Planner**. Horse owners are asked to complete six questions that help determine individual farm differences and risk factors, including: age, use, sex, exposure to outside horses and geography. This data is then compiled in a program and a printable, customized vaccination schedule is provided for each horse.

“The decision as to whether or not to vaccinate your horse against a particular disease is based on the risk associated with your horse becoming infected with certain disease-causing pathogens, says Dr. Alison Moore, Lead Veterinarian, Animal Health and Welfare at the Ontario Ministry of Agriculture, Food and Rural Affairs.



“Owners of horses that travel for competition need to know the diseases endemic to the areas to which they are travelling to properly protect their horse. Websites such as the Equine Disease Communication Centre (EDCC) (equinediseasecc.org/alerts/outbreaks) can help inform owners regarding disease risk in certain areas. Your veterinarian should also be made aware of your travel plans and be consulted regarding which diseases are in your home area so the most effective vaccination program can be designed.”

Disease should always be a concern if you are a horse owner and spring serves as a reminder to check your horses' vaccination records. Equine Guelph's **Vaccination Equi-**

Planner, sponsored by Merck Animal Health, is a useful tool designed for horse owners to generate personalized immunization schedules for their horses.

Full story: <http://www.equineguelph.ca/news/index.php?content=553>

Horse Behaviour & Safety Online Course Students Learn to Speak Horse

A hefty percentage of horse related injuries are due to human error and could be prevented if the handler had basic education in safety. An investment in the **Horse Behaviour and Safety online course** being offered by Equine Guelph for **youth (14 – 17)** and **adults** is absolutely priceless. The next offering of this course is March 26 – April 13, 2018.

“Through learning how horses perceive the world around them, their human handlers can develop safe best practices for working with them,” says Gayle Ecker, director of Equine Guelph.

Equine Guelph has partnered with all English-speaking equestrian federations across Canada and a special 10% course discount is available for both adult and junior members. Coaches and facility members of these associations will be interested in taking the very practical Horse Behaviour and Safety online course in preparation for teaching their own workshops. A new “Host your own Clinic Kit” is available to Coaches and facility members of these associations for free download on TheHorsePortal.ca, including lesson plans, activities, printable resources, videos and more!



Equine Guelph has developed the **Horse Behaviour and Safety online course** for **youth (14 – 17)** and will also offer an **adult version** scheduled to run at the same time, March 26 – April 13, 2018.

Full story: <http://www.equineguelph.ca/news/index.php?content=552>

Erin Equine Education Series covers horse and pasture prep for spring

Attendees at the second workshop in the Erin Equine Education Series on February 22nd are a step ahead with spring planning, thanks to advice from Alf Budweth, from Budson’s Farm and Feed Company, and Mark Eastman, from Credit Valley Conservation. Budweth and Eastman presented key information and tips on preparing your horses



and your pasture for spring turnout, respectively.

Budweth provided helpful advice on transitioning your horse to pasture. Eastman's talk covered a lot of ground (literally!), with topics ranging from soil testing, fertilizing, reseeding and the importance of sacrifice paddocks. For more information on maintaining a healthy pasture, check out Equine Guelph's [Pasture Management fact sheet](#).

Don't miss the last workshop in the series! Guest speakers will cover a hot topic related to hoof care: [leaving your horse barefoot vs. using horse shoes](#). It's coming up on March 8th at 7pm, at Budson's Farm and Feed Company in Erin, ON. Dr. Jeff Thomason from the Ontario Veterinary College will be participating in this presentation.

Full Story: <http://www.equineguelph.ca/news/index.php?content=551>

Stop, Think, Act, When Handling Horses

As part of [Canadian Ag Week](#) from March 11-17, 2018, Equine Guelph reminds horse caregivers to Stop, Think and Act when around horses.

In 2016, Workplace Safety and Prevention Services in collaboration with Imperial Oil and Esso, created an outreach message with the potential to prevent injuries that may not occur if we Stop, Think, and Act. Equine Guelph saw the applications for the horse industry and came on board. There are plenty of occasions to Stop, Think and Act every time you engage in activities involving horses.

In 2017, Equine Guelph's travelling youth exhibit, EquiMania!, launched a new Stop, Think and Act Hopscotch game to encourage kids to learn a new way of thinking and making good choices when it comes to farm safety. The game will be featured next at the Can-Am Equine Expo in Markham, ON, April 6 – 8, where youth can join in the fun and learn about safety.

For kids looking for activities over the March break, they can visit EquiMania! Online on www.TheHorsePortal.ca. Completion of the Stop, Think and Act online activities is rewarded with printable certificates and the know-how to reduce the risk of an accident when working around horses. As well, kids can test their general horse knowledge by taking the EquiMania! Challenge!

Even though Farm Safety Week is only one week in the year, it is important to Stop, Think and Act every day and especially on the horse farm. **Full Story:** <http://www.equineguelph.ca/news/index.php?content=550>



Gayle Ecker delivers senior horse workshop in the Erin Equine Education Series

Attendees at the first of the Equine Education Workshop series on February 8, 2018 in Erin, ON learned about senior horses from Equine Guelph's director, Gayle Ecker.



Ecker covered topics related to aging, senior horse welfare and the difficult but important planning necessary to prepare for when the time comes to say goodbye. The workshop was well attended, and participants were engaged by Ecker's vast knowledge of the area. You can find more information on the topics covered by Ecker through several Equine Guelph resources, including the **Senior Horse Challenge** and the **Euthanasia fact sheet**.

Full Story: <http://www.equineguelph.ca/news/index.php?content=549>

Equine Industry Symposium discusses the future of equestrianism in Canada

On February 10, 2018 the University of Guelph hosted the second Equine Industry Symposium aimed at bringing industry professionals and enthusiasts together to discuss ways to keep and retain youth engagement under the theme "Joining Forces on Youth Engagement."



The morning was filled with thought-provoking presentations from a variety of professionals, including Akaash Maharaj, Dr. Heather Ramey, Jenny Mayer, Tracey McCague-McElrae, Kim Leffley, David Reynolds and Equine Guelph's Gayle Ecker, addressing the topics of youth recruitment, engagement and succession. The afternoon provided the opportunity for attendees to contribute to ideas and actions through round-table discussions

centred on the three themes of recruitment, engagement and succession.

The event was organized and hosted by second-year students in the Bachelor of Bio-Resource Management degree program majoring in Equine Management. The symposium was made possible by generous sponsorship from the Ontario Agricultural College, MAAAX Equine Feed, Mad Barn, the University of Guelph Bookstore, Canadian Tire, Ontario Equestrian, the Horse Publications Group, Greenhawk and the Canadian Thoroughbred Horse Society.

Full Story: <http://www.equineguelph.ca/news/index.php?content=547>

Teaming up to Go with the Gut: Horse and Human Investigations

At the University of Guelph, 2 researchers with expertise in different areas have teamed up to learn more about the gut bacteria of horses. The research is a collaborative effort between Dr. Luis Arroyo, a researcher and clinician focused on large animal health, and Dr. Emma Allen-Vercoe, whose main focus is on links between the gut microbiome and health in humans.

The researchers hope to use an in vitro system known as Robogut, developed by Dr. Allen-Vercoe, to answer questions about the gut bacteria in healthy horses and those affected with disease, such as colitis. Robogut, a combination of beakers, tubes and monitors, simulates the human gut and allows researchers to explore the human microbiome.



The unique characteristics of the equine digestive system may make setting up Robogut more complicated. *“Horses are hindgut fermenters and rely on the bacteria in their cecum and colon to produce as much as 70% of their energy needs”* says Dr. Arroyo. Since the intestinal tract of the horse is much different than humans, researcher’s first need to understand what conditions are necessary for microbial growth in horses, to ensure that Robogut’s experimental set up accurately reflects that environment. Dr. Arroyo is currently overseeing the research that will answer these questions and will allow Drs. Arroyo and Allen-Vercoe to determine the right experimental conditions to use for Robogut to mimic a horse gut.

The future for research into the horse microbiome certainly looks promising with the help of Robogut. Stay tuned with Equine Guelph for updates on the project!

This research is supported by funding from Equine Guelph, Emerging Leaders of Latin America and The Natural Sciences and Engineering Research Council of Canada (NSERC).

Full Story: <http://www.equineguelph.ca/news/index.php?content=542>

Research Targets Equine Virus

Researchers at the University of Guelph are searching for clues to better manage a virus that can cause late gestation abortion in mares.



Dr. Brandon Lillie and Dr. Luis Arroyo, along with their research team, are trying to better understand how the virus exists in the horse population, uncover what triggers the virus to cause disease and assess ways to maximize current EHV vaccination efficacy and minimize the virus's effect on the horses' health. In particular, they are focusing on the abortive effect of the virus.

Funding for the study has come from the Ontario Ministry of Agriculture, Food and Rural Affairs and a University of Guelph Catalyst Grant, as well as funding from Equine Guelph and the Zoetis Investment in Innovation Fund.

Full Story: <http://www.equineguelph.ca/news/index.php?content=541>

Stuart Stocks Memorial Equine Award Winner Catherine Chouinard

"I would like to thank the amazing people at Equine Guelph and the Stocks family," says Standardbred groom of ten years, Catherine Chouinard. "The Stuart Stocks memorial award will give me the opportunity to learn more about the field and animals that I love. I will be able to use the information and techniques I learn in class to become a more knowledgeable horse owner, who can care for and develop amazing equine athletes. Thank you so much to everyone that helped make this possible."

The Stuart Stocks Memorial Equine Award has been created by the Stocks family in memory of their beloved brother, son and uncle, Mr. Stuart Stocks. Stuart Stocks was born in Sheffield England in 1957. He struggled throughout his life with a multitude of medical issues, but had a dry sense of humour, zest for life and love for horses.



Through demonstrating her love and dedication to race horses, Catherine has received the Stocks' award for 2017, receiving two online courses through Equine Guelph valued

at \$549 each (Certificates are available in Equine Science, Equine Welfare and Equine Business).

Full Story: <http://www.equineguelph.ca/news/index.php?content=539>

Ontario Equestrian Donates to Research

Fulfilling the decision of the OE Board and their promise to members in 2016, \$1.50 per 2017 OE member was accrued (in replacement of the plastic membership card) into the Ontario Equestrian Member Equine Research Fund to be sent to Equine Guelph at the end of every year as part of the Equine Guelph annual research allocation.



In a recently circulated survey, OE members were asked to choose where they thought the most benefit would be gained for their horses: 1) respiratory health research or 2) gut health and colic prevention research.

Over 5000 members voted and gut health and colic prevention was the majority choice.

This builds on an already active area of research on the health of the digestive tract. For example Dr. Katrina Merkies is investigating the effects of steaming or soaking hay for horses, research by Dr. Scott Weese has shown that **metabolic disorders are associated with changes in gut microflora** and Dr. Arroyo is investigating **equine gut contents and it's crucial role in health** with a simulated "glass gut" model.

"Ontario Equestrian has been a long-time and valued partner with Equine Guelph and we have joined in many partnership programs that support horse health, welfare and safety. This new research funding, as part of their new re-structuring program, is a great addition to the Equine Guelph research program at the University of Guelph and will build on existing areas of expertise at the University in support of horse health" says Gayle Ecker, director of Equine Guelph.

Full Story: <http://www.equineguelph.ca/news/index.php?content=536>

Roger L'Heureux Memorial Equine Award Winner

"I am thrilled to be picked as the recipient of the inaugural Roger L'Heureux Award," says Standardbred groom, Cameron Lago. "I am looking forward to another two courses, as my experience taking Equine Guelph courses has been amazing."

Lago was first introduced to Equine Guelph online courses when he won the Stuart Stocks Memorial Tuition Award in 2016 – an award that is currently accepting applicants to find the 2017 recipient.



"Having the opportunity to take Equine Genetics and Equine Exercise Physiology in the first quarter of 2017 was an educational experience second to none," says Lago. "The two courses I completed gave me lots of opportunity within the racing industry; such as, allowing me to teach others knowledge that I gained, in addition to allowing myself to implement innovative practices on my family's breeding farm. With these next two courses, I am certain there will be an increased amount of opportunities arise within the industry by talking to colleagues regarding animal welfare and methods of care to ensure the racing industries athletes are always cared for to the highest degree."

Equine Guelph thanks the L'Heureux family, David L'Heureux and Crystal Fountains Inc., for establishing this memorial award in loving memory of Standardbred driver, trainer and groom Roger L'Heureux. Roger was the son of Ephraim L'Heureux, a Standardbred driver, who won the first Maple Leaf Trot at Woodbine in 1950.

Full Story: <http://www.equineguelph.ca/news/index.php?content=535>

Knowledge, Practice and Application at Large Animal Emergency Rescue Course

First responders in Ontario now have an increased level of knowledge thanks to over 30 participants and a team of trainers. Presented by Equine Guelph and the Meaford Fire Department, Nov 17 – 19, the large animal rescue course covered topics including animal behavior in stressful situations and how to keep handlers and first responders safe.

“We feel strongly that this training is of benefit for all fire departments to help their communities and we are very proud of the strong relationship that Equine Guelph has developed with Chief Granahan and the Meaford Fire Department and Training Centre,” says Gayle Ecker, director of Equine Guelph. “Equine Guelph has been hosting Large Animal Rescue workshops for four years and this is our second successful course held in Meaford”.



Classic Towing made \$1.25 million worth of equipment available for the course plus very experienced tow operators including the well-known Bubba Semple from the TV show Heavy Rescue 401. McKinnon Transport brought a livestock hauler. Allan McKinnon and Bubba Semple both took part in class presentations. Safe attachment methods for straps and support were explained by lead instructor Victor MacPherson, Adjala-Tosorontio District Fire Chief and the assistant instructors.

“The instructors were knowledgeable in their fields and it truly was one of the best courses I’ve ever attended,” said Kris McCarthy, Toronto Mounted Police.

Participants came from Fire Departments in Chatsworth, Ramara, Burlington, Fort Erie, Rideau Lakes, Meaford, Searchmont as well as Mounted Police from Hamilton and Toronto and Ontario Mounted Special Service Unit. Students also included a veterinarian, veterinary technician and horse owners.

Equine Guelph extends its thanks to Scott Granahan, Chief of Meaford Fire Department and the team of knowledgeable instructors: Victor MacPherson, Susan Raymond, Beverley Sheremeto, Robert Nagle, Wendy Mclsaac-Swackhamer, Katherine Hoffman and Chris Watson.

Full Story: <http://www.equineguelph.ca/news/index.php?content=534>

Hop in to EquiMania! at the Royal Agricultural Winter Fair!



EquiMania! is sure to be hopping with fun new activities for Royal Agricultural Winter Fair visitors this November 3 - 12!

New this year, is a hopscotch game encouraging kids to Stop, Think and Act, making good choices when it comes to safety around the farm.

“Equine Guelph is proud to be presenting EquiMania! for its eleventh consecutive year at the Royal,” says

Gayle Ecker, Director of Equine Guelph.

Equine Guelph would like to thank the Royal Winter Fair for bringing EquiMania to their Education Centre and our sponsors for their continued support: *Esso, Greenhawk, Kubota Canada, Ontario Equestrian, Shur-Gain, Standardbred Canada, SSG Gloves, System Fencing and Workplace Safety and Prevention Services*. Equine Guelph is looking forward to another busy year of touring with EquiMania! in 2018!

Full Story: <http://www.equineguelph.ca/news/index.php?content=533>

Combustible Clean-up

With cooler, darker days ahead – and more pressure on heating and lighting systems – the risk of barn fires increase. So, now is the time for your annual combustible clean-up!

To help you learn more about the combustible hazards in your barn and evaluate the safety of your facility, go to Equine Guelph’s **Barn Fire Prevention online tool**. The interactive assessment tool asks 20 questions about inside and outside of your barn and takes five minutes to complete.

Full story: <http://www.equineguelph.ca/news/index.php?content=532>



Hoofprints Honours and Remembers

November is a time of remembrance. Horses faithfully serve in many ways. They have stood by us through thick and thin and when they leave, that loss is devastating.



The Hoofprints program gives grieving horse owners a positive means to cope with the loss and a loving way to honour the memory of a horse. By dedicating an Equine Guelph donation in their name, their legacy will live on by contributing to longer, healthier lives for other horses.

Equine Guelph thanks Intercity Insurance Services Inc. and Capri Insurance Services Ltd. for sponsoring the **Hoofprints Tribute Program**, paying respect to horses and horse lovers alike.

Full Story: <http://www.equineguelph.ca/news/index.php?content=531>

Equine Guelph Offers 150 FREE Short Courses for Grooms and Trainers in Horse Racing

Equine Guelph announces the free offering of the new ‘Gut Health & Colic Prevention’ online course to the first 50 grooms and trainers to register from each racing sector in Ontario: Standardbred, Thoroughbred and Quarter Horse racing.

The three-week online course will run this winter from January 22 – February 11, 2018 on Equine Guelph’s new online training platform, **TheHorsePortal**.

“Educating the horse racing community on how to reduce the risk of colic and gut issues will be extremely valuable to grooms and trainers,” says Hugh Mitchell, Chair of **Ontario Racing**. He adds, *“This training will also benefit the health and well-being of the elite equine athletes as well.”*

“Offering the ‘Gut Health & Colic Prevention’ course at no charge will be an appealing way to engage the racing community to try out flexible, online learning on TheHorsePortal,” says Gayle Ecker, director of Equine Guelph.

To register, go to **TheHorsePortal/OntarioRacing** and apply the appropriate coupon code for the free course valued at \$95. Registration for the 150 free courses will be administered on a first-come-first-served basis to the first 50 trainers and grooms from each sector.

This program is an online training partnership between Ontario Racing and Equine Guelph, with funding provided by Grand River Agricultural Society.

Full story: <http://www.equineguelph.ca/news/index.php?content=530>

Fall is Crucial Time for Dental Check-up especially for Senior Horses

With winter around the corner, now is the time for a dental check-up and nutritional status assessment, especially for older horses. Compared to spring and summer, horses burn



more calories through fall and winter simply to stay warm. As a result, they need to eat more – placing increased strain on the teeth and jaw. As well, with the dietary shift from pasture to hay, your horse will have to chew with more force to meet its nutritional requirements.

Learn more about dental care for your senior horse on Equine Guelph's online healthcare tool – the **Senior Horse Challenge**. Check out The Tale of the Teeth Video and read a new Senior Horse

Dental Care fact sheet provided courtesy of Alex Bianco, MS, DVM, and University of Minnesota Extension. This resource includes frequently asked questions about sedation, aftercare and recommended diets for horses with many missing teeth.

Full Story: <http://www.equineguelph.ca/news/index.php?content=529>

Guelph researcher publishes study on gut microflora and EMS in horses

A new area of investigation in EMS was explored by scientists at the University of Guelph and the Gluck Equine Research Center at the University of Kentucky and recently published in The Journal of Equine Veterinary Science. Researchers wanted to determine whether there were changes to the gut microflora of horses affected with EMS when compared to healthy horses.



Researchers compared 10 horses with EMS to 10 horses that were metabolically normal. Fecal samples were collected and analyzed using next generation sequencing to determine the intestinal microflora. Horses affected with EMS have differences in microbial diversity and overall community structure. Scientists concluded that these differences may influence health and may be related to the clinical characteristics of the disease. The results of this study are helping scientists to better understand EMS.

Full Story: <http://www.equineguelph.ca/news/index.php?content=528>

Equine Guelph Online Horse Behaviour & Safety Course now offered for Youth

On October 2-22, 2017, Equine Guelph will bring together horse enthusiasts from across Canada and beyond with its new Horse Safety & Behaviour course. Learn more about staying safe around horses in Equine Guelph's Behaviour and Safety 3-week online course, made possible by a grant from the Grand River Agricultural Society. Offerings for Adults and Youth (14 - 17).

The course will be delivered on TheHorsePortal – Equine Guelph's new e-training platform designed to provide a practical, common sense community approach to learning for horse enthusiasts of all ages.

"We are proud that our first online course for youth will deliver safety training to this grassroots segment of our industry," says Gayle Ecker, director of Equine Guelph.

Full Story: <http://www.equineguelph.ca/news/index.php?content=527>



Large Animal Rescue Course Being Offered in Ontario



Equine Guelph is pleased to offer a two and a half day **Animal Rescue Operational Level Course** held at the Meaford Fire Department Training Centre in Meaford, ON, November 17 -19, 2017.

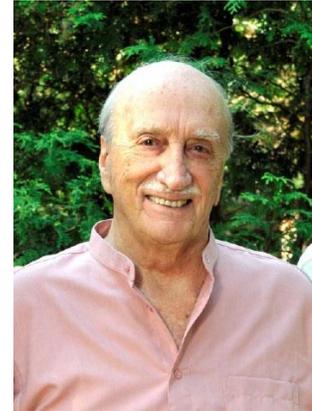
This Large Animal Rescue course will appeal to a wide audience. Topics covered will be useful for first responders, pre-service, law enforcement, animal control officers, veterinarians, vet. technicians, emergency animal response teams, horse owners, livestock producers and associations. All registrants must be 18 years of age. The course will be subject to registration numbers and the hands-on participants will be limited to 30 students.

Lead instructor Victor MacPherson looks forward to the training opportunities that will be afforded by running the course in late November, "we will be training in realistic conditions with real life scenarios – both daytime and nighttime operations."

Full story: <http://www.equineguelph.ca/news/index.php?content=526>

Roger L'Heureux Memorial Equine Award

The Roger L'Heureux Memorial Equine Award has been established in loving memory of Roger L'Heureux by David L'Heureux and Crystal Fountains Inc. Roger was a Standardbred driver, trainer and groom, racing primarily at Flamboro Downs. Roger was the son of Ephraim L'Heureux, a Standardbred driver, who won the first Maple Leaf Trot at Woodbine in 1950.



The successful recipient of the Roger L'Heureux Memorial Equine Award will receive two online courses through Equine Guelph valued at \$549 each. Applicants can be individuals employed in the Standardbred sector as either a Groom or Trainer in Ontario or Canada or University of Guelph student. Preference will be given to industry professionals.

Full Story: <http://www.equineguelph.ca/news/index.php?content=525>

ONTARIO HORSE RACING SURVEY RESULTS Industry says it is ready for training



The 2016 Ontario Racing Industry Survey results are in. Over 70% of respondents agreed that the industry would benefit from education/training opportunities and nearly 60% of respondents reported sickness as the number one most common reason their horses perform poorly in races.

Grooms, trainers, owners and other stakeholders from all three sectors of the Ontario racing

industry were asked for feedback to direct future research, education/training programs and outreach efforts.

Read Survey Highlights...

Full story: <http://www.equineguelph.ca/news/index.php?content=524>

Before you Blanket - Visit Equine Guelph's ThermoRegulator Healthcare Tool

Equine Guelph has partnered with internationally renowned blanket manufacturer, Bucas of Ireland to bring you the **ThermoRegulator Online Healthcare Tool**.

"Bucas is pleased to support Equine Guelph's online educational resource, the **'ThermoRegulator Healthcare Tool'**, says Ulf Casselbrant, managing director of Bucas. "It is an excellent online resource for the horse owner in understanding the principles of thermoregulation in horses and helpful in the proper use of blanket protection for their horse."



"I'M NOT COLD, MY OWNER, SHE'S COLD!"

To learn more about thermoregulation and to decide if your horse is a candidate to be covered by a blanket – go to the **ThermoRegulator Healthcare Tool**.
Full story: <http://www.equineguelph.ca/news/index.php?content=523>

Effects of shoeing on the loading pressure on joints of Quarter Horses

Dr. Jeff Thomason is working on a project investigating the changes of loading pressure on the joints of quarter horses as it relates to shoeing for the summer.

Danielle Halucha, a student in Thomason's lab, gave a brief explanation of the study, "First, horses with shoes on are evaluated while performing several exercises at different gaits with a rider on. Then, the shoes are removed and the horses are allowed time to adjust. The same horses are re-evaluated performing the same exercises and gaits, with the same rider, but without shoes."



This study will help with understanding how the loading pressure placed on horses' joints may change when we shoe our horses. If you're interested in learning more about your horse's joints, visit Equine Guelph's **Journey through the Joints**.

Full story: <http://www.equineguelph.ca/news/index.php?content=521>

Equine Guelph Launches First-Ever Online Equine Course for Youth

Equine Guelph has announced its new Horse Safety & Behaviour course, marking its first online training offering available to youth in the Canadian equine industry. The three-week online short course will run from October 2-22, 2017 and bring together young horse enthusiasts from across Canada and beyond.



The course will be delivered on TheHorsePortal – Equine Guelph’s new e-training platform.

“We are proud that our first online course for youth will deliver safety training to this grassroots segment of our industry,” says Gayle Ecker, director of Equine Guelph. “TheHorsePortal will bring together our young people in a safe, online community where they will learn how to ‘speak horse’ – and, ultimately, stay safe around horses and on the farm!”

Full story: <http://www.equineguelph.ca/news/index.php?content=519>

New “OEF Member Equine Research Fund”



The Ontario Equestrian Federation and Equine Guelph are pleased to announce yet another level of partnership in order to help address the needs of the horse industry. The *“OEF Member Equine Research Fund”* is a revolution in helping horses for life by funding groundbreaking research. The unique annual program brings members into the fold in a program that stands to further best practices in equine healthcare. \$1.50 per OEF membership fee is being paid to Equine Guelph to fund research.

The Ontario Equestrian Federation is pleased to report over \$23,000 has been raised so far in this new initiative.

“Equine Guelph thanks the OEF and its members for their contributions,” says Gayle Ecker, director of Equine Guelph. “The equine community is bound together by common beliefs and aims when it comes to taking the best possible care of our horses. We welcome all horse associations to consider a similar membership program to become involved in the funding equine research which helps horses for life”.

Full story: <http://www.equineguelph.ca/news/index.php?content=517>

Specialized Course for the Racing Industry a Huge Success!

Thanks to funding from both Grand River Agricultural Society and the Ontario Ministry of Agriculture, Food and Rural Affairs and support from Woodbine Entertainment Group, a specialized offering of Fire Prevention and Emergency Rescue Training was held specifically for over 40 members of the Ontario horse racing industry. Hosted by Equine Guelph on April 25 and 26, 2017 at Mohawk Racetrack in Campbellville, Ontario, this important training raised awareness and increased preparedness for all attendees,



from all three sectors of the racing industry - Thoroughbred, Standardbred and Quarter Horse.



“It was an incredible learning experience to have Dr. Rebecca Gimenez (TLAER Inc.), a respected expert in this field world-wide, as well as a practicing fire fighter and crew, travel here to deliver this course,” said Ralph Wilson of Heartland Farm Mutual.

“The course was full of great information I can use and pass on,” said participant Kathie Wilkinson and Quarter Horse Program Coordinator. *“The experience of racetrack staff in describing real-world situations and their availability to*

answer questions was very helpful.”

Full story: <http://www.equineguelph.ca/news/index.php?content=516>

Raising Awareness and Gaining Skills in Technical Large Animal Emergency Rescue

Over thirty firefighters and first responders descended upon the Meaford Fire Department Training Centre in Ontario for intensive training on what to do in emergency situations. The three days of rigorous training, presented by Grey Highlands and Meaford Fire Departments and Equine Guelph, took place Apr 28 – 30 2017.

Chief Rod Leeson and Chief Scott Granahan opened with a safety briefing, followed by Dr. Gimenez raising awareness of Technical Large Animal Emergency Rescue concepts

including how to deal with that panicked owner when arriving upon the scene. Problem solving utilizes the incident command system where cool heads prevail because everyone understands their role. This allows emergency responders, the veterinarian, owner and equipment operators, large animal ambulances etc. on the scene to communicate effectively and work together to find the best possible outcome.

Special thanks to all the suppliers involved: Tractor/Equipment – Earth Power Equipment Meaford, livestock hauler – Aldcorn Brothers Company, Chapman’s Ice Cream, water provided by Ice River Springs and last but not least, Abrams Towing and their recovery operator, John Allen.



Full story: <http://www.equineguelph.ca/news/index.php?content=515>

Fire Safety – Have You Taken Action?

Equine Guelph wants to know if you have taken precautions after reading the recently distributed **Top Ten Checklist for Barn Fire Safety** available for free download.

“Education, awareness, and planning are key to minimizing the risk of fire,” says Victor MacPherson, District Chief of the Adjala-Tosorontio Fire Department.

Equine Guelph would like to thank everyone who has contributed to the development and distribution of important resources at EquineGuelph.ca on the **Barn Fire Safety web page** sponsored by Heartland Farm Mutual.

Distribution of the Top Ten Checklist for Barn Fire Safety has been made possible by funding from Ontario Ministry of Food and Rural Affairs (OMAFRA).

Full story: <http://www.equineguelph.ca/news/index.php?content=514>

EQUIMANIA! GIVES THANKS FOR THE GREAT SHOWS AT CAN-AM AND FEI WORLD CUP

EquiMania! would like to thank the organizers, supporters, sponsors, volunteers and the attendees at the Can-Am Equine Expo in Markham, ON and the FEI World Cup in Omaha, Nebraska. It was a busy weekend indeed with both the Canadian and USA exhibit running at the same time during the last weekend in March.

Gayle Ecker, director of Equine Guelph headed up the team of staff and volunteers manning the education booth and EquiMania! fun zone which catered to eager participants at Can-Am. *We always enjoy coming to this event with educational clinics and events for all disciplines of horse people,*” says Gayle.

Four very dedicated EquiMania! supporters were greeted with amazing mid-west hospitality upon arrival at the CenturyLink Center in Omaha Nebraska. Thanks to generous sponsorship from Kiewit Corporation, the EquiMania! display made the trip from Minnesota to Omaha to entertain the multitude of fans enjoying World Cup dressage and show jumping from March 29 – April 2!



"EquiMania! presented an in depth exploration into so many different facets of the world of the horse and we were so pleased to include it in the educational expo. It was enjoyed by thousands of children and their families," said Jacquelyn Vinci, Director of Education Omaha Equestrian Foundation.

Full story: <http://www.equineguelph.ca/news/index.php?content=511>

Summary of Highlights

Now in its 15th year of partnership, Equine Guelph continues with its industry-directed mandate to develop programs that support the health and welfare of horses and the ongoing success of our equine industry.

“Developed by the industry and for the industry”, Equine Guelph works in partnership with associations and individuals of the Ontario industry and beyond those provincial borders to help direct industry research funding towards industry-identified priorities. New education and training programs, most notably with the exciting launch of TheHorsePortal and its new offerings for short, affordable programs on industry-designated topics of priority, will continue to be an important focus, along with the development of resources and initiatives in response to new and on-going needs of the industry, including fire safety, biosecurity and emergency preparedness.

Communication of evidence-based information to our industry through our partners and the communications/education programs will help increase awareness and knowledge, encourage the inclusion of this new information for the development of best practices as part of the effort to support horse health and welfare.

In challenging times, the need for equine research remains an important program. This needs to be increased to levels that will provide a much greater measure of return on investment by the industry, as industry priorities are addressed and identified by the members of the Advisory Council. It is the partnership with the equine industry that provides a strong foundation for this unique partnership between the industry and the University of Guelph. This includes the support of our many dedicated donors, volunteers and corporate sponsors who are a part of this team.

Equine Guelph acknowledges and sincerely thanks the members of the Advisory Council and funding/support partners: Quarter Racing Owners of Ontario, Inc., Equestrian Canada, the Horsemen's Benevolent and Protective Association of Ontario, the E.P. Taylor Equine Research Fund, Standardbred Canada, Ontario Equestrian, the Ontario Ministry of Agriculture, Food and Rural Affairs, the Ontario Harness Horse Association, the Alcohol and Gaming Commission of Ontario, Ontario Racing, the Ontario Veterinary College, and the University of Guelph.

The core values of equine health and welfare and industry sustainability remain at the forefront for Equine Guelph.

Appendices

Appendix 1: Current Equine Guelph Advisory Council

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Appendix 2: Equine Guelph Partners

**E.P Taylor Equine
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Appendix 3: Equine Guelph Staff

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Appendix 4: Research Projects for 2017-2018

Continuing Projects:

Investigator	Title
Arroyo, L.	Characterization of extracellular matrix proteins and resident cells in calcified pulmonary arteries in horses
Arroyo, L.	Plasma transfusions in horses: does it improve the clinical outcome?
Arroyo, L.	Characterization of the equine hindgut microflora and metabolites using an in-vitro model
Arroyo, L.	Seroprevalence investigation and isolation of endemic strain (s) of Neorickettsia risticii (PHF) in the province of Ontario
Arroyo, L.	Effects of exercise and Lasix on the pulmonary artery hemodynamics of EIPH affected horses
Beeler-Marfisi, J.	Pathogenesis and characterization of inflammatory airway disease in Ontario Thoroughbred and Standardbred racehorses
Betteridge, K.	Critical gene expression in the uterus and conceptus during successful and failing equine pregnancies
Bienzle, D.	Ciliary function in horses with inflammatory lung disease
Hurtig, M.	Sustained release drug formulations for equine joint conditions: Formulation and forensic considerations
Koch, T.	Development of Osteochondral Constructs Using Equine Umbilical Cord-Derived Mesenchymal Stromal Cells for Treating Joint Cartilage Defects
Koch, T.	Allogeneic Equine Umbilical Cord Blood Mesenchymal Stem Cells for Treatment of Exercise Induced Pulmonary Hemorrhage
Koch, T.	Comparison of umbilical cord tissue and cord blood stem cells
Koenig, J.	Evaluation of the significance of arthropathy of the caudal facet joints in horses
Koenig, J.	Evaluation of the repeated use of allogeneic umbilical cord blood mesenchymal cells in clinical cases of equine superficial digital flexor tendinitis
Koenig, J.	Effect of extracorporeal shockwave therapy on umbilical cord blood mesenchymal stromal cells
Lillie, B.	Equine Herpes Virus (EHV) and EHV-associated disease in the Ontario Equine Industry - Disease prevalence and prevention
Merkies, K.	Nutritional and feeding behaviour effects of steaming or soaking hay for horses

Thomason, J.	Comparing loading between the forelimbs of racing Thoroughbred to investigate possible causes of laterality in catastrophic injury
Weese, S.	Characterization of the epidemiology and clinical impact of Clostridium difficile infection in hospitalized foals
zur Linden, A.	Development of 3D printed models of the sacroiliac, hip and cervical articular facet joints for ultrasound guided joint injections training of equine practitioners

Appendix 5: Lay Summaries of Research Projects for 2017 - 2018

Arroyo, L. Characterization of extracellular matrix proteins and resident cells in calcified pulmonary arteries in horses.

Recently, we observed fibro-calcification of the tunica media of large elastic arteries, predominantly of the pulmonary artery in greater than 80% of young racehorses in Ontario based on a post-mortem survey study. The lesions found in equine arteries resemble a well-described vascular pathology in humans involving the tunica media of major arteries. This lesion is the most important cause of stiffening of the blood vessel in humans and it has been established beyond reasonable doubt that there are strong independent associations between increased arterial stiffness or pulse pressure and increased morbidity, and mortality from cardiovascular disease. The potential clinical consequences of arterial calcification in horse's unknown, but vascular degenerative lesions occasionally lead to vascular failure and result in death. Although the pathogenesis of this lesion is not fully understood, human and animal model studies suggest that an imbalance between calcification inhibitors and promoters in the arterial wall ultimately tip this balance to cause calcification. Ectopic calcification promoters (bone morphogenetic proteins and elastin degradation products) and inhibitors (matrix Gla protein (MGP), osteopontin and osteoprotegerin) have been found at the arterial calcification site. In addition, cells associated with the artery calcification site have osteo / chondrocytic morphological features. These histopathological similarities among different species suggested to us that there is a potential parallel of the pathogenesis process among species, although the triggering or risk factor (s) may be different and/or unrelated. The objectives of this study are to, first, investigate changes to the extracellular matrix proteins and whether proteins (i.e. collagen II, alkaline phosphatase) normally involved in bone development are present in calcified arteries of racehorses. Second, to characterize resident cells (osteo/chondrocyte-like cells) in tunica media of unaffected.

Arroyo, L. Plasma transfusions in horses: does it improve the clinical outcome?

Equine frozen plasma is commonly prescribed for a diverse range of medical and surgical conditions. Veterinary textbooks dictate to clinicians that horses with hypoproteinemia require plasma transfusions. Plasma is generally administered to restore colloid oncotic pressure (COP), relieve edema, as a source of protein for nutrition support; to counteract endotoxemia and supplementation of immunoregulatory factors. Common clinical conditions in horses for which

plasma is prescribed include chronic and/or acute hypoproteinemias as a result of protein losing enteropathies, intra/post-operative colic surgery and endotoxemias due to enterocolitis. The rationale for transfusions interventions in horses is poorly defined and there are very little clinical studies measuring the clinical impact (benefit) and outcomes (i.e. mortality/survival). This well accepted clinical practice has been subjected to minimal or null clinical research scrutiny, which is required to demonstrate effectiveness in equine medicine. In human medicine the only major clinical indication for plasma transfusions is to provide coagulation factors for the prevention or treatment of prolonged bleeding disorders. Plasma products are used however in a variety of horses despite the lack of evidence-based medicine to indicate any clinical benefit. In times of increasing cost consciousness and financial containment in the equine industry, since plasma transfusions are expensive and its clinical usefulness unknown, if not questionable, this clinical practice must be critically evaluated. This study aims to retrospectively evaluate the clinical uses, added treatment cost, adverse reactions associated and outcomes of plasma transfused cases at OVC. Prospectively, these project aims to evaluate the effects of plasma transfusions on COP of horses with hypoproteinemia and determine associations with clinical outcomes.

Arroyo, L. Characterization of the equine hindgut microflora and metabolites using an in-vitro model.

The equine gastrointestinal tract is a large tubular structure that houses complex microbial ecosystems within multiple compartments along its length. The hindgut compartment (cecum and colon) comprises the larger portion of the tract and it is here where complex sugars are fermented by the resident microbes, providing between 60-70% of the daily energy requirements of the horse. Microbial communities (microbiota) disturbances may affect the health of the host leading to potentially life threatening disorders in horses, such as colitis and laminitis. The composition and function of the equine hindgut microflora is currently a topic undergoing intense research and much knowledge had been generated. However, a better understanding of the microbial ecosystem, in particular how disturbances in microbiota homeostasis change its function and the consequences of these changes to host health, is needed. In order to understand the effects of gut microbiota disturbances, it is imperative to know the status of the microbial ecosystem under healthy conditions. Culture of whole gut microbial communities *in vitro*, under physiologically relevant conditions, can be achieved by using continuous culture (chemostat) systems. The aim of this proposal is to develop an *in vitro* system that mimics the nutritional and environmental conditions of the hindgut of the horse, which (when seeded with GI samples obtained from horses) will allow analysis of the microbial population composition, abundance and distribution and their metabolic products.

Arroyo, L. Seroprevalence investigation and isolation of endemic strain (s) of Neorickettsia risticii (PHF) in the province of Ontario.

Potomac Horse Fever (PHF) is a seasonal infectious disease caused by the bacterium *Neorickettsia risticii*. PHF occurs in Ontario mainly during the summer months (July to September). The clinical disease is usually sporadic with most of the cases reported from eastern and south-western Ontario. There severity of the clinical signs varies between horses, but in general characteristic clinical signs include depression, decreased appetite, fever, diarrhea and colic. A high percentage of cases (up to 40%) of horses suffering from PHF may develop laminitis,

which is the most serious and life threatening complication. Recent studies conducted on the life cycle of *N. risticii* have shown that fresh water snails and aquatic insects, such as caddisflies, mayflies, and dragonflies, are common carriers of the bacterium. Ingestion of contaminated hay, grain, pasture or drinking water with dead insects may result in clinical disease. Currently, there is an increasing concern among horse owners in Ontario because of the lack of information about the epidemiology and prevalence of the disease, natural reservoir of the bacterium, and biosecurity measures to prevent and control the disease. Preliminary data at the Ontario Veterinary College support clinical, serological and molecular evidence of the presence of the disease in different parts of the province. However, up to date there are only 2 published cases of PHF from horses in Ontario. The objectives of this preliminary study are to a) investigate the seroprevalence of PHF in horses from Ontario, and b) to isolate the endemic strain (s) of *N. risticii* from horses with clinical disease in Ontario for molecular analysis.

Arroyo, L. Effects of exercise and Lasix on the pulmonary artery hemodynamics of EIPH affected horses.

Effects of exercise and Lasix on the pulmonary artery hemodynamics of arterial wall remodeling (calcification and fibrosis) occurs in racehorses and is the most important cause of vascular stiffness in humans. There is a growing body of evidence to support the hypothesis that excessive pressure pulsatility resulting from arterial stiffness promotes abnormalities in micro-vascular structure and function, contributing to end-organ damage and dysfunction in humans (Mitchell GF 2008; Tan W et al., 2013). We hypothesize therefore that stiffening of the pulmonary arteries of racehorse's leads to hemodynamic changes (excessive pressure pulsatility) promoting micro-vascular structural and functional abnormalities in the lungs, and that this contributes to the development of EIPH. Our research group is a multidisciplinary team of equine and human clinicians, pathologists and bioengineers that for many years has been conducting equine pulmonary mechanics research (material properties, wall stress, pulse wave quantification, *in vitro* functional testing). We have access to specialized research equipment and clinical facilities necessary for this type of research project and we have already developed both innovative lab and clinical testing methods and analysis strategies. We aim to investigate the compliance of the pulmonary arterial wall of horses with arterial remodeling (i.e. fibro-calcification), the hemodynamics of the pulmonary artery blood flow, and the potential role of these alterations in the pathogenesis of EIPH in horses.

Beeler-Marfisi, J. Pathogenesis and characterization of inflammatory airway disease in Ontario Thoroughbred and Standardbred racehorses

Inflammatory Airway Disease is a type of lung inflammation in horses that is similar to mild asthma in people. It is common in racehorses, especially 2 and 3 year olds that are stabled, but the asthma is not caused by an infection and the horse's temperature remains normal. The asthma causes the horse to have a persistent cough, which is made worse by exercise. We think it is partly caused by breathing in barn dust from hay, bedding and the floor (during sweeping). In part, barn dust is made up of very fine mould spores (even from good looking hay), and little pieces of dead bacteria (from manure). Both of these things cause the horse's lungs to react and that reaction causes the asthma. Another thing we think causes horse asthma is air pollution. It is true that in Ontario air pollution causes asthma in people, but we haven't studied whether it does the

same in horses. It's important to study this disease because it is costly to treat and means missed training and racing days, so the earnings potential of the horse is decreased. In this project, we will work with Thoroughbred and Standardbred trainers and veterinarians at Woodbine and Mohawk racetracks. When a trainer has a horse that they think is coughing bad enough to call their veterinarian, the vet will do a physical examination on the horse and will use their scope to look in the horse's windpipe and down into the lungs. The vet will then perform a 'lung wash' on the horse. This is a safe procedure where they put a small amount of sterile saline into the lung and suck it right back out. It doesn't fix the problem, but it allows us to look at the cells and mucus in the lungs and tells us what the horse has wrong with it (asthma, lung infection, or bleeding). Based on what we find we will be able to work out approximately how many racehorses have asthma, and we will see whether air pollution, the mould spores and pieces of bacteria cause asthma. If we can get scientific evidence of these things we will be able to help racehorses to be healthier and improve their earnings potential to the benefit of all involved.

Betteridge, K. Critical gene expression in the uterus and conceptus during successful and failing equine pregnancies.

Timely foaling of brood mares is very important to the racing industry with its fixed 'birthdays' and can be disrupted by early pregnancy loss. Our aim is to identify key mechanisms by which the mare and her conceptus (the embryo, its membranes and contained fluids) interact successfully in early pregnancy, and how these change when pregnancy fails. We have found pregnancies to fail spontaneously either between Days 12-16 after breeding when the conceptus should be 'recognized' by the mare (so that she does not return to heat), or between Days 19-25. The latter stage coincides with deterioration and loss of the embryonic capsule (a non-cellular membrane) that envelops the conceptus and, we believe, shields it from potentially hostile uterine products as pregnancy is established. Experimentally, pregnancy can be terminated by injecting the mare with a prostaglandin (PG) which lowers progesterone concentrations. This is accomplished more immediately by PG treatment at Day 18 than at earlier stages. Recently, we have compared gene activity in the endometrium (lining of the uterus) of mares undergoing spontaneous and PG induced failures with activities found during normal pregnancy. For this we use an advanced molecular technique (transcriptome-wide sequencing of RNA) at Day 20, and have similarly examined normal pregnancies at Days 14-15

Bienzle, D. Ciliary function in horses with inflammatory lung disease

Cilia are small hair-like extensions on cells that line the nose, trachea and larger airways. The function of cilia is to move a layer of mucus produced by cells in the lower airways toward the mouth for swallowing, and therefore to protect the lung from inhaled particles. Thus, cells with cilia that constantly beat to move a layer of mucus "outward" line the entire upper airway. Inhaled bacteria, molds and particles "stick" to the mucus layer and are then moved by beating ciliary toward the mouth. People and animals born with cilia that are defective in the proteins necessary for ciliary movement ("primary ciliary dyskinesia") have recurrent pneumonia throughout their life as well as abnormalities in other organs. In conditions such as asthma and heaves, recurrent inflammation of the airways results in injury to cells lining the airways, including ciliated epithelial cells. It is thought that in these conditions cilia do not regenerate properly, leading to a vicious cycle of poor clearance of particles by shortened or poorly beating cilia and recurring inflammation. Viral infections of the nose and lungs have also very recently been recognized to affect the function of cilia. We will collect epithelial cells from healthy horses' noses with a simple

short medical brush, put the cells into culture and measure how well they move particles mimicking bacteria (fluorescent beads). We will compare the results from nasal samples to tracheal samples obtained with a bronchoscope and a longer medical brush. If cilia in samples from the nose function similar to those from the trachea, routine samples for assessments can be readily acquired. Once the functional assays are established we will collect samples from young and older horses with mild and severe lung inflammation (“inflammatory airway disease”, IAD, and “heaves”), respectively, to measure how cilia function in these conditions and to assess their appearance. If abnormal cilia function is a consistent feature of respiratory diseases of horses, inhaled medication to change the composition of mucus and/or to increase the production of mucus may be helpful.

Hurtig, M. Sustained release drug formulations for equine joint conditions: Formulation and forensic considerations

In past studies we have studied long acting drugs that were created by a drug company for the human market to control inflammation in joints for up to 90 days. Using the sheep knee as a model we showed that these drug and polymer combinations take up residency in the joint lining where they are slowly broken down to release the drug and control pain and inflammation. The duration and drug levels in joints can be changed by altering the polymer-drug binding, so release times of a few days to several months are possible. Through a collaboration with polymer chemist Dr. Elizabeth Gillies (Western University, Ontario) we will create non-steroidal anti-inflammatory drug (NSAIDs) formulations that will last from a few days to several months after injection into joints. The advantage of this delivery system is that no drug leaks from the joint into the rest of the horse's body to cause the all too common complications of colic and gut ulcers. Dr. Gillies' role will be to create the polymer carriers from safe, food grade chemicals. These are widely used in human sustained release drugs for the eye conditions, cancer therapies etc. Dr. Gillies will modify NSAID drugs so they can be trapped in the polymer carrier system. Laboratory experiments will be used to estimate the rate of drug release into joint fluid over 21 days. With this information we will conduct trials of sustained release NSAID formulations by injecting them into the fetlocks of horses at the University of Guelph Arkeel Research Station. By injecting the drug and then challenging the horse joint with an inflammation-causing molecule (lipopolysaccharide) at intervals of up to 90 days, we will be able to determine the duration of the drugs' anti-inflammatory effect. Many horses have low grade inflammation in joints that is difficult to address and requires repeated, costly treatments. Such medication regimes are expensive and not without risk, particularly when steroids are used since they may promote cartilage loss over time. An additional consideration is the potential for doping with similar drug formulations. By measuring drug levels in plasma, urine and joint fluid we will be able to estimate when drugs would be detected in doping tests. We will share all our data with racing and clean sport/doping jurisdictions and provide samples of our drug formulations for their own use. This project will provide the basis for commercialization of a sustained release formulation that would improve the safety of NSAID use in the horse and potentially reduce the incidence and rate of osteoarthritis progression in horses.

Koch, T. Development of Osteochondral Constructs Using Equine Umbilical Cord-Derived Mesenchymal Stromal Cells for Treating Joint Cartilage Defects

Co-investigators' names and Departments: Rita A. Kandel, M.D., Department of Pathology, Mount Sinai Hospital, Toronto, ON, Mark Hurtig, Clinical Studies, OVC, Judith Koenig, Clinical Studies, OVC, Ms. Sarah Lepage, PhD Candidate, Biomed Sci, OVC

Orthopedic injuries, constituted mainly of trauma to joint cartilage, are the most common cause of lost training days or premature retirement in the equine athlete. As cartilage tissue has a low intrinsic capacity to heal, repeated injury will eventually result in post-traumatic osteoarthritis in the joint. Though current regenerative therapies for the treatment of focal cartilage defects are showing promising preliminary results, they are wrought with potential complications from secondary surgical sites to isolate patient-specific cells or tissue. Therefore, we propose to investigate the potential of a novel cell type in the generation of osteochondral-like plugs without requiring a secondary surgical site on the patient. We have successfully and reproducibly isolated mesenchymal stromal cells from umbilical cord blood (CB-MS) and demonstrated their ability to generate cartilage in vitro. We found that by subsequently growing the engineered cartilage on a bone substitute, we could generate an osteochondral construct that could serve as an implant. In 2006, Dr. Rita Kandel's group in Toronto generated similar constructs and implanted them into sheep with induced cartilage injuries; the implants successfully contributed to cartilage repair at 9 months post-surgery. We believe that with further optimization, we can generate an osteochondral-like implant using CB-MS with superior properties for in vivo repair of focal cartilage defects. The biomechanical properties of cartilage generated in vitro are historically poor, making the graft susceptible to damage upon transplantation. We propose to mechanically mature the cartilage prior to implantation in order to better withstand the large loading forces within the equine joint upon transplantation.

Koch, T. Allogeneic Equine Umbilical Cord Blood Mesenchymal Stem Cells for Treatment of Exercise Induced Pulmonary Hemorrhage

Exercised induced pulmonary hemorrhage (EIPH) is a common condition in race horses and a significant equine welfare issue. The etiology of EIPH is poorly understood but pulmonary inflammation is a downstream consequence of frequent bleeding. Mesenchymal stem cells (MSC) have non-progenitor functions through secretion of various proteins. Through such secreted factors MSC have demonstrated immune modulatory properties in vitro and in vivo. In our lab we have demonstrated that equine umbilical cord blood-derived (CB) MSC are more immune-modulatory than the more commonly used MSCs derived in vitro from adipose tissue or bone marrow aspirates. We have also shown that CB-MS suppress lymphocyte proliferation in vitro equally immediately after thawing or after one week of culture expansion post-thawing. These CB-MS have low to no expression of MHC-I and II, suggesting they can be applied in an allogeneic manner. In vivo studies in the horse may lend support to allogeneic application of CB-MS. Attenuation of pulmonary inflammation from bleeding following intravenous MSC injection has been shown in vivo in humans and non-equine species. The hypothesis of this project is that allogeneic equine CB-MS will attenuate EIPH associated pulmonary inflammation. Funds are sought to perform a feasibility study to test this hypothesis. Use of allogeneic CB-MS holds the promise of developing a novel off-the-shelf cell-based product for this important equine disorder.

Koch, T. Comparison of umbilical cord tissue and cord blood stem cells

Equine mesenchymal stromal cells are increasingly explored as novel therapeutic agents in equine medicine for a variety of conditions. The field is increasingly focused on using these cells in an allogeneic manner due to ease of application and reduced cost of cell production. Cells from neonatal tissues have higher proliferative potential than similar cells derived from adult tissues. The use of cells with high proliferative potential is essential in order to leverage the potential

advantages of using allogeneic cells. However, extended culture expansion may result in cellular drift with regards to phenotype, function and cytogenetic stability (normal chromosome numbers and sizes). The Koch lab has extensively studied equine umbilical cord blood-derived mesenchymal stromal cells and found the cells to have higher proliferative potential than similar cells from bone marrow and adipose tissue. One limitation of cord blood cells is the collection of the umbilical cord blood and the relatively few progenitor cells present in the blood. Advanced foaling management is required at the farm level and trained personnel have to be present during foaling to obtain the blood. Extensive laboratory cell expansion is needed due to the few progenitor cells present, which is associated with increased laboratory selection pressure on the cells. Mesenchymal stromal cells have been isolated from the connective tissue of equine umbilical cords. This cell source is easier to obtain and a higher number of putative progenitor cells has been reported. However, it is unclear if mesenchymal stromal cells from cord tissue and cord blood are equivalent with regards to phenotype, proliferation, function and cytogenetic stability. The goal of this project is to compare donor-matched mesenchymal stromal cells from cord tissue and cord blood with regards to the above-mentioned parameters. The influence of oxygen tension on these cell parameters will also be evaluated for both cell sources.

Koenig, J. Evaluation of the significance of arthropathy of the caudal facet joints in horses.

Arthritis of the neck joints is commonly present in performance horses and in many cases causes debilitating clinical signs. In older horses osteoarthritis of lower neck vertebra facet joints is classified as Type-2 Wobblers syndrome. Clinical signs include neck stiffness, neck pain, reluctance to collect, and forelimb lameness without neurological deficits. In more severe cases the osteoarthritis causes compression of the spinal cord and neurological deficits can be present. There are conflicting reports in the literature as to the significance of diagnosing osteoarthritis of lower neck vertebra facet joints on radiographs, the age at which it becomes clinically significant, how often it causes spinal cord compression, and the success rate of long-term treatment. Therefore, our objectives are to quantify degenerative changes of lower neck vertebra facet joints and to obtain inter and intravertebral measurements of the neck vertebrae on radiographs of horses with clinical signs compatible with this disease and age, breed and sports matched healthy Warmblood horses. Follow up information will be gathered by telephone survey of owners on the outcome of intra-articular treatment of osteoarthritis of lower neck vertebra facet joints to evaluate the effectiveness of this treatment method.

Koenig, J. Evaluation of the repeated use of allogeneic umbilical cord blood mesenchymal cells in clinical cases of equine superficial digital flexor tendinitis.

Tendon and ligament injuries are common in the equine athlete. These types of soft tissue injuries result in significant economic loss to the equine industry each year as a result of decreased performance, prolonged rehabilitation, and recurrent injury. Even though tendons heal well, the scar tissue formed in this repair is functionally deficient in comparison to normal tendon. The result is compromised performance of the horse and high re-injury rates. Improved clinical lameness outcome and a better overall prognosis for return to exercise was noted upon injection of simple bone marrow aspirate directly into damaged suspensory ligaments. This

observation spurred the interest of biologics for the treatment of equine tendon injuries. Concerns related to the volume of unaltered bone marrow and its content of bone spikes and fat cells on tendon healing lead to the use of cultured stem cells derived from bone marrow (BM) aspirates. Such BM stem cells have been used commercially to treat injured tendons in more than 500 horses with naturally occurring injuries. Only 18% of these horses were re-injured once they entered full training, which appears more favorable than a 56% re-injury rate reported in a previous study where a routine rehabilitation protocol was used. This much improved reinjury rate of only 18% was only observed when the stem cells were injected in the first 6 weeks after injury. Bone marrow derived stem cells need to be culture expanded in the lab after harvest from the horse's bone marrow, which can take 4 weeks. This requires very prompt action after injury to ensure a diagnosis is established, bone marrow is harvested from the horse and transported to the lab for expansion and back to the veterinarian to be injected within 6 weeks after injury to achieve the reported benefits. We have shown previously, that it is safe to inject allogeneic (unrelated horse) equine umbilical cord blood stem cells into horse's joints and that equine umbilical cord blood stem cells are more immune-modulatory than stem cells from equine bone marrow, even after prolonged freezer storage. These findings support the cell banking of umbilical cord blood stem cells for later allogeneic use, which means they can be taken off the shelf and injected into horses as needed without having to wait for culture expansion.

Koenig, J. Effect of extracorporeal shockwave therapy on umbilical cord blood mesenchymal stromal cells

Shockwave has been used as a treatment to decrease the healing time and improve the quality of the repair in bone and soft tissue injuries, but the exact mechanism is not completely understood. Intra-lesional (into bowed tendons) administration of stem cells in combination with shockwave has been used as an alternative treatment for orthopedic diseases like tendon and ligament lesions in horses, without scientific evidence, but anecdotally has resulted in faster healing times and return to function. There is a need to evaluate the effect that shockwave has on stem cells. One in vitro study showed that equine fat derived stem cells grow more rapidly and differentiate faster into different tissues, but nothing is known about the secretory function of these cells or the effect of shockwave on bone marrow or umbilical cord blood derived stem cells. Labelling these cells allows tracking of these cells also in vivo. Therefore, we hypothesized that shockwave will enhance the progenitor (their ability to differentiate into different tissue) and nonprogenitor (their anti-inflammatory and secretory) functions of stem cells. Our objectives are to firstly evaluate if shockwave increases umbilical cord blood derived stem cell growth rate, proliferation rate and differentiation in comparison to untreated cells in vitro. And secondly, to evaluate the effect of shockwave on topically injected allogeneic (derived from unrelated foals) umbilical cord blood derived stem cell and follow the cells in a neck wound model in vivo.

Lillie, B. Equine Herpes Virus (EHV) and EHV-associated disease in the Ontario Equine Industry - Disease prevalence and prevention

Equine herpesvirus-1 (EHV-1) can cause a variety of diseases in horses, from simple runny nose and fevers, to abortion or even neurologic disease and death. We are hoping to better understand abortion rates in Ontario broodmares and determine what effect EHV-1 is having on the industry. One aspect of the virus that was overlooked until recently, is that many horses become infected when they are still with their dams. Once a horse is infected with the virus, it can remain in the body and can reactivate at any time. Many characteristics of this viral infection are unknown, such

as how many horses in a population are infected, when or why it reactivates within the body, and why it causes one form of disease over another. EHV-1 vaccines have been thought to be the reason for a steep reduction in abortion. However, studies have found that the vaccines are not completely protective, outbreaks occur even in vaccinated herds and over-vaccinating can actually decrease the body's protective immune response. Considering that the acceptable rate of abortion is not known, it is difficult to gauge the effect that EHV-1 has on infected mares and therefore the value of vaccination. Vaccinating them after they are infected has not been strongly studied, so the effects of the vaccine to prevent disease in already infected horses is unclear. Further, no vaccines have been labelled protective against the neurologic form. Researchers have recently found a genetic change in the virus from horses.

Merkies, K. Nutritional and feeding behaviour effects of steaming or soaking hay for horses

Dried hay is the most common feedstuff for horses in North America. Horse owners supply hay in a variety of formats for a variety of reasons. Two such methods in which dried hay is altered before being offered to horses is soaking and, to a lesser extent, steaming. When grass hay is soaked or steamed the resulting wet or steamed hay has less carbohydrates. Soaking, but not steaming, also results in a loss of protein and micronutrients. A lower carbohydrate-content hay can help to reduce blood glucose and this is appealing for horses with laminitis, insulin resistance (Cushings), Equine Polysaccharide Myopathy, and those who are overweight. The extent of the effects of soaking and steaming on timothy/alfalfa hay, the most commonly available hay in Ontario, is unknown as the majority of research has been conducted in the United Kingdom where grass hays are more common. Therefore, under commonly-used soaking and steaming practices, this research seeks to understand how soaking and steaming affect the nutrient content of timothy/alfalfa hay and additionally whether soaking or steaming alters the preference horses have for dried, soaked or steamed hay.

Thomason, J. Comparing loading between the forelimbs of racing Thoroughbred to investigate possible causes of laterality in catastrophic injury

The U.S. Jockey Club's Equine Injury Database (EID) has information on more than 1.6 million racing starts by Thoroughbreds in North America. A recent survey of the approximately 3000 catastrophic injuries (CI) appearing in the database confirmed that the frequency of CI is related to the surface type, being greater on dirt, intermediate on turf and least on synthetics. In addition the study found that the left fore and right hind limbs were significantly more prone to CI on dirt tracks than the opposite limbs, but this effect was not evident on synthetic or turf tracks. The researchers speculated that this laterality of injury might be due to uneven forces acting on the left and right limbs in turns combined with relative inconsistency of support during the stance on dirt. These findings are significant for Ontario's TB racing industry because races are on turf or synthetics while most training is on dirt. The aims of this study are to assess whether laterality of biomechanical loading exists on dirt and synthetic surfaces, and whether epidemiological data identify that as an issue in Ontario. We will tackle this project in 4 ways: (a) We'll collaborate with the researcher currently studying the Ontario Death Registry, to look for evidence of injury laterality. The emphasis will be on the forefeet, which sustain higher rates of injury. (b) We will take another look at data we have from previous experiment on forces acting on the feet of Thoroughbreds galloping on the straight and turns of different tracks, and will look for evidence of laterality in loading at all stages of the stance for both front feet. We have data from dirt, turf and

synthetic surfaces, using the same horse but on different days. (c) We will record new biomechanical data from the front feet of horses galloping on a training dirt track and a racing synthetic track within a few minutes, to find whether and how much laterality of loading exists on each surface. (d) We combine the analyses from all of the data from parts a-c to assess whether laterality is a problem in Ontario, and to categorize which parts of the complex mechanical loading acting on the horse' hoof during galloping might be at the root of the problem. The results should identify whether turning or the surface induces the higher risk for injury, from a biomechanical perspective.

Weese, S. Characterization of the epidemiology and clinical impact of Clostridium difficile infection in hospitalized foals

Co-investigators' names and Departments: Nathan Slovis DVM, Dipl. ACVIM and Anne Kullmann DVM, Hagyard Equine Medical Institute (HEMI), Diego Gomez-Nieto DVM DipACVIM, Dept of Pathobiology

Neonatal foal diarrhea is a common problem in foals, and Clostridium difficile is an important cause. In Central Kentucky, there has been an increased recognition of C. difficile (CDI) infection in the foals on farms and at an equine hospital, with the latter characterized initially by a subclinical infection that develops clinical disease usually after 48 hours of hospitalization. Disease that is different from classical enterocolitis is consistent with recognition in humans that CDI is not always accompanied by overt diarrhea. Preliminary data have indicated 7 different ribotypes from nine C. difficile clinically affected foals, something that is consistent with multiple community sources rather than a hospital focus. This prospective case control study will therefore evaluate the prevalence and epidemiology of Clostridium difficile colonization in hospitalized foals versus farm-matched controls, evaluate the impact of C. difficile colonization on development of disease during hospitalization, characterize C. difficile recovered from foals, evaluate diagnostic tests for CDI and evaluate the transmission of C. difficile between mares and foals. It will involve collection of fecal samples from foals presented to two equine hospitals (Kentucky, Ontario) for reasons other than diarrhea, plus their mares, age and farm-matched controls and foals with disease potentially attributable to CDI. This study will provide important information about the nature of this important pathogen, the risks associated with C. difficile shedding at hospital admission, transmission of C. difficile between mares and foals and risk factors for disease, with a goal of better understanding the disease to better diagnose, treat and prevent infections.

zur Linden, A. Development of 3D printed models of the sacroiliac, hip, and cervical articular facet joints for ultrasound guided joint injections training of equine practitioners

Three-dimensional models are used to teach various skills and techniques without needing cadavers or practice on live patients. Ultrasound guided injections of the neck, hip, and sacroiliac joints are challenging to perform but very useful for diagnosing and treating arthritis in sports and racehorses. Joint injections are used for diagnosing lameness by injecting local anesthetics, or treating arthritis by injecting steroids or other similar substances. These specific injections are often only performed by radiologists or those with advanced training and access to ultrasound machines. With the increased use of ultrasound by equine veterinarians for the diagnosis of tendon injuries in racehorses, this imaging modality can also be used for diagnostic and therapeutic joint injections. One goal of this project is to determine the proper 3D printed material

to mimic equine bones via ultrasound examination. The next step is to scan various body parts of a cadaver (neck, sacroiliac joints, and hips) with computed tomography (CT) to create highly accurate digital versions of these joints. These body parts will then be 3D printed in high resolution and embedded in clear ballistics gel to mimic tissue, while allowing the user to directly see the needle and underlying bones. The models will then be assessed for validity by radiologists, equine surgeons, and residents at the Ontario Veterinary College. Once validated, these models will be used to teach interested equine veterinarians in Ontario how to perform these techniques via seminars.

Appendix 6: Research Publications:

Dr. Luis Arroyo

HorseJournals.com (<https://www.horsejournals.com/horse-care/illness-injury/diseases/airway-disease-racehorses-more-prevalent-previously-thought>), April 2018.

Horse Canada. (<https://horse-canada.com/horse-news/research-university-guelph-targets-equine-virus/>), 12 April 2018.

Xiong Q, Bekebrede H, Sharma P, Arroyo LG, Baird JD, Rikihisa Y. An Ecotype of *Neorickettsia risticii* Causing Potomac Horse Fever in Canada. *Appl Environ Microbiol.* 2016 16;82(19):6030-6.

“Arterial Calcification in Horses”, Equine Guelph Fall 2014 Newsletter.

Dr. Keith Betteridge

“Internationally Acclaimed Contributions to Embryo Transfer and Reproduction Technologies,” Equine Guelph – Research Update, Spring 2018.

Betteridge, K.J., Raeside J.I., Waelchli R.O., Christie H.L., Hayes M.A. 2018. Patterns of conceptus development and of progesterone concentrations in maternal blood preceding spontaneous early pregnancy failure in mares. *Reprod. Fert. Dev.* Online early, <https://doi.org/10.1071/RD17336>

Diel de Amorim M, Gartley CJ, Foster RA, Hill A, Scholtz E, Hayes A, Chenier T. 2016. Comparison of clinical signs, endometrial culture, endometrial cytology, uterine low volume lavage and uterine biopsy and combinations in the diagnosis of equine endometritis. *Journal of Equine Veterinary Science.* 44:54–61

Raeside JI, Christie HL, Betteridge KJ 2015. 5 α -reduced steroids are major metabolites in the early equine embryo proper and its membranes. *Biol Reprod.* 2015 Sep;93(3):77. doi: 10.1095/biolreprod.115.131680. Epub 2015 Jul 29.

Dr. Dorothee Bienzle

“Project Update – Global Lung Epithelial Response to Inhaled Dust,” Equine Guelph – Research Update, Spring 2018.

Tessier L, Côté O, Clark ME, Viel L, Diaz-Méndez A, Anders S, Bienzle D. Impaired response of the bronchial epithelium to inflammation characterizes severe equine asthma. *BMC Genomics*. 2017 Sep 8;18(1):708.

Tessier L, Côté O, Clark ME, Viel L, Diaz-Méndez A, Anders S, Bienzle D. Airway transcriptome gene-set enrichment analysis in equine severe asthma shows impaired cell cycle and tissue repair. First submitted to *Scientific Reports* Nov. 2017 (SREP-17-42271) and currently awaiting reviews.

Tessier L, Côté O, Bienzle D. Sequence variant analysis of RNA sequences in severe equine asthma. First submitted to *PeerJ* in Dec. 2017 (#2017:12:22666), and currently awaiting reviews.

Dr. Amy Greer

Spence, K., T. O'Sullivan, Z. Poljak, and A.L. Greer. (in press: July 2018). A longitudinal study describing horse characteristics and movements during a competition season in Ontario, Canada in 2015. *Canadian Veterinary Journal* 59.

Spence, K., T. O'Sullivan, Z. Poljak, and A.L. Greer. (2018). Using an agent-based modeling approach to determine the potential impact of infection prevention and control measures on a facility-level equine influenza outbreak. *Canadian Journal of Veterinary Research* 82: 89-96.

Spence, K., T. O'Sullivan, Z. Poljak, and A.L. Greer. (2018). Estimating the potential for disease spread in horses associated with an equestrian show in Ontario, Canada using an agent-based model. *Preventive Veterinary Medicine* 151:21-28.

Spence, K., T. O'Sullivan, Z. Poljak, and A.L. Greer. (2017). Descriptive and network analyses of the equine contact network at an equestrian show in Ontario, Canada and the application to potential disease transmission. *BMC Veterinary Research* 13:191.

Dr. Mark Hurtig

Horse Canada. (https://horse-canada.com/magazine_articles/joint-medication-of-the-future/), Feb 2018.

Sustained Release Intra-articular Medication. *Equine Guelph –Research Update*. Spring 2017. pp1-2

Sustained-release intra-articular medication. *Ontario Equine Practitioners Equine Research Update* December 15, 2016, OVC Lifetime Learning Centre.

Dr. Thomas Koch

Lepage S, Alizadeh AH, Lee O, Koch TG. Equine cord blood MSCs has greater differentiation and similar immunosuppressive potential to donor-matched cord tissue MSCs. Intended journal for submission is *Stem Cells and Development*, June 2018.

Alizadeh AH, Briah R, Villagomez DAF, King WA, Koch TG. Cell identity, proliferation, and cytogenetic assessment of equine umbilical cord blood mesenchymal stromal cells. Submitted to Stem Cell and Development on May 26, 2018 (SCD-2018-0105).

Costa L, Dennis D, Hewson J, Koch TG. "Evaluation of cell function and viability of Molday ION™ Rhodamine B labeled equine cord blood mesenchymal stromal cells." Poster presentation by Lisa Costa at the National Veterinary Scholars Symposium 2017.

Dr. Brandon Lillie

HorseTalk (<https://www.horsetalk.co.nz/2018/04/12/ehv-link-equine-abortions/>) 12 April 2018.

Horse Canada. (<https://horse-canada.com/horse-news/research-university-guelph-targets-equine-virus/>), 12 April 2018.

Dr. Katrina Merkies

DuBois C, DeVries T, Haley DB, Lawlis P, Merkies K. 2018. Putting an On-Farm Welfare Assessment Tool into Practice in the Canadian Equine Industry – A Pilot Study. J Eq Vet Sci 63:35-40

HorseJournals (<https://www.horsejournals.com/popular/rescue-welfare/major-threats-equine-welfare-identified-research-study>). 29 March 2018.

DuBois C, Hambly-Odame H, Haley DB, Merkies K. 2017. An Exploration of Industry Expert Perception of Equine Welfare Using Vignettes. Animals 7:102-110 doi:10.3390/ani7120102

HorseTalk (<https://www.horsetalk.co.nz/2017/12/25/welfare-risk-horses-study/>) 25 Dec 2017.

HorseTalk. (<https://www.horsetalk.co.nz/2017/12/07/whinny-non-horsey-now-researchers/>) 7 Dec 2017.

Dr. Patrick Physick-Sheard

"TVEC Goes Global," Equine Guelph - Research Update, Spring 2018.

Estimates of heritability of atrial fibrillation in the Standardbred racehorse. Kraus, M. P.W. Physick-Sheard, L.F. Brito, F.S. Schenkel. Equine Veterinary Journal, 2017. Vol 49 (6): 718-722.

Dr. Elizabeth Scholtz

Endometrial nitric oxide synthase activity in mares susceptible or resistant to persistent breeding-induced endometritis and the effect of a specific iNOS inhibitor in vitro. Khan, FA, Chenier, TS, Foster, RA, Hewson, J, Scholtz EL. Reproduction in Domestic Animals. 2018. Vol 53 (3): 718-724.

Dose-dependent inhibition of uterine contractility by nitric oxide: A potential mechanism underlying persistent breeding-induced endometritis in the mare. Khan, FA, Chenier, TS, Murrant, CL, Foster, RA, Hewson, J, Scholtz EL. Theriogenology. Vol 90 (2017): 59-64.

The nitric oxide system in equine reproduction: current status and future directions. Journal of Equine Veterinary Science. Khan, F., Scholtz, E., & Chenier, T. (2015).

Dr. Jeff Thomason

“Health Studies with an Impact – Reducing Catastrophic Racing Injuries,” Equine Guelph – Research Update, Spring 2018.

Horse Talk (<https://www.horsetalk.co.nz/2017/08/03/shoe-equine-joint-pressure-loading/>) 3 Aug, 2017

Dr. Scott Weese

The Horse (<https://thehorse.com/18361/exploring-the-equine-microbiome>) 7 Aug 2017

Horse Canada (https://horse-canada.com/magazine_articles/miraculous-microbes/). Sept 2017

The Horse (<https://thehorse.com/139445/quick-response-key-in-equine-antimicrobial-resistance-cases/>) 30 Jan 2018.

Appendix 7: Research Presentations:

Dr. Luis Arroyo

“Duodenitis Proximal-Jejunitis in Horses. What is the culprit? What is the evidence?” OVC-Pathobiology, Departmental Seminar. November 7th, 2014.

“Investigation of Clostridium difficile toxins to experimentally induced duodenitis proximal jejunitis in horses”. Arroyo, L.G., Costa, M.C., Guest, B.B., Beaudoin-Kimble, M., Lillie, B., Weese, J.S. Eleventh Equine Colic Research Symposium, Trinity College Dublin, Dublin, Ireland. July 7th-9th, 2014. (Podium Presentation)

2013 World Equine Airway Symposium in Calgary, Canada. (Podium Presentation) Ex-vivo Pulmonary Arterial Perfusion System to model biomechanical and hemodynamic phenomena in equine pulmonary arteries

Dr. Janet Beeler-Marfisi

CORE platform & poster presentations – Quinn Marshall & Sylvie Becker – 2017

Dr. Keith Betteridge

Bruce, P., Lillie, B. N., Hammermueller, J. D., Hayes, M. A., & Betteridge, K. J. 2017. The relationship of blood progesterone levels to endometrial gene expression in mares during spontaneous pregnancy loss. Summer CORE Symposium, Guelph, Canada-Ontario.

Presentation to Ontario Equine Practitioners, OVC, December 15, 2016. “Early embryonic losses”, K.J. Betteridge.

Bruce, P., Lillie, B. N., Hammermueller, J. D., Betteridge, K. J., & Hayes, M. A. 2016. Endometrial gene expression in normal and failing pregnancies in mares. Summer CORE Symposium, Guelph, Canada-Ontario. Aug 9-10 2016

“Endometritis-associated alterations in major proteins in uterine flush fluids from mares” XIth Int Symp Equine Reprod, Waikato University, Hamilton, New Zealand, Jan 26 – 31, 2014

“Changes accompanying spontaneous embryonic loss in nine mares during the first month of pregnancy” XIth Int. Symp. Equine Reprod, Waikato University, Hamilton, New Zealand, Jan 26 – 31, 2014

KJ Betteridge was Honorary Chairman of the XIth International Symposium on Equine Reproduction, Waikato University, Hamilton, New Zealand, and January 2014. (See: Stout, TAE. 2014. Tribute to the Honorary Chairman, Honorary Chairman of the Eleventh International Symposium on Equine Reproduction Keith J. Betteridge BVSc, MVSc, PhD, FRCVS. J Equine Vet Sci 34:10-11.)

Dr. Dorothee Bienzle

Presented a seminar on drug use detection and lung disease to officials at the Annual AGCO meeting in Niagara Falls on Feb. 17, 2017

Dr. Amy Greer

Spence, K., T. O'Sullivan, Z. Poljak, and A.L. Greer. Using longitudinal questionnaire data to create networks of horse movements in Ontario, Canada. International Conference on Network Science (NetSci 2018) satellite symposium: Integration of Empirical data in network epidemiology. Paris, France. June 2018. Oral.

Spence, K., T. O'Sullivan, Z. Poljak, and A.L. Greer. A longitudinal study describing horse characteristics and movements during a competition season in Ontario, Canada in 2015. Conference for Research Workers in Animal Disease. Chicago, IL. December 2017. Oral.

Spence, K.L., T.L., O'Sullivan, Z. Poljak, and A.L. Greer. Using an agent-based model to describe the potential spread of equine influenza within a network of horses attending an equestrian show. Modeling in Animal Health Conference. Nantes, France. June 2017. Oral.

Spence, K.L., T.L. O'Sullivan, Z. Poljak, and A.L. Greer. Estimating potential disease spread at an equestrian show in Ontario, Canada using an agent-based network model. Conference for Research Workers in Animal Diseases. Chicago, IL. December 2016. Oral

Spence, K.L., T.L., O'Sullivan, Z. Poljak, and A.L. Greer. Dynamic network analysis of equine travel patterns during the 2015 competition season in Ontario, Canada. Canadian Association of Veterinary Epidemiology and Preventive Medicine. Calgary, AB. June 2017. Poster.

Spence, K.L., T.L. O'Sullivan, Z. Poljak, and A.L. Greer. Mathematical modeling of potential disease spread within a network of horses attending an equestrian event. OVC Graduate Student Symposium. Guelph, ON. November 2016.

Hai, B., K.S. *Spence, T.L. O'Sullivan, and A.L. Greer. Network analysis of Ontario Standardbred racetracks. Ontario Veterinary College, Summer CORE Program Research Day. Guelph, ON. August 2016.

Dr. Mark Hurtig

Sustained-release intra-articular medication. Ontario Equine Practitioners Equine Research Update December 15, 2016, OVC Lifetime Learning Centre.

Success and failure in translational medicine. Frontiers in Biomedical Science, University of Calgary, October 2016.

Dr. Thomas Koch

Costa L, Dennis D, Hewson J, Koch TG. "Evaluation of cell function and viability of Molday ION™ Rhodamine B labeled equine cord blood mesenchymal stromal cells." Poster presentation by Lisa Costa at the National Veterinary Scholars Symposium 2017.

PhD Candidate Ms. Sarah Lepage presented her work in induced pluripotent stem cells. The International Society for Stem Cell Research, Vancouver, 2014

PhD Candidate Ms. Sarah Lepage presented her work in induced pluripotent stem cells. The Till and McCullough Meetings, Ottawa, 2014

Dr. Brandon Lillie

Botts, M. B., Cooper, C. J., Hammermueller, J. D., Arroyo, L. G., & LILLIE, B. N. (2017, August). Comparison of nasal and vaginal equine herpesvirus-1 shedding in Ontario broodmares. OVC Summer CORE Research Symposium, Guelph, Canada-Ontario. August.

Cooper, C. J., Arroyo, L. G., & LILLIE, B. N. (2018). EHV-1 vaginal shedding occurs in healthy broodmares. American Association of Equine Practitioners 64th Annual Convention. Abstract accepted for podium presentation. December.

Arroyo L. G. et al. (2018). Merck Animal Health-Ontario Equine Practitioners CE event. Orangeville, ON. January.

Mantel, K. Research targets equine herpesvirus. (2018) In Canada's Equine Guide 2018. Special Annual Issue of Canadian Horse Journal. January.

Mantel, K., Research targets equine virus. (2018). Equine Guelph - Equine News. January.

Dr. Katrina Merkies

Preliminary results of the conditioning phase of the trial were presented at the University of Guelph Animal Behaviour and Welfare Group seminar

DuBois C, Haley DB, DeVries TJ, Lawlis P, Robinson A, Merkies K. On-farm horse welfare assessment tool: value as an educational opportunity? Campbell Centre for the Study of Animal Welfare (CCSAW) Annual Research Symposium. Guelph, ON, May 2017

DuBois C, Haley DB, Lawlis P, DeVries T, Merkies K. Examining the usefulness of qualitative data to supplement an on-farm equine welfare assessment tool. UFAW International Symposium, Surrey, UK, June, 2017.

DuBois C, Haley D, Merkies K. Equine industry expert perception of critical issues in horse welfare in Canada. Campbell Centre for the Study of Animal Welfare (CCSAW) Annual Research Symposium. Guelph, ON, May 2016

Dr. Elizabeth Scholtz

An oral abstract presentation titled “Nitric oxide’s dose-dependent inhibition of uterine contractility: a potential mechanism underlying persistent breeding-induced endometritis in the mare” was presented at the Society for Theriogenology (SFT) in the competitive category at the 2016 annual conference, July 2016 by Dr. Firdous Khan.

Nitric oxide’s dose-dependent inhibition of uterine contractility: a potential mechanism underlying persistent breeding-induced endometritis in the mare, November 18, 2015, Ontario Veterinary College Graduate Student Research Symposium, Oral presentation (awarded first prize).

The effect of nitric oxide on in-vitro contractility of the ovine uterus: a dose response study, May 1, 2015, 43rd Annual Southern Ontario Reproductive Biology Meeting, Poster presentation, McMaster University, Hamilton, Ontario, Canada. This poster was based on the interesting results obtained during optimization of the in-vitro contractility methods on ovine uteri.

Dr. Scott Weese

Data presented at OVC Practitioner Night, Dec 14, 2016, and the OAEP Annual Meeting, Feb 2017

Appendix 8: Presentation and Talks Given by Equine Guelph

Presentations & Talks by Gayle Ecker

May 7, 2017- Conditioning for the Therapeutic Riding Horse, Sunrise Therapeutic Riding and Education Centre, Annual Meeting, Puslinch, Ontario

May 27, 2017- Heart Rate Monitoring for Training and Performance, Tri-County Carriage Association, Puslinch, Ontario

June 7, 2017- An Introduction to TheHorsePortal webinar, Provincial equestrian federations

June 16, 2017- An Introduction to TheHorsePortal, presentation to the Standardbred Canada board members, Mississauga, Ontario

June 19-22, 2017- Equine Welfare Assessment Training, OSPCA Investigative Officer Training, University of Guelph, Ontario

August 17, 2017- Equine Welfare Assessment Training for OSPCA, presentation to Humane Society, Vienna, Austria

August 23, 2017- An Introduction to Equine Guelph, Konrad Lorenz Behaviour Research Station

October 23, 2017- Presentation on TheHorsePortal and other online offerings of Equine Guelph, made to BARTA staff, Davis, California

October 26, 2017- "What You Told Us! – a presentation of the racing industry survey", AGCO committee, Mohawk Racetrack, Campbellville, Ontario

January 7, 2018- "The Horse Health Check" and "An Interactive Journey Through the Horse's Gut", Grey Bruce Farmer's Week, Equine Day, Elmwood, Ontario

January 13, 2018- "An Interactive Journey Through the Horse's Gut", Arabian Association Annual Meeting, Brantford, Ontario

February 8, 2018- "Welfare and your Senior Horse", Erin Equine Education Night, Erin, Ontario

February 10, 2018- "The Power of Partnerships", Equine Industry Summit, University of Guelph, Guelph, Ontario

March 20, 2018- "Large Animal Rescue – Comparative Anatomy", Puslinch Fire Department Training, Puslinch, Ontario

March 21, 2018- "Large Animal Rescue – Comparative Anatomy", Puslinch Fire Department Training, Puslinch, Ontario

March 27, 2018- “Anatomical Considerations for Large Animal Rescue of Horses”, Large Animal Emergency Rescue Workshop, International Racing Investigators Conference, Woodbine Racetrack, Ontario

April 7, 2018- “The Power of Partnerships – Opportunities for Collaboration for the Equine Industry”, Equestrian Canada Annual Convention Lunch ‘n Learn session, Ottawa, Ontario

April 8 , 2018- “An Interactive Journey Through the Horse’s Gut”; “Rating the Risk of Colic – Equine Guelph’s Colic Risk Rater”; and “The Horse Health Check – An Important Tool for the Horse Owner”, Equestrian Canada Annual Convention Youth program, Ottawa, Ontario

April 21, 2018- “Heads, Legs and Tails Are Not Handles – Anatomical Considerations of Horse Anatomy”, Technical Large Animal Emergency Rescue Training Course for first responders, Mildmay, Ontario

Presentations & Talks by Susan Raymond

“Introduction to Large Animal Rescue Training”, as part of Large Animal Rescue Training course, Nov 17 2017, Meaford Fire Department, Meaford, ON

“Large Animal Emergency Rescue Training – an Introduction”, Central York Fire Department, Jan 19 2018, Seneca Lake, ON

“Large Animal Emergency Rescue Training – an Introduction”, presentation to Performance Horse Handler Certificate program and Associate Diploma in Equine Care and Management students from Clinton, March 1 2018, University of Guelph, ON

“Large Animal Emergency Rescue Training – an Introduction”, Equine Research Day, March 3 2018, University of Guelph, ON

“Large Animal Emergency Rescue Training – an Introduction”, Puslinch Fire Department, March 20 and 21, 2018, Puslinch, ON

“Large Animal Emergency Rescue Training – an Introduction”, Organization of Racing Investigators training conference, March 27 2018, Woodbine Racetrack, Toronto, ON

“Introduction to Large Animal Rescue Training”, as part of Large Animal Rescue Training course, April 21 and 22 2018, Mildmay Fire Department, Mildmay, ON

Presentations and Talks by Jackie Bellamy-Zions

Event Marketing and Social Media - presentation to Performance Horse Handler Certificate program and Associate Diploma in Equine Care and Management students from Clinton, March 1 2018, University of Guelph, ON

Equine Guelph programs - Beth Underhill Clinic, October 15, 2017, Burlington, ON

Events and Seminars

Over 28 talks and seminars were given at meetings, tradeshow and other equine events over the year to the equine industry (over 19 talks by Gayle Ecker, and 7 by Susan Raymond, 2 by Jackie Bellamy-Zions) on several educational topics and to promote the programs of Equine Guelph. Equine Guelph also attended 20 events and tradeshow with displays.

Appendix 9: Educational Offerings by Equine Guelph

Educational Courses offered by Equine Guelph and Open Learning and Educational Support

Advanced Equine Health through Nutrition (Instructor: *Dr. Kathleen Crandell, PhD*)
Advanced Equine Behaviour (Instructor: *Lindsay Nakonechny, MSc & Kelly Hecker, MSc*)
Advanced Functional Anatomy (Instructor *Dr. Jeff Thomason, PhD*)
Equine Behaviour (Instructor: *Lindsay Nakonechny, MSc*)
Equine Business Finance and Risk Management (Instructor: *Nicole Velozo Sclama*)
Equine Business Management (Instructors: *Rachael Hunter & Christine Polhkamp*)
Equine Event Management (Instructor: *Tracy Dopko and Marjory Gaouette*)
Equine Genetics (Instructor: *Dr. Dianne Winkelman-Sim, PhD*)
Equine Nutrition (Instructor: *Dr. Kathleen Cavanagh, DVM*)
Equine Welfare (Instructors: *Cordy DuBois, MSc, Gayle Ecker, MSc*)
Exercise Physiology (Instructor: *Dr. Amanda Waller, PhD*)
Functional Anatomy (Instructor: *Dr. Jeff Thomason, PhD*)
Global Perspectives in Equine Welfare (Instructor: *Dr. Tamara Tadich, PhD, DVM*)
Management of the Broodmare, Stallion and Foal (Instructor: *Dr. Pat Meyers*)
Health & Disease Prevention (Instructor: *Dr. Ev Post*)
Management of the Equine Environment (Instructors: *Dr. Susan Raymond & Kathy Fremes*)
Marketing & Communications (Instructor: *Tracy Dopko*)
Stewardship of the Equine Environment (Instructor: *Dr. Susan Raymond, PhD*)
The Equine Industry (Instructor: *Gayle Ecker, MSc*)

Short Online course offered by Equine Guelph on TheHorsePortal.ca

Behaviour and Safety online Horse Portal Short Course (Instructor: *Dr. Susan Raymond, PhD*)
Behaviour and Safety online Horse Portal Short Course (Instructor: *Jackie Bellamy-Zions*)
Colic Prevention online Horse Portal Short Course (Instructor: *Diane Gibbard, MSc*)
Horse Care and Welfare online Horse Portal Short Course (Instructor: *Gayle Ecker, MSc*)
Sickness Prevention online Horse Portal Short Course (Instructor: *Dr. Susan Raymond, PhD*)

Appendix 10: Summary of the Equine Studies program

Diploma in Equine Studies

The diploma in equine studies requires 6 core and 4 elective courses. We are seeing an increase in students beginning the program with the intent to complete the Diploma in Equine Studies. In 2009 we awarded our first Diploma in Equine Studies. With 29 diplomas awarded in 2017/18, the total number of diplomas awarded has increased to 233.

Program Requirements:

Management of the Equine Environment	Core
Health & Disease Prevention	Core
Equine Nutrition	Core
Functional Anatomy	Core
Equine Behaviour	Core
Stewardship of the Equine Environment	Core

Students can continue with electives from the Equine Science specialty

Growth & Development	Elective
Exercise Physiology	Elective
Equine Genetics	Elective

and/or combine Equine Business Management courses

Equine Business Management	Elective
Marketing & Communications in the Equine Industry	Elective
Finance & Risk Management	Elective
The Equine Industry	Elective
Equine Journalism	Elective
Equine Event Management	Elective

and/or combine Equine Welfare courses

Equine Welfare	Elective
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Equine Science Certificate

The Equine Science Certificate requires 4 core and 2 elective courses. The first Equine Science Certificates were awarded in 2004/05 to 36 students. With 15 Equine Science Certificates awarded in 2017/18, to date 398 Equine Science Certificates have been awarded.

Program Requirements:

Management of the Equine Environment	Core
Health & Disease Prevention	Core
Equine Nutrition	Core
Functional Anatomy	Core
Growth & Development	Elective
Equine Behaviour	Elective
Exercise Physiology	Elective
Equine Genetics	Elective

Certificate in Equine Business Management

The Certificate in Equine Business Management requires 5 core and 1 elective course. With 8 Certificates in Equine Business Management awarded in 2017/18, to date 58 Equine Business Management Certificates have been awarded.

Program Requirements:

Management of the Equine Environment	Core
Equine Business Management	Core
Marketing & Communications in the Equine Industry	Core
Finance & Risk Management	Core
The Equine Industry	Core
Equine Journalism	Elective
Equine Event Management	Elective
Stewardship of the Equine Environment	Elective

Equine Welfare Certificate

The Equine Welfare Certificate requires 3 pre-requisite courses, 4 core and 2 elective courses. The Equine Welfare Certificate is a partnership between Equine Guelph, Campbell Centre for the Study of Animal Welfare and Open Learning and Educational Support. With 4 Certificates in Equine Welfare awarded in 2017/18, to date 10 Equine Welfare Certificates have been awarded.

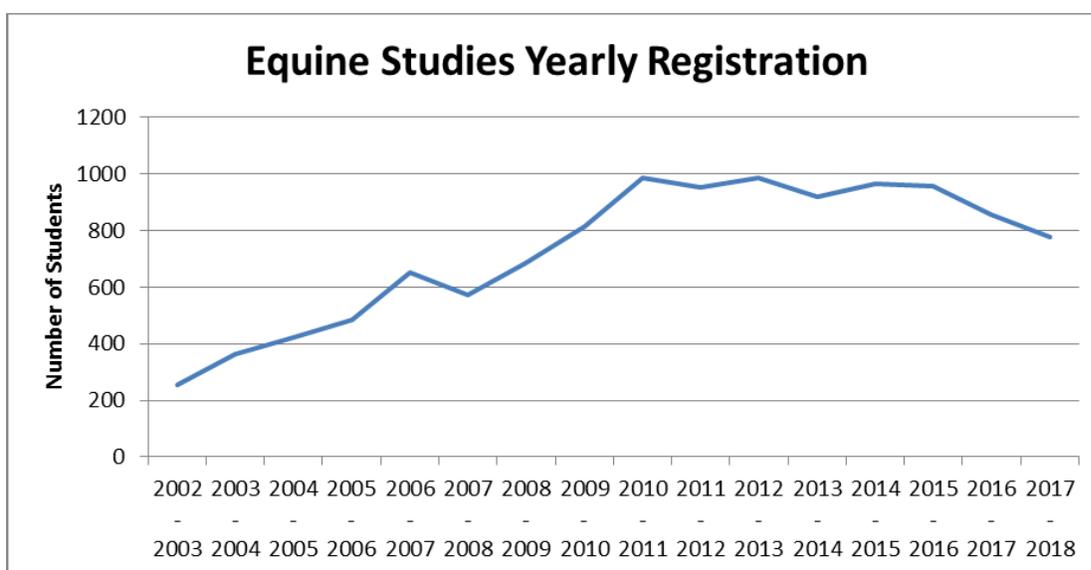
Program Requirements:

Management of the Equine Environment	Pre-requisite
Equine Behaviour	Pre-requisite
Course of your choice from Equine Science or Business	Pre-requisite
Equine Welfare	Core
Advanced Equine Behaviour	Core
Advanced Equine Health through Nutrition OR Equine Nutrition	Core
Global Perspectives in Animal and Equine Welfare	Core
Health & Disease Prevention	Elective
The Equine Industry	Elective
Equine Nutrition OR Advanced Equine Health Through Nutrition	Elective
Advanced Equine Anatomy	Elective

2017 - 2018 Student Registration Profile

Number of individual students	545
Total number of registrations	776

Equine Yearly Student Registration Summary



Yearly Student Registration All Programs and Courses

Year	# of reg	Projections	# of Students
2002 - 2003	256	180	
2003 - 2004	365	360	
2004 - 2005	422	480	
2005 - 2006	483	540	
2006 - 2007	653	760	
2007 - 2008	572	600	
2008 - 2009	684	710	
2009 - 2010	814	888	
2010 - 2011	987	1009	503
2011 - 2012	954	949	524
2012 - 2013	987	1125	487
2013 - 2014	920	1110	503
2014 - 2015	966	995	516
2015 - 2016	958	975	530
2016 - 2017	856	975	540
2017 - 2018	778	900	545

Enrollment Registrations by Course 2017-2018

Summer 2017

2200000	Management of the Equine Environment	35
2200002	Equine Behaviour	31
2200005	Equine Functional Anatomy	46
2200006	Equine Nutrition	33
2200009	Equine Event Management	24
2200012	Equine Business Finance and Risk Management	19
2200013	Equine Welfare	12

Fall 2017

2200000	Management of the Equine Environment	56
2200004	Equine Health and Disease Prevention	57
2200006	Equine Nutrition	57
2200010	Stewardship of the Equine Environment	35
2200015	Advanced Equine Behaviour	15
2200018	Management of Broodmare, Stallion and Foal	26
2210002	Equine Business Management	42

Winter 2018

2200000	Management of the Equine Environment	59
2200001	Equine Exercise Physiology	59
2200005	Equine Functional Anatomy	53
2200006	Equine Nutrition	52
2200011	The Equine Industry	24
2200017	Global Perspectives in Equine Welfare	8
	Marketing and Communications in the Equine Industry	33
2240000		
Total Enrollments		776

Advanced Courses

The Advanced courses are included in the Equine Welfare Certificate

Course	Semester	# of reg
Advanced Equine Health Through Nutrition	S17	5
Advanced Behaviour	F17	15
	Total	20

Equine Welfare Certificate Courses

The Equine Welfare Certificate is a partnership between Equine Guelph, Campbell Centre for the Study of Animal Welfare and Open Learning and Educational Support.

Course	Semester	# of reg
Global Perspectives in Equine Welfare	W18	8
Equine Welfare	S17	12
	Total	20

Course Distribution

Number of courses offered each year

Year	Courses
2002 - 2003	4
2003 - 2004	6
2004 - 2005	8
2005 - 2006	9
2006 - 2007	13
2007 - 2008	10
2008 - 2009	12
2009 - 2010	16
2010 - 2011	19
2011 - 2012	21
2012 - 2013	24
2013 - 2014	21
2014 - 2015	22
2015 - 2016	22
2017 - 2018	21

Different individual courses available

Year	Courses
2002 - 2003	3
2003 - 2004	4
2004 - 2005	6
2005 - 2006	7
2006 - 2007	8
2007 - 2008	7
2008 - 2009	11
2009 - 2010	14
2010 - 2011	15
2011 - 2012	17
2012 - 2013	19
2013 - 2014	16
2014 - 2015	17
2015 - 2016	17
2017 - 2018	16

Where are our students coming from?

Canadian Students

Province	#
AB	50
BC	67
MB	11
NB	8
NL	6
NS	11
NU	0
NT	2
ON	223
PE	2
PQ	30
SK	13
YT	2
TOTAL	425

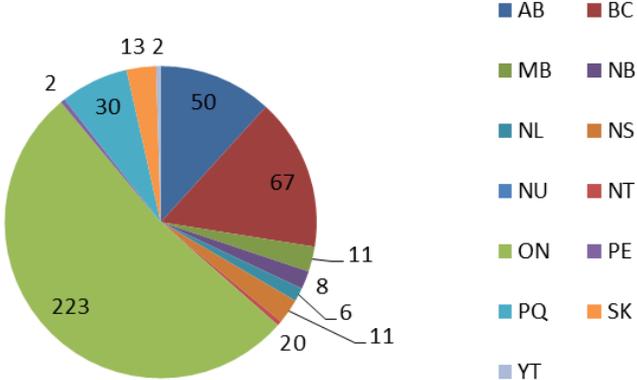
International Students

Country	#
Australia	6
Austria	1
Chile	1
Colombia	3
Finland	2
France	2
Germany	1
Hong Kong	1
India	2
Italy	1
Jordan	1
Kazakhstan	1
Lebanon	1
New Zealand	1
Portugal	1
Qatar	1
Saudi Arabia	2
South Africa	3
Spain	1
Sweden	3
Trinidad & Tobago	1
UAE	2
UK	2
TOTAL	40

US Students

State	#
AZ	2
Ca	8
CT	2
CO	1
FL	3
GA	3
IL	4
IN	3
KS	2
KY	3
MA	3
MD	4
ME	2
MI	3
MN	1
MO	2
MT	2
NC	1
ND	1
NJ	1
NY	2
OH	1
OR	2
PA	6
TN	1
TX	7
VA	2
VT	1
WA	4
WI	3
TOTAL	80

Canadian Student Distribution by Province



Year to Year Comparison by student geographic location

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
CAN	340	457	482	451	459	442	461	451	424	425
US	27	32	27	19	31	54	38	44	56	80
INT	13	14	15	17	13	20	23	45	44	40
Totals	380	503	524	487	503	516	522	540	524	545

Year by Year Comparison of the geographic location of Canadian Students

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
AB	37	47	39	49	54	48	49	48	61	50
BC	33	38	47	48	64	63	66	70	60	67
MB	7	7	10	13	10	4	7	14	10	11
NB	2	5	4	8	7	5	4	6	9	8
NL	1	2	2	2	3	4	4	7	4	6
NS	6	5	11	10	15	18	16	13	7	11
NU	2	0	0	1	0	0	0	0	0	0
NT	0	1	0	0	0	3	3	1	0	2
ON	238	313	338	296	275	259	275	249	229	223
PE	0	2	0	0	4	3	1	2	0	2
PQ	10	27	19	18	12	21	20	22	29	30
SK	2	5	10	6	14	14	16	17	15	13
YT	2	5	2	0	1	0	0	2	0	2
Totals	340	457	482	451	459	442	461	451	424	425

Graduates of our Certificates and Diploma Program of Studies

	Equine Science	Business Management	Equine Welfare	Diploma
2004/05	36	n/a		n/a
2005/06	27	n/a		n/a
2006/07	32	n/a		n/a
2007/08	25	n/a		n/a
2008/09	38	n/a		n/a
2009/10	20	n/a		22
2010/11	30	2		13
2011/12	30	6		23
2012/13	28	7		29
2013/14	19	9		25
2014/2015	21	6		20
2015/2016	50	14	3	38
2016/2017	27	6	3	34
2017/2018	15	8	4	29
	398	58	10	233

TheHorsePortal 2017 – 2018

Course Offering Overview 2017-2018

2017 Course Offerings (does not include OE Pilot courses)

Course	Enrollment Total	Enrollment PTSO/4H	# Paid Students	% Paid Enrollment	Revenue	Expenses	Net
Eq. Welfare (W17)	36	19	33	92%	\$2,954	\$1325	\$1,629
Eq. Biosecurity (W17)*	22	13			\$1,596	\$684	\$912
Behaviour & Safety (F17)	84	58	60	71%	\$5,438	\$1,323	\$4,025
Behaviour & Safety – Youth (F17)	55	46**	27	49%	\$1,129	\$1074	\$55
Horse Care and Welfare (F17)	64	39	34	53%	\$3,078	\$1,313	\$1,764
Total	261	175	154	59%	\$14,107	\$5,720	\$8,387

* Enrollment numbers for Eq. Biosecurity (W17) to be confirmed

** Nine 4-H members

2018 Course Offerings

Course	Enrolled Total	Enrolled PTSO	Enrolled Racing	#Paid Students	%Paid Enrollment	Revenue	Expenses	Net
Gut Health & Colic (W18)	165	35	107	53	32%	\$4,679	\$2,829	\$1,850
Sickness Prevention (W18)	22	13	-	24	80%	\$2,128	\$712	\$1,416
Behaviour & Safety (W18)	29	12	16	28	97%	\$2318	\$1163	\$1155

Behaviour & Safety – Youth (W18)	10	4	0	9	90%	\$387	\$773	-\$386
Horse Care and Welfare (F18)	-	-	-	-	-	-	-	-
Total	234	71	107	114	49%	\$9,512	\$5,476	\$4,035

Course Enrollment Stats (w/o pilot program & racing)

Year	Total Enrollment	Federation Enrollment	% Federation Enrollment
2017	261	172	66%
2018	127	71	56%

Provincial Breakdown

PTSO	2017 # of paid Registration	2017 # Coupons used	2017 Totals	2018 # of paid Registration	2018 # Coupons used	2018 Totals
Alberta (AEF)	22	10	32	5	0	5
British Columbia (HCBC)	17	10	27	10	0	10
Manitoba (MCH)	2	3	5	1	0	1
New Brunswick (NBEA)	2	10	12	2	0	2
Newfoundland (NEA)	0	0	0	1	1	2
Nova Scotia (NSEF)	4	10	14	7	0	7
Nunavut	0	0	0	0	0	0
Northwest Territories	0	0	0	0	0	0
Ontario	50	23	73	23	0	23
Prince Edward Island (IHC)	0	1	1	0	0	0
Saskatchewan (SHF)	4	4	8	5	0	5
Yukon (EAY)	0	0	0	0	0	0
Totals	101	71	172	54	1	55
% of PTSO registrations	59%	41%		98%	2%	

Appendix 11: Equine Guelph's Promotional Events

Another busy year kept the Equine Guelph staff on the road, taking the message of education, lifelong learning, career pathways, safety and horse welfare out to the equine community in Ontario and beyond!

Displays and Events for Equine Guelph programs

Events Calendar – 2017

Equine Guelph next offering Online Courses May 08 - July 31

EquiMania! at Brooklin Spring Fair, ON June 01 - 04

EquiMania! at Horse Capades, Toronto, ON July 29 - August 17

EquiMania! at Horse CNE, Toronto, ON August 18 - September 04

EquiMania! at Minnesota State Fair, USA August 24 - September 04

EquiMania! at Warton Fall Fair, ON September 15 - 16

EquiMania! at Plympton-Wyoming Agricultural, ON September 17

EquiMania! at Sydenham fall fair, Owen Sound, ON September 28

Horse Behaviour & Safety Short Online Course October 02 - 22

EquiMania! at Lansdowne Horse Fest, ON October 14

Equine Guelph at Beth Underhill Clinic Burlington, ON October 15

EquiMania! at the Royal Agricultural Winter Fair, Toronto, ON November 03 – 12

Large Animal Rescue Operational Level Course, Meaford, ON November 17 – 19

Horse Care & Welfare Short Online Course (formerly Equine Welfare) November 20 - December 10

Events Calendar – 2018

Seneca Lake (ice/water) Large Animal Emergency Rescue Awareness presentation – 1hr) – hosted by Central York Fire Department January 19

Gut Health & Colic Short Online Course January 22 - February 11

Gayle Ecker speaking at Horse Education Workshop Series, Erin, ON February 08

Equine Industry Symposium, University of Guelph, ON February 10

Sickness Prevention in Horses Short Online Course February 19 - March 11

Large Animal Emergency Rescue Training – an Introduction”, presentation to Performance Horse Handler Certificate program and Associate Diploma in Equine Care and Management students from Clinton, March 1 2018, University of Guelph, ON March 1

Equine Research Day, University of Guelph, ON March 3, 2018

Training for Puslinch Fire Department - Large Animal Rescue Training March 20 and 21

Organization of Racing Investigators training conference - Large Animal Rescue Training, Woodbine Racetrack, Toronto, ON March 26 - 27

Horse Behaviour & Safety Online Course for Youth March 26 - April 13

Horse Behaviour & Safety Online Course March 26 - April 13

EquiMania! at Can Am Equine Expo, Markham, ON April 06 – 08

Youth Workshop: Equine Gut Health & Colic Prevention, Ottawa, ON April 08

Large Animal Rescue Awareness Level Course, Mildmay Fire Department (South Bruce) April 21 – 22

A Guided Tour of Equine Anatomy, University of Guelph, ON April 21 - 22

Appendix 12: Media Coverage Summary

Topic	Articles (May 1, 2017- April 30, 2018)
Research	93
Education	114
EquiMania!	12
Special Projects	117

Coverage of Special Events and Programs

TheHorsePortal	66
Fire Safety – Combustible Clean Up	24
Technical Large Animal Emergency Rescue	24
Ontario Equestrian Member Research Fund	23
Tuition Awards for Racing Industry	16
Equine Foundation Canada Donation	8
Colic	8
Senior Horse Healthcare tool	8
Ontario Racing Industry Survey	7
Biosecurity	6
Vaccination	6

Total Features: 336

Equine Guelph's media pick up increased over 40% from last year and there was uptake in a number of high quality profile industry news distributors. The discerning audience currently following Equine Guelph's releases and re-publishing them include: national and provincial equine associations, veterinary practices, equestrian media outlets, racing associations, feed companies, insurance companies, newspaper companies, stable owners and industry professionals. The engagement of this audience results in further reach to the industry in Ontario and beyond. 100% of the media releases sent out by Equine Guelph were picked up for further distribution. Equine Guelph's releases are distributed to a media list of over 160 equine media outlets!

Equine Guelph continues to maintain a presence on many social media platforms including Facebook and Twitter. Followers include many equine media associations and: Woodbine

Entertainment Group, Spruce Meadows, Canadian Horse Racing News, AGCO Racing, Talking Horses TV (HBPA), Ontario Racing, many raceways, racing fans, many Canadian and Ontario Fire Departments, horse trainers, therapeutic riding academies, breed organizations, saddle fitters, rescue and rehoming facilities, equine trade shows, Equestrian Hour (networking in UK), EquiMed, the Royal Agricultural Winter Fair, Dutch Masters, Omega Alpha, American Farriers Journal, Tack shops, Veterinary Daily, AAEP American Association of Equine Practitioners, OAVT Ontario Association of Veterinary Technicians, The College of Veterinarians of Ontario, Ont. Vet Med Assc., and Canadian Vet Medical Association. Equine Guelph sent out 325 tweets garnering 241,931 impressions.

Early 2017 Equine Guelph launched TheHorsePortal, partnering with 10 provincial equestrian federations and Equestrian Canada (Canada’s national equine association). These short online offerings have generated a massive amount of equine media interest with 66 articles reprinted announcing new courses including a brand new offering just for teenagers – Horse Behaviour & Safety Youth course.

Many links to pages of Equine Guelph’s website continue to be developed by a variety of industry groups including educational websites, provincial equine associations and veterinary pages, student graduates of our program and many of our sponsors. Equine Guelph’s membership with American Horse Publications (AHP) results in a much wider audience as 2 media articles per month are distributed to a broad list of U.S. equine publications.

Media Coverage List

Date	Media outlet	Title
17-May	The Rider	Reduce your risk of spring colic
17-May	OntarioRacing.com	Technical Large Animal Emergency Rescue and Fire Prevention Course
17-May	HorseTalk.co.nz	Bacterial richness is decreased in foals with diarrhea, study finds
17-May	Meaford Express	Meaford Fire Department hosts animal rescue course
17-May	HorseNation.com	Barn Fire Safety: A top 10 checklist from Equine Guelph
17-May	StandardbredCanada.ca	Reduce your risk of spring colic
17-May	StandardbredCanada.ca	EquiMania! Gives Thanks
17-May	bulletin.ovc.uoguelph.ca	EquiMania! Gives Thanks for Great Shows at Can-Am & FEI
17-May	Thoroughbred Highlight	Equine Guelph's Large Animal Emergency Rescue Course
17-May	OntarioFarmer.com	There’s no one-size-fits-all when rescuing a horse
17-May	Horse Canada magazine	Tendon injuries (featuring comments from Dr. Judith Koenig at OVC)
17-May	HarnessLink.com	Spread the word not the Germs
17-May	EquiMed.com	Evolution of "Spread the word not the Germs"
17-May	Canadian Horse Journal	11 Reasons for not Wearing a Helmet

17-Jun	equestrian.ca	Summer Riding: When the Rider is Hot, the Horse is Hotter
17-Jun	equestrian.ca	Reduce your risk of spring colic
17-Jun	equestrian.ca	Diligence and details for fire safety
17-Jun	HarnessLink.com	Raising Awareness in Emergency Rescue
17-Jun	EquiMed.com	Raising Awareness and Gaining Skills in Technical Large Animal Emergency Rescue
17-Jun	Horsetalk.co.nz	Nay to the neigh: Do you know what your horse is saying
17-Jun	USDF	Health Care Issue (EG content)
17-Jun	EquiMed.com	Equine Guelph Launches First-Ever Online Equine Course for Youth
17-Jun	Producer.com	Keeping Horses Healthy and Safe During Summer Travel Season
17-Jun	HorseChannel.com	Online Course will expand understanding of safety around horses
17-Jun	Greenhawk catalogue	Horse portal ad
17-Jun	Horse Sport Magazine	Top 9 Saddle Fitting Problems (Upcoming research by Dr. Katrina Merkies mentioned)
17-Jun	Horse Sport Magazine	Ad for Equine programs at U of G
17-Jun	CosaOnline.com	Youth Focused Online Equine Course
17-Jun	Ontario Equestrian	New "OEF Member Equine Research Fund"
17-Jun	HBPA Ontario	New "OEF Member Equine Research Fund"
17-Jun	Horse-Canada	New "OEF Member Equine Research Fund"
17-Jun	Horse Sport Magazine	New "OEF Member Equine Research Fund"
17-Jun	Allabouthorses.com	New "OEF Member Equine Research Fund"
17-Jun	Horsetalk.co.nz	Canadian equestrians help with equine research funding
17-Jun	Headwaters Horse Country	New "OEF Member Equine Research Fund"
17-Jun	EquiMed.com	Foal Diarrhea Research Pinpoints Causes (Weese, Staemfli cited)
17-Jun	The Rider	New "OEF Member Equine Research Fund"
17-Jun	The Rider	Evolution of "Spread the word not the Germs"
17-Jun	The Rider	Raising Awareness and Gaining Skills in Technical Large Animal Emergency Rescue
17-Jun	Horsejournals.com	New "OEF Member Equine Research Fund"
17-Jun	Eventing Connect	New "OEF Member Equine Research Fund"
17-Jun	Horse & Country	Canadian equestrians help with equine research funding
17-Jun	Standardbred Canada	New "OEF Member Equine Research Fund"
17-Jun	Horsetalk.co.nz	Connectedness of horse world revealed in study of Canadian dressage show

17-Jun	Harnesslink	Cavalía is pure celebration
17-Jun	Horsetalk.co.nz	Inside Cavalía: The world's biggest equine touring show revealed
17-Jun	Camelot Horse Weekly Network	Inside Cavalía: The world's biggest equine touring show revealed
17-Jun	Horsetalk.co.nz	Horse health and safety course goes online for young equestrians
17-Jun	The Rider	Equine Guelph Launches First-Ever Online Equine Course for Youth
17-Jun	Harnesslink	Equine Guelph Launches First-Ever Online Equine Course for Youth
17-Jun	Standardbred Canada	Equine Guelph Launches First-Ever Online Equine Course for Youth
17-Jun	NCRHHA	Equine Guelph Launches First-Ever Online Equine Course for Youth
17-Jul	EquiMed.com	Fire Safety In and Around Horse Barns
17-Jul	Horse Canada Magazine	Answer to "What the Heck is that" - Dr. Weese's pet tick study is mentioned
17-Jul	Powassan Agricultural Society	Equine Guelph Launches First-Ever Online Equine Course for Youth
17-Jul	4H Ontario	Equine Guelph Launches First-Ever Online Equine Course for Youth
17-Jul	Horsetalk.co.nz	The Knabstrupper breed in profile: Spot the difference (mentions taking EG courses)
17-Jul	Horsechannel.com	Online course will expand understanding of safety around horses
17-Jul	Americanhorsepubs.org	U.S.-Canada Partnership Delivers Online Learning Platform to Keep Riders Safe
17-Jul	Happyhorsesofamerica	U.S.-Canada Partnership Delivers Online Learning Platform to Keep Riders Safe
17-Jul	Equimed.com	U.S.-Canada Partnership Delivers Online Learning Platform to Keep Riders Safe
17-Jul	Grand Prix Replay	Universities of Kentucky in U.S. and Guelph in Canada team up on horse safety and welfare
17-Jul	Horsetalk.co.nz	Online safety training extended to equestrian groups
17-Jul	Allabouthorses.com	First Ever online equine course for youth
17-Jul	harnesslink.com	First Ever online equine course for youth
17-Jul	HorseJournals.com	An Open Letter to the Equestrian Community from the Canadian Pony Club (EG mention)
17-Jul	HorseJournals.com	When the Rider is Hot, the Horse is Hotter (Dr. Lindinger)
17-Jul	HorseJournals.com	Wildfire! Flood! Earthquake (EG Large animal rescue training mentioned)
17-Jul	Allabouthorses.com	Online Course will expand understanding of safety around horses
17-Aug	CosaOnline.com	Horse Behaviour & Safety Online For Everyone!
17-Aug	Paulick Report	Saddle up safely
17-Aug	Race Line	Did You Know? (EG Ontario Horse Racing Industry Survey stats used)
17-Aug	HarnessLink.com	Horse Behaviour & Safety Online For Everyone!
17-Aug	CrownRiverMedia.com	Volunteer at the Minnesota State Fair (EquiMania! mention)
17-Aug	TheHorse.com	Exploring the Equine Microbiome (Dr. Weese)
17-Aug	Horsetalk.co.nz	"To shoe or not to shoe?" Equine joint study looks at pressure loading

17-Aug	HorseJournals.com	Your Horses Heart (Dr. Physick-Sheard)
17-Aug	HBPA.on.ca	Equine Guelph News of New Behaviour & Safety Course for Youth
17-Aug	The Rider.com	Horse Behaviour & Safety Online For Everyone!
17-Aug	The Rider.com	Effects of shoeing on the loading pressure on joints of Quarter Horses
17-Aug	4-hontario.ca	A Partnership in Youth Training
17-Aug	Horse Sport Magazine	Miraculous Microbes
17-Aug	Whoa ebulletin	Learn to Speak Horse
17-Aug	Harnesslink.com	Horse Behaviour and Safety Online for Everyone
17-Aug	TheHorse.com	Causes of Death in Ontario Racehorses Examined
17-Aug	HolisticHorse.com	U.S.-Canada Partnership Delivers Online Learning Platform to Keep Riders Safe
17-Aug	Horsetalk.co.nz	Honour for pioneering equine stem cell researcher
17-Aug	OntarioRacing.com	Measuring Economic Output of Horse Racing in ON Survey - (EG course a prize)
17-Aug	The Rider	Horse Behaviour & Safety Online For Everyone!
17-Aug	The Rider	Chill out! Does your horse need an attitude adjustment? (article by Wendy Pearson)
17-Aug	The Rider	Effects of shoeing on the loading pressure on joints of Quarter Horses
17-Aug	The Rider	Intercity Insurance Ad (featuring Equine Guelph and TheHorsePortal)
17-Aug	Horse Sport Magazine	OEF Member Equine Research Fund
17-Sep	HorseJournals.com	Seasonal Parasite Control (Dr. Pearson)
17-Sep	HorseJournals.com	Fire Safety on the Horse Farm
17-Sep	Race Line	The Importance of education in the horse racing community (EG LAR course)
17-Sep	Race Line	Scholarship opportunities at Equine Guelph
17-Sep	Horse-Canada.com	Miraculous Microbes
17-Sep	Equestrian.ca	Equine Guelph Adds New Courses to TheHorsePortal for October
17-Sep	QROOI	Ontario Horse Racing Survey Results
17-Sep	Bulletin.ovc.uoguelph.ca	Ontario Horse Racing Survey Results
17-Sep	Horse-Canada.com	Ontario Horse Racing Survey Results
17-Sep	HarnessLink.com	Ontario Horse Racing Survey Results
17-Sep	StandardbredCanada.ca	Roger L'Heureux Award Announced
17-Sept	StandardbredCanada.ca	Ontario Survey Results Released
17-Sep	The Rider	Intercity Insurance Ad (featuring Equine Guelph and TheHorsePortal)

17-Sep	The Rider	Horse Portal courses (ad)
17-Sep	The Rider	Measuring Economic Output of Horse Racing in ON Survey - (EG course a prize)
17-Sep	hbpa.on.ca	Large Animal Rescue Operational Level Course
17-Sep	HorseNation.com	Equine Guelph's ThermoRegulator Tool
17-Sep	QROOI	Large Animal Rescue Operational Level Course Being offered in Ontario
17-Sep	HarnessLink.com	Online horse behaviour & safety course
17-Sep	HorseTalk.co.nz	Online horse behaviour & safety course to be launched in October
17-Sep	QROOI	Large Animal Rescue Operational Level Course
17-Sep	QROOI	Ontario Horse Racing Survey Results
17-Sep	Wellington Advertiser	Education Opening Doors and Eyes in the Racing Industry (Tuition awards)
17-Sep	Wellington Advertiser	Effects of shoeing on quarter horse joints
17-Sep	TheHorse.com	Registration for Online Horse Behaviour, Safety Course Open
17-Sep	StandardbredCanada.ca	Read this Before You Blanket Your Horse
17-Sep	StandardbredCanada.ca	Great Reviews for Guelph Programs
17-Sep	StandardbredCanada.ca	Research Focused on Equine Health
17-Sep	EquiMed.com	Before You Blanket - Visit Equine Guelph's ThermoRegulator Healthcare Tool
17-Sep	Kentucky Performance Products	Before You Blanket - Visit Equine Guelph's ThermoRegulator Healthcare Tool
17-Sep	HolisticHorse.com	Horse Behaviour and Safety Online for Everyone
17-Sep	HarnessLink.com	Roger L'Heureux Memorial equine award
17-Sep	HarnessLink.com	Large Animal Rescue Course Being Offered in Ontario
17-Sep	HarnessLink.com	Online Horse Behaviour & Safety Course
17-Sep	HarnessLink.com	Horse Behaviour and Safety Online for Everyone
17-Sep	HarnessLink.com	Pathobiology Professor focuses research on health
17-Oct	Horse-Canada.com	Capri & Intercity Insurance Brokers of Choice for Canada's Equine Community (EG mention)
17-Oct	HorseTalk.co.nz	Free gut health course on offer for Ontario's racing grooms and trainers
17-Oct	OntarioRacing.com	50 Free Online Courses for Standardbred Trainers & Grooms
17-Oct	HBPA.on.ca	Equine Guelph Offers 150 FREE Short Courses for Grooms and Trainers in Horse Racing
17-Oct	TheHorse.com	Ontario Large Animal Rescue Course...
17-Oct	StandardbredCanada.ca	Large Animal Rescue Course Details
17-Oct	HorseJournals.com	8 Great Careers (Dr. Koenig)

17-Oct	HorseJournals.com	Changes in Gut microflora could provide early warning of EMS
17-Oct	QROOI	Exciting News From Equine Guelph (150 Free online courses for Racing)
17-Oct	Equestrian.ca	Take the Senior Horse Challenge with Equine Guelph
17-Oct	Kentucky Performance Products	Nutrition and Your Senior Horse
17-Oct	Kentucky Performance Products	Consequences of Being too Thin
17-Oct	Allabouthorses.com	Equine Guelph Offers Courses for Racing Grooms, Trainers
17-Oct	CosaOnline.com	Read this Before You Blanket Your Horse
17-Oct	StandardbredCanada.ca	Fall Is Dental Check-Up Time
17-Oct	TheHorse.com	Equine Guelph Offers Courses for Racing Grooms, Trainers
17-Oct	StandardbredCanada.ca	Equine Guelph to Offer Online Course
17-Oct	HarnessLink.com	Special features in support of the senior horse
17-Oct	HarnessLink.com	Fall is Crucial Time for Dental Check-up especially for Senior Horses
17-Oct	HarnessLink.com	Free courses for Grooms and Trainers
17-Oct	EquiMed.com	Fall is Crucial Time for Dental Check-up especially for Senior Horses
17-Oct	EquiMed.com	Fall Changes Contribute to Horse Colic
17-Oct	TheHorse.com	Fall is the Ideal Time For Senior Horse Dental Check up
17-Oct	CosaOnline.com	Equine Guelph To Offer Online Course (150 Free online courses for Racing)
17-Oct	HolisticHorse.com	Fall is Crucial Time for Dental Check-up especially for Senior Horses
17-Oct	Horse Sport Magazine	Rescue and Reality (Quote from Gayle)
17-Nov	HarnessLink.com	Knowledge, Practice & Application at Large Animal Emergency Rescue Course
17-Nov	Equestrian.ca	Hoofprints Honours and Remembers
17-Nov	Standardbred Canada	James MacDonald At the Royal (EquiMania!)
17-Nov	Standardbred Canada	Photos: MacDonald at the Royal
17-Nov	Standardbred Canada	Combustible Clean-Up Time!
17-Nov	StandardbredCanada.ca	Responders Rave About Course
17-Nov	SouthWesternOntario.ca	Erin Students Learn About Equine Industry
17-Nov	The Rider	Equine Guelph Offers 150 FREE Short Courses for Grooms and Trainers in Horse Racing
17-Nov	Trot Magazine	Ad for 50 Free Online Courses for Standardbred Trainers/Grooms
17-Nov	The Rider	Before you Blanket: Visit Equine Guelph's ThermoRegulator Healthcare Tool
17-Nov	The Rider	Intercity Insurance Ad (featuring Equine Guelph and TheHorsePortal)

17-Nov	The Rider	Capri & Intercity Insurance are the brokers of choice for Canada's Equine Community
17-Nov	The Rider	Fall is Crucial Time for Dental Check-up especially for Senior Horses
17-Nov	The Rider	Large Animal Rescue Course Being Offered in Ontario
17-Nov	The Rider	Ontario Horse Racing Survey Results
17-Nov	The Rider	Education Opening Doors and Eyes in the Racing Industry (Tuition awards)
17-Nov	HBPA.on.ca	Knowledge, Practice and Application at Large Animal Emergency Rescue Course
17-Nov	HorseJournals.com	How to Test your Horse for Dehydration
17-Nov	HorseJournals.com	Meeting Riding Helmet Safety Head-On
17-Nov	Breakfast Television	Large Animal Rescue Course Coverage
17-Nov	Bulletin.OVC.uoguelph.ca	Knowledge, Practice and Application at large Animal Emergency Rescue Course
17-Nov	University of Guelph News links	Large Animal Rescue Course Coverage linked to BT video
17-Nov	Horse-Canada.ca	Equine Guelph Hosts Large Animal Rescue Course
17-Nov	Equestrian.ca	Equine Guelph Tool of the Month: Barn Fire Prevention - Combustible Clean Up
17-Nov	CosaOnline.com	Combustible Clean Up Time!
17-Nov	TheHorse.com	Combustible Clean Up
17-Nov	EquiMed.com	Combustible Clean Up
17-Nov	HBPA.on.ca	Combustible Clean Up
17-Nov	StableManagement.com	Combustible Clean Up
17-Nov	NWHorseSource.com	Combustible Clean Up
17-Nov	CatSkillhorse.org	Combustible Clean Up
17-Nov	Horse-Canada.com	Combustible Clean Up
17-Nov	HorseChannel.com	Combustible Clean Up
17-Nov	Bulletin.OVC.uoguelph.ca	Combustible Clean Up
17-Nov	Horse.Millennialbelle.com	Combustible Clean Up
17-Nov	OntarioRacing.com	Combustible Clean Up
17-Nov	The Rider	Hop in to EquiMania! at the Royal
17-Nov	Harnesslink.com	Equine Guelph - November Enews
17-Nov	HarnessLink.com	Hop in to EquiMania! at the Royal
17-Nov	Horse Canada	Magical Albert
17-Dec	Allabouthorses.com	Ontario Equestrian Donates to Research

17-Dec	OMAFRA.gov.on.ca	Barn Fire Prevention (Mention of EG fantastic training program)
17-Dec	HarnessLink.com	Roger L'Heureux Memorial equine award winner
17-Dec	Equestrian.ca	TheHorsePortal: Don't Miss the Upcoming Courses this Winter
17-Dec	Horse-Canada.ca	Roger L'Heureux Memorial Equine Award Winner
17-Dec	StandardbredCanada.ca	Study: Fibrillation Heritable S-Bred Trait
17-Dec	HolisticHorse.com	Combustible Clean Up
17-Dec	The Rider	Knowledge, Practice & Application at Large Animal Emergency Rescue Course
17-Dec	The Rider	Combustible Clean Up
17-Dec	The Rider	Pathobiology professor focuses research on equine health
17-Dec	Horse-Canada.ca	Ontario Equestrian Donates to Research
17-Dec	OVC bulletin	Ontario Equestrian Donates to Research
17-Dec	Ontario Racing Enews	Fire Safety Infographic (sourced EG article)
17-Dec	Ontario Equestrian	Ontario Equestrian Donates to Research
17-Dec	TheHorse.com	Ontario Equestrian Donates to Research
17-Dec	OntarioRacing.com	Equine Guelph Courses: Winter 2018 courses - Registration is Open
17-Dec	QuarterHorseNews.com	Ontario Equestrian Donates to Research
17-Dec	StandardbredCanada.ca	Stuart Stocks Award To Chouinard
17-Dec	StandardbredCanada.ca	Ontario Equestrian Donates to Research
17-Dec	Cosaonline.com	Stuart Stocks Award To Chouinard
17-Dec	TheHorse.com	Cameron Lago Wins Roger L'Heureux Memorial Award
17-Dec	OntarioGoat.ca	Equine Guelph's training program livestock behaviour in emergencies & barn fire prevention
17-Dec	CosaOnline.com	Stuart Stocks Memorial Equine Award Winner Catherine Chouinard
17-Dec	CosaOnline.com	Responders Rave About Course
17-Dec	StandardbredCanada.ca	Stuart Stocks Award To Chouinard
17-Dec	StandardbredCanada.ca	L'Heureux Award to S-Bred Groom
17-Dec	HorseJournals.com	How to Cool Out a Hot Horse in Winter
17-Dec	HorseJournals.com	Winter Watering Options for Your Horse Farm
17-Dec	HorseJournals.com	Ontario Equestrian Donates to Research
17-Dec	HorseTalk.co.nz	What represents a welfare risk for horses?
17-Dec	HorseTalk.co.nz	What's in a whinny? Even non-horsey people seem to know, say researchers

18-Jan	EquineDiseasecc.org	Biosecurity - Equine Guelph scribble video
18-Jan	EquineDiseasecc.org	Protect your horse from infectious diseases - poster - Equine Guelph
18-Jan	EquineDiseasecc.org	Biosecurity for Horse owners info sheet - Equine Guelph
18-Jan	Evensi.ca	2018 Winter Erin Equine Education Workshops - EG guest speaking
18-Jan	2018 Canadian Horse Annual	Do You Speak Horse (Dr. Merckies)
18-Jan	2018 Canadian Horse Annual	3D Printing Joints (Dr. zur Linden)
18-Jan	2018 Canadian Horse Annual	Getting to Know the Gut (Dr. Arroyo)
18-Jan	2018 Canadian Horse Annual	Joint Medication of the Future (Dr. Hurtig)
18-Jan	2018 Canadian Horse Annual	Are You Caring for Your Horses to Code? (Cordelia Dubois)
18-Jan	2018 Canadian Horse Annual	Equine Health Q & A (EG Colic risk rater and fecal collection demo mentions)
18-Jan	ThePost.on.ca	Daily checklist easy way to monitor horse health
18-Jan	Horse-Canada.com	Don't Miss the 2nd Equine Industry Symposium
18-Jan	FarmWeek.com	Common problems associated with winter housing of equines (OVC research mention)
18-Jan	Eventbrite.ca	Single Workshop - Equine Welfare and Aging Horses
18-Jan	CosaOnline.com	Last Call to Trainers & Grooms for Free Online Course
18-Jan	HolisticHorse.com	Ontario Equestrian Donates to Research
18-Jan	HolisticHorse.com	5 Great Horse Careers
18-Feb	HorseJournals.com	Youth Engagement in the Equine Industry at the CNE (EquiMania!)
18-Feb	Wellington Advertiser	Equine industry representatives discuss youth engagement
18-Feb	Wellington Advertiser	Teaming up to Go with the Gut
18-Feb	HorseJournals.com	Regenerative Medicine (Dr. Koch interviewed)
18-Feb	CosaOnline.com	Is Sickness Affecting Your Stable's Performance?
18-Feb	HorseTalk.co.nz	Human medicine to help get to the guts of equine disease
18-Feb	The Rider	Ontario Equestrian Donates to Research
18-Feb	The Rider	Stuart Stocks Memorial Award
18-Feb	Horse-Canada.com	Joint Medication of the Future
18-Feb	OVC bulletin	Quick Response Key in Equine Antimicrobial Resistance Cases
18-Feb	TheHorse.com	Quick Response Key in Equine Antimicrobial Resistance Cases (Weese)
18-Feb	Eurosport.co.uk	Sport horses: nutrition, water and electrolytes (Lindinger & Ecker research mention)
18-Feb	Eventbrite	Equine Guelph Youth Workshop: Equine Gut Health & Colic Prevention (at EC conference)

18-Feb	HorseJournals.com	Equine Industry Symposium Discusses the Future of Equestrianism in Canada
18-Mar	Canadian Horse Journal	Ad for Equine Studies Online
18-Mar	Canadian Horse Journal - Equine Guide	Research targets equine herpesvirus
18-Mar	Canadian Horse Journal - Equine Guide	Canada's Horse Industry Builders
18-Mar	StandardbredCanada.ca	Learn Something New at EquiMania!
18-Mar	OVC bulletin	Research targets equine herpesvirus
18-Mar	OVC bulletin	Canada's Horse Industry Builders
18-Mar	OVC bulletin	Equine Donation Will Enhance Student Veterinarian Hands-on Learning
18-Mar	HolisticHorse.com	Horse Behaviour & Safety Online Course Students Learn to Speak Horse
18-Mar	StandardbredCanada.ca	Ecker Shines in Horse Workshop (Senior Horse)
18-Mar	StandardbredCanada.ca	Thinking About Pasture Prep
18-Mar	StandardbredCanada.ca	Equine Guelph Says Stop, Think, Act
18-Mar	OVC bulletin	Major Threats to Equine Welfare Identified in Research Study
18-Mar	Horse-Canada.com	EFC Donates High-Tech Horse Model to Guelph
18-Mar	American Horse Publications	15th Anniversary Edition of the Equine Guelph Health Studies Newsletter
18-Mar	HorseTalk.co.nz	All hands in horse: high-tech horse model for vet students
18-Mar	Horse-Canada.com	University of Guelph Equine Industry Symposium to Engage Youth
18-Mar	Horse-Canada.com	Successful Gut Health & Colic Course for Racing Industry
18-Mar	HBPA.on.ca	Successful Gut Health & Colic Course for Racing Industry
18-Mar	OVC bulletin	Cardiovascular Scientist Seminar highlights cardiovascular performance in humans and animals
18-Mar	OVC bulletin	15th Anniversary Edition of the Equine Guelph Health Studies Newsletter
18-Mar	OVC bulletin	All hands in horse: high-tech horse model for vet students
18-Mar	Horse-Canada.com	Canadian Laminitis Studies (Merkies & Arroyo mentioned)
18-Mar	StandardbredCanada.ca	Spread the Word - Not the Germs video
18-Mar	StandardbredCanada.ca	The Importance of Vaccination
18-Mar	HBPA.on.ca	Vaccination - Don't be pokey about making your plan
18-Mar	HorseJournals.com	Equine Donation will Enhance Student Veterinarian Hands-On Learning
18-Mar	HBPA.on.ca	Horse Behaviour and Safety Online Course Students Learn to Speak Horse
18-Mar	CosaOnline.com	The Importance of Vaccination
18-Mar	CosaOnline.com	A Guided Tour of Equine Anatomy

18-Mar	CosaOnline.com	Health Course Prove Successful
18-Mar	CosaOnline.com	Learn to 'Speak Horse'
18-Mar	CosaOnline.com	Stop, Think, Act, When Handling Horses
18-Mar	Horse-Canada.com	Get Help Planning Your Horse's Vaccination Schedule
18-Mar	Horse-Canada.com	Guelph Study Examines Equine Welfare in Canada
18-Mar	Horse-Canada.com	Register for a Guided Tour of Equine Anatomy
18-Mar	HorseTalk.co.nz	Online course helps combat killer colic in horses
18-Mar	HarnessLink.com	Stop, Think, Act, When Handling Horses
18-Mar	HarnessLink.com	Equine Guelph research newsletter digital
18-Mar	HarnessLink.com	Donation enhances Student learning
18-Mar	HarnessLink.com	Gut Health & Colic Course hugely successful
18-Mar	HarnessLink.com	Sickness prevention includes Vaccinations
18-Mar	HarnessLink.com	Major Threats to Equine Welfare Identified
18-Mar	StandardbredCanada.ca	Health Courses Prove Successful
18-Mar	StandardbredCanada.ca	Learn to Speak Horse
18-Mar	StandardbredCanada.ca	Donation Will Aid Hands-On Learning
18-Mar	Canadian Thoroughbred	Equine Guelph Health Studies 15th Anniversary Edition
18-Mar	Canadian Thoroughbred	Stem Cell Therapy takes recovery into the future
18-Mar	The Rider	Equine Guelph - Serving the Equine Industry for 15 Years
18-Mar	The Rider	Equine Donation Will Enhance Student Veterinarian Hands-On Learning
18-Mar	The Rider	From Plan to Practice - Using Equine Studies Online to Advance Your Career
18-Mar	The Rider	Online learning ad
18-Mar	The Rider	Joining Forces on Youth Engagement (Industry Day)
18-Apr	OAHN.ca	The Importance of Vaccination in Horses
18-Apr	Horse-Canada.com	EC Convention Features Awards, Clinics & Rising Stars
18-Apr	Equestrian.ca	Equine Gut Health & Colic Prevention Workshop ... 2018 EC Convention
18-Apr	Horse-Canada.ca	Research at the University of Guelph Targets Equine Virus
18-Apr	HorseJournals.com	Airway Disease in Racehorses More Prevalent Than Previously Thought
18-Apr	HarnessLink.com	What is your horse's colic risk this spring?
18-Apr	HarnessLink.com	Research targets equine virus

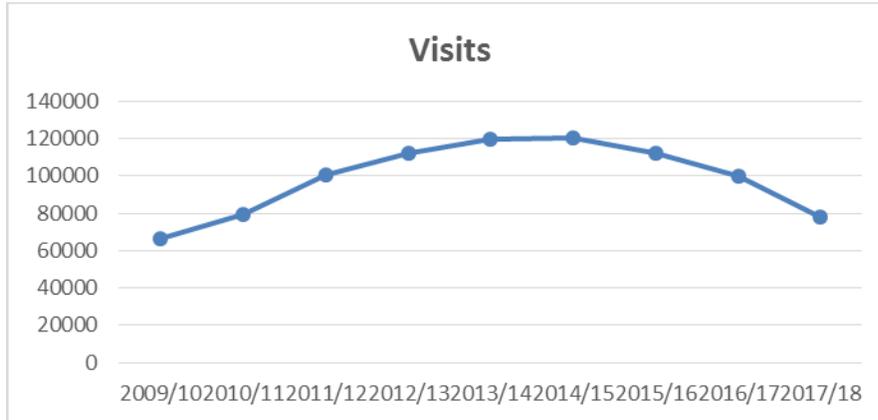
18-Apr	HarnessLink.com	Educators for Equines
18-Apr	HorseJournals.com	The "Trots" : Equine Undifferentiated Diarrhea (Dr. Arroyo)
18-Apr	HorseJournals.com	Air Quality In the Horse Barn
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18-Apr	HorseNation.com	Senior Nutrition
18-Apr	HorseTalk.co.nz	Airway Disease in Racehorses More Prevalent Than Previously Thought
18-Apr	HorseTalk.co.nz	EVH's link with equine abortions under scrutiny
18-Apr	StandardbredCanada.ca	EquiMania! Thanks Organizers
18-Apr	StandardbredCanada.ca	Research Targets Equine Virus
18-Apr	HarnessLink.com	EquiMania! Kicked off 2018 at Can-Am
18-Apr	Wellington Advertiser	Equine Guelph celebrates 15 years of health, welfare, safety
18-Apr	Wellington Advertiser	Research targets equine herpesvirus
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18-Apr	Standardbred Canada	Campbell high on Literary Derby (Equine Guelph donates course to winners)
18-Apr	OntarioRacing.com	Cameron Lago: Charting a course for success
18-Apr	Trainer Magazine	Is EIPH Beyond the Scope of Dietary Change?
18-Apr	StandardbredCanada.ca	Lago Sings Equine Guelph's Praises
18-Apr	StandardbredCanada.ca	Combat Colic This Spring
18-Apr	Horse Sport Magazine	Q&A with Antonia Henderson: Heart & Soul (Katrina Merckies research)
18-Mar	The Rider	Equine Guelph - Serving the Equine Industry for 15 Years
18-Mar	The Rider	Equine Donation Will Enhance Student Veterinarian Hands-on Learning
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Appendix 13: Web Site Report

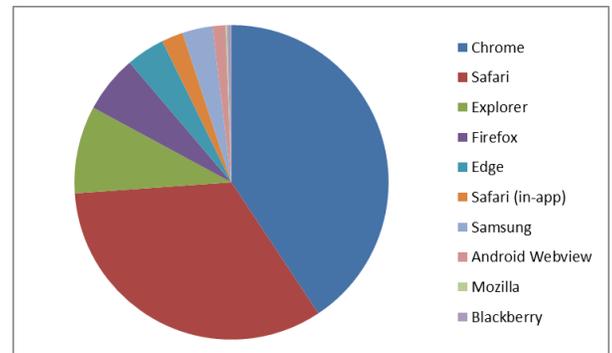
Visits	MAY 01, 2017 - APRIL 30, 2018	78,257
New Users		39,454
Page Views		209,823
Avg. Session Duration		00:02:13



TOP 10 BROWSERS – OPERATING SYSTEM

(sessions, plus % new sessions)

Operating system	Sessions	Percentage
Chrome	31,614	(40.40%)
Safari	25,804	(32.97%)
Internet Explorer	6,987	(8.93%)
Firefox	4,582	(5.86%)
Edge	3,083	(3.94%)
Safari (in-app)	1,720	(2.20%)
Samsung Internet	2,411	(3.08%)
Android Webview	1,039	(1.33%)
Mozilla Compatible Agent	135	(0.17%)
BlackBerry	338	(0.43%)



TECHNOLOGY OVERVIEW

Device	Sessions	Percentage
Desktop	41,284	52.75
Mobile	28,713	36.69
Tablet	8,260	10.55

ACQUISITION CHANNELS

	Channel	Number	Percent
1	Organic Search	21,711	51.47
2	Direct	11,601	27.50
3	Referral	4,884	11.58
4	Email	2,015	4.78
5	Social	1,964	4.66
6	Other	4	0.01



TOP REFERRAL SOURCES

Source	Number	Percent
1. google/organic	20,220	47.22
2. direct	11,601	27.09
3. standardbredcanada.ca	1,464	3.42
4. bing/organic	1,271	2.97
5. m.facebook.com/referral	1,239	2.89
6. ovc.uoguelph.ca/referral	778	1.82
7. facebook.com/referral	384	0.90
8. equineguelph.ca	371	0.87
9. yahoo/organic	335	0.78
10. equinestudiesonline.ca/referral	251	0.59

TRAFFIC SOURCES SOCIAL MEDIA

Social Network	Sessions	% Sessions
1. Facebook	2,283	91.50
2. Twitter	133	5.33
3. YouTube	42	1.68
4. Pinterest	27	1.08
5. Weebly	7	0.28
6. Blogger	1	0.04
7. LinkedIn	1	0.04
8. Naver	1	0.04

CONTENT

TOP 10 LANDING PAGES

(sessions, plus % new sessions)

	Page	Number	Percentage
1.	/jobtrack/jobs.php	64,735	30.85%
2.	/index.php	18,263	8.70%
3.	/jobtrack/index.php	5,843	2.78%
4.	/education/index.php	3,966	1.89%
5.	/education/programs_list.php	3,934	1.87%
6.	/Tools/equi planner.php	2,255	1.07%
7.	/Tools/colic_risk_rater/Colic_Risk_Rater.html	2,014	0.96%
8.	/Tools/colic_risk_rater.php	1,958	0.93%
9.	/jobtrack/add.php	1,951	0.93%
10.	/education/indiv_courses.php	1,925	0.92%

Appendix 14: Sponsors

Equine Guelph would like to thank the following sponsors for their contributions and support of Equine Guelph's program.



• Senior Horse Challenge



• ThermoRegulator Tool



• EquiMania! Exhibit



• National Training Partner



• EquiMania! Youth Safety Initiative



• EquiMania! • First Aid Kit
• HEALTHflash
• Horse Health Check Poster



• Barn Fire Safety Tool



• Colic Risk Rater Tool
• Hoofprints Tribute Program
• Education Patron
• Risk Series Brochures
• Short Course on The Horse Portal



• EquiMania! Youth Safety Initiative



• HEALTHflash • Vaccination Equi-Planner Tool
• Short Course on The Horse Portal



• EquiMania! Youth Safety Initiative



• Mare & Foal Healthcare Tool



• EquiMania! Exhibit



• EquiMania! Nutrition Display



• EquiMania! Youth Safety Initiative



• EquiMania! Youth Industry Display



• EquiMania! Youth Safety Initiative • HEALTHflash



• EquiMania! Youth Safety Initiative



• Biosecurity Risk Calculator Tool

Equine Guelph Financial Report 2017-2018
As at April 30th, 2018

	Holding Accounts					To Program Support	Programs							Total Equine Guelph
	E. P. Taylor	HIP/QH	SRA	HBPA	General Research		Education	Communi-cations	Develop-ment	Research Support	Sponsorship	3 yr OMAF-TP	1 yr OMAF-TP	
	710655	045878	046069	046071	046960	046073	046077	046079	046851	048865	048864	051180 ³	053007	
FUND BALANCE, Previous Year-end	160,595	145,880	-	96,870	45,082	-	351,550	105,162	11,764	15,445	105,509	63	28,564	1,037,920
REVENUE														
Funds Received from Funding Agencies	97,368 ¹	-	-	70,000 ²	-	-	-	-	-	-	-	-	-	167,368
HIP Funds	-	164,500 ⁴	-	-	-	-	-	-	-	-	-	-	-	164,500
Quarter Horse Program	-	23,000	-	-	-	-	-	-	-	-	-	-	-	23,000
OMAF TP	-	-	-	-	-	-	-	-	-	-	-	-	12,396	12,396
Alumni House Donations (individuals)	-	-	-	-	4,042	-	60,394	-	-	-	-	-	-	64,436
Tuition & Workshops (S17, F17, W18)	-	-	-	-	-	-	90,377	-	-	-	-	-	-	90,377
Other University Contributions	-	-	-	-	-	-	-	-	-	-	-	-	-	-
External Contributions ^{5,6}	-	-	-	-	-	-	178,733	-	-	-	87,995	-	-	266,728
TOTAL REVENUE	97,368	187,500	-	70,000	4,042	-	329,504	-	-	-	87,995	-	12,396	788,806
INTERNAL TRANSFERS:														
From Agency Fund to Program Support	-	(37,500)	-	(14,000)	-	51,500	-	-	-	-	-	-	-	-
From Agency Fund to Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-
From Support to Programs	-	-	-	-	-	(51,500)	-	34,505	-	16,995	-	-	-	-
Transfers b/w EG accounts	-	-	-	-	-	-	16,289	-	-	-	-	(63)	(16,226)	(0)
Transfer from Sponsorship	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL TRANSFERS	-	(37,500)	-	(14,000)	-	-	16,289	34,505	-	16,995	-	(63)	(16,226)	(0)
PROGRAM EXPENDITURES														
Research Projects	(57,430)	(204,213)	-	(98,929)	(49,124)	-	-	-	-	-	-	-	-	(409,696)
Research Support	-	-	-	-	-	-	-	-	-	(4,508)	-	-	-	(4,508)
Education	-	-	-	-	-	-	(323,888)	-	-	-	-	-	-	(323,888)
Communications	-	-	-	-	-	-	-	(92,820)	-	-	-	-	-	(92,820)
Development	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sponsorship	-	-	-	-	-	-	-	-	-	-	(5,045)	-	-	(5,045)
Welfare/Racing	-	-	-	-	-	-	-	-	-	-	-	-	(24,735)	(24,735)
TOTAL PROGRAM EXPENDITURES	(57,430)	(204,213)	-	(98,929)	(49,124)	-	(323,888)	(92,820)	-	(4,508)	(5,045)	-	(24,735)	(860,691)
FUND BALANCE as at April 30th, 2018	200,533	91,668	-	53,941	0	-	373,454	46,847	11,764	27,933	188,459	-	-	994,599

1 - 2017-2018 E.P Taylor revenue.

2 - 2017-2018 HBPA Revenue.

3 - New account number for 1 year TPA was opened in 16/17 Q4. Expenses charged to 3 year TPA grant number were reallocated to 053007.

Both 053007 and 051180 have been cleared and closed.

4 - 2017-2018 HIP revenue and 15/16, 16/17 holdbacks. Awaiting 17/18 holdbacks in 18/19: \$19,500 (HIP), \$3000 (QH).

5 - OE research revenue to be transferred in Q1 18/19 to General Research: \$28,636.66.

6 - Education-External Contributions: EquiMania events, Grants (GF2, GRAS), OSPCA training, Anatomy Workshop, EG Store sales.