



Equine Guelph



Annual Report
May 1, 2023 – April 30, 2024

Contents

EXECUTIVE SUMMARY	3
INTRODUCTION	7
PROGRAMS OF EQUINE GUELPH	8
Research	8
Education and Training	9
Communications and Marketing	16
Development & Sponsorship	24
FINANCIAL REPORT	28
HIGHLIGHTS AND SPECIAL EVENTS	29
SUMMARY OF HIGHLIGHTS.....	42
APPENDICES	43
Appendix 1: Current Equine Guelph Advisory Council	43
Appendix 2: Equine Guelph Partners	46
Appendix 3: Equine Guelph Team.....	47
Appendix 4: Research Projects for 2023-2024	48
New Projects in 2023-24:	48
Appendix 5: Lay Summaries of Research Projects for 2023-2024.....	50
Appendix 6: Research Publications:.....	62
Appendix 7: Research Presentations	64
Appendix 8: Presentations and Talks Given by Equine Guelph	67
Appendix 9: Educational Offerings by Equine Guelph	68
Appendix 10: Summary of the Equine Studies program	69
Appendix 11: Equine Guelph's Promotional Events	81
Appendix 12: Media Coverage Summary	82
Appendix 13: Web Site Report.....	97
Appendix 14: Sponsors	99
Appendix 15 Financial Reports.....	100

Executive Summary

In 2023-24, Equine Guelph celebrates 20 years of building a unique Centre for the horse owner at the University of Guelph. Although starting with very little budget, a group of visionaries from the UofG and industry saw the need to develop programs in service to the equine industry in Ontario. In July 2003, Equine Guelph officially became recognized as a “Centre at the UofG” and began the development of a challenging program that included industry research funding, education, and communications to the industry. This year, we continued to support this mandate of providing research and education programs to the industry. These programs are designed to advance health, welfare, and safety in our industry through the ongoing development of new programs for research and education and ongoing communications to the industry in Canada and beyond.

Research funding allocated was \$216,728 (includes 65K from HBPA and 125K from Ontario Racing) for research projects for 2023-2024. Eight new projects were accepted for funding on priority-designated topics for projects. There are also 24 continuing projects that have received their full funding and whose researchers will be updating the Research Committee with their progress in Fall 2024. Research areas include studies on intestinal health, laminitis/lameness, antibiotic resistance, respiratory issues, disease outbreaks and cardiac dysfunction. We continue to see more proposals that are considered of value for the industry, but funding allocations are exhausted, indicating a need for more investment in research of value to the industry. The results of the research help develop specialist knowledge within the faculty of OVC and beyond and includes speciality training of future vets.

Through a very active communications program, the findings of the research projects are disseminated to the industry in Canada and beyond through many media outlets and Social Media channels to reach out to the industry and distribute new knowledge.

The education program continues to develop new programming for the equine industry on the two online platforms of TheHorsePortal.ca and the partner program we share with OpenEd at UofG. New courses were developed, including The Body Condition Score on-demand course, which was met with our highest enrollment ever for one course. Practical application generated from the new research program is included in our annual course updating and development to ensure relevant, evidence-based information for our industry. Course enrollment overall for the 12-week courses was down from previous years, but enrollment remained strong for courses on TheHorsePortal.ca. We continue to offer 19 courses offering specialized streams in Equine Science, Welfare and Business and offering UofG Certificates and a Diploma in Equine Studies. The trend noticed last year that horse owners continue to look for an educational pathway to their career seems to continue. And for the younger set, we continue to offer the award-winning program, called EquiMania!, both online and as part of the travelling equine display promoting health, welfare and safety of horses and their caretakers.

Thanks to another round of government funding, Equine Guelph continues to offer the Ontario Equine Education and Employment Program (OEEEP) for its third year. This

important program was developed then offered in November 2021 as staff shortages in the industry were a growing challenge. Thanks to funding from the Ontario government and with the continuing partnership with Ontario Harness Horse Association (OHHA) and VPI, Inc. this continues to support our equine industry in the province by providing newcomers to our industry with free training followed by paid employment at equine facilities. Students are matched with employers looking to hire new staff and many go on to be offered employment or find pathways to their equine careers. This is an important program for the future of our industry by attracting new people looking for employment.

The Equine Guelph Advisory Council offers our industry a direct line of communication and input on new research, education, and communications to the industry of Ontario and beyond and includes both provincial and national associations of Canada.

Funding has been received from the E.P. Taylor Fund, HIP/TIP funds, Ontario Racing and the Horsemen's Benevolent and Protective Association of Ontario (HBPA), along with important support from our donors. Further details on the research programs, including publications and national/international speaking engagements, are detailed in the Appendices, underscoring the research excellence that has developed from this important partnership.

Each organization that is part of Equine Guelph designates their own representative on the Council and by their experience, this brings current knowledge of important issues for discussion at meetings to help guide direction of programs in support of new and changing developments in the equine industry. Member organizations contributing to the research program bring dedication and a depth of knowledge that helps move the Research program funding ensuring industry priorities are examined. Their long hours of dedication to this position are greatly appreciated as they evaluate the research proposals each year for industry relevance and scientific merit, thus ensuring the industry receives value for the investment of the research funding for the development of new knowledge, new techniques, and training.

Equine Guelph and its staff are dedicated to developing quality, evidence-based and current opportunities for pathways of education and career development. The very first Senate-approved online University program offered in evidence-based equine studies was launched in May 2002 (as a foundational program for the development of Equine Guelph) and this has been an important aspect of Equine Guelph's contribution to our industry in Ontario, Canada and now internationally - as well as an important revenue-producing program. The programs have seen enrollment from students in over 40 different countries. Equine Guelph continues to annually update and offer the Diploma and Certificate programs for Equine Science, Welfare and Business.

In response to an industry survey, "time" and "money" were factors providing roadblocks to education for those wanting to expand and develop their knowledge. In response, Equine Guelph developed The Horse Portal in 2005 to develop short courses that were inexpensive and provided a focused view of popular topics. This effectively increased the reach to the horse industry with more online opportunities than ever before! The Portal now offers over 16 courses, including three racing-specific courses and three on-demand courses. This offers important opportunities for ongoing training and development of

micro-credentials to our industry. More development of this program is planned for 2024-25!

The support of the provincial government has been instrumental in our ability to offer a third year for the Ontario Equine Education and Employment program, helping to bring new people into our industry and address the urgent need for employees. We thank the government for this important funding, along with our program partners, OHHA and VPI, Inc.

The EquiMania! Youth and family program has been growing once again after the “Covid-lull.” There is renewed interest for on-site interactive displays that are available for special events such as fairs, Family Days, Industry Days at racetrack events and more. We continue to promote youth engagement and inspire young people to consider many options including equine vet professions. The EquiMania! Exhibit continues to be a central focus for equine displays at the Minnesota State Fair and provides a fun and engaging focal point for attracting youth and families. Our donors and sponsors who continue to support the EquiMania! Program help provide these important opportunities for outreach to families and youth. This ongoing support is highly appreciated and makes this program possible.

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 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 Ministry of Agriculture and Food, Standardbred Canada, the Quarter Racing Owners of Ontario Inc., Ontario Association of Equine Practitioners, the University of Guelph and Ontario Racing (which includes Canadian Thoroughbred Horse Society, Central Ontario Standardbred Association and Standardbred Breeders of Ontario Association).

This annual report provides the details on the 2023-2024 activities of Equine Guelph and recognizes the partnerships that make these achievements possible for the benefit of the equine industry and the health and welfare of the horse.



Dear Partners and Supporters of Equine Guelph,

Equine Guelph continues in its role in promoting industry-priority research and remains the global pioneer in online education for the equine industry.

The industry funding program for equine research remains an important pillar for the Centre for the Horse Owner at the University of Guelph, providing important new information on horse care for veterinarians, vet students, and horse owners while advancing the science in critical areas for lameness, gut health, respiratory studies, and many others. This funding is important for pilot projects that have been built into recognized research programs at UofG. This in turn fuels the communications drive to provide this information in practical form to the industry through the growing education program and the ever-expanding communications program – all in support of horse health, welfare, and safety, while playing an important role for the Social License to Operate for the horse industry.

This past year, 19 different courses were attended by almost 800 students registered in Equine Guelph's 12-week and short online courses. This includes representation from 22 different countries outside of Canada for the 12-week courses and 15 for the short courses.

Equine Guelph funded eight new research projects at the University of Guelph as this important program continues to build knowledge to support the health and welfare of horses here in Ontario and to the international scientific communities.

Without the strong support of our industry partners, sponsors, and donors, we cannot continue to build and expand the achievements of Equine Guelph for the research and education programs. We want to extend our sincere thanks for 20 years of this support and celebrate the new and steadfast partners that are with us as we close out our fiscal year in April 2024. So many of these sponsors and partners represent long-term partnerships, and this helps us to continue building for the present and the future of our equine industry as we look forward to the next 20 years!

Yours sincerely,

A handwritten signature in black ink, appearing to read "J. Wichtel".

Dr. Jeffrey Wichtel
Dean, Ontario Veterinary College

A handwritten signature in black ink, appearing to read "A. Patterson".

Mr. Al Patterson
Co-Chair, Equine Guelph

Introduction

“The Centre for the horse owner at the University of Guelph” -- Equine Guelph was founded in 2003 in a new initiative to create a unique partnership with the University of Guelph to provide a portal for research, education/training, and communications. Our mandate to support the health, welfare and safety of our horses and the people working in our industry continues as our priority role.

Concerns for employment issues, sustainability of the industry and public support along with the challenges of recovering from the last few years of shutdowns and restrictions are front and centre. Over the 20-year history of Equine Guelph, this partnership with the equine industry has provided support in continuing the research and education needs of the industry. This report shows that this partnership continues to provide value to the industry.

Leaders of the equine industry are invited to sit on the Advisory Council of Equine Guelph and currently represent Equestrian Canada, The Horsemen's Benevolent and Protective Association of Ontario, Ontario Equestrian, Ontario Racing, Ontario Harness Horse Association, Standardbred Canada, Quarter Racing Owners of Ontario Inc., Central Ontario Standardbred Association, Canadian Thoroughbred Horse Society, Standardbred Breeders of Ontario Association along with members from the University of Guelph to create a model developed “by the industry for the industry”. Annual revenue from the E.P. Taylor Equine Research Fund, created by the racing industry and now overseen by the UofG, provides annual support for the research program.

The Dean of OVC, Dr. Jeff Wichtel, (representing UofG), and Mr. Al Patterson (representing industry), continued in their leadership role as Co-Chairs of the Advisory Council to ensure that the programs of Equine Guelph continue to be in service to the industry by keeping open the valuable two-way communication for our industry members that sit on the Advisory Council, as they oversee the programs for industry research, education, and communications programs.

This Annual Report for the 2023-2024 fiscal year highlights progress, achievements and challenges of Equine Guelph and its programs in service to the equine industry throughout the province and across Canada.

Programs of Equine Guelph

Research

The research program overseen by Equine Guelph and the Research Committee is an industry-supported program to address industry priorities for health and welfare, and to provide a starting point for smaller pilot programs that have promise for future research. This program generates new knowledge for the horse industry in Ontario and beyond through published papers and conference presentations, as well as important training for future veterinarians. There is an annual competition for funding dollars with a call for research proposals to UofG equine researchers. These submissions are reviewed for scientific merit by external reviewers, and for industry priority by members of the Research Committee who are appointed by the research funding partners. Successful projects are then chosen and considered for funding. Researchers receiving funding conduct their research, then report back annually to the Committee on progress or completion. Important findings are reported back to the funding bodies and distributed through the communications and education program. This process ensures that new and developing research information that supports horse health and performance continues to evolve as much as funding allows.

Each year, there have been projects of merit that are not funded due to the funding limit.

Research funding allocated was \$216,728 for research projects for 2023-2024. Eight new projects were accepted for funding on priority-designated topics for projects including intestinal health, laminitis, antibiotic resistance, and cardiac dysfunction. There are also 24 continuing projects that have received their funding in full and whose researchers will be updating the Research Committee with their progress in Fall 2024.

Detailed information on those studies is found in the Research Projects for 2023-24 in the Appendices including the lay summaries and their application to the industry priorities.

Equine Guelph sincerely thanks the Council partners for the ongoing funding and the volunteer Research Committee appointees for the expertise and their dedicated work as volunteers. These individuals are to be commended as they ensure that the industry is seeing high quality, priority-based projects, and effective use of limited funds. Many researchers have been successful at using Equine Guelph allocations to leverage further funding from outside agencies, and this adds higher value and better return on the industry's investment because of these efforts.

To continue building value for this program, Equine Guelph further distributes the information to the industry through their own communications and education programs to industry participants at all levels in both the racing and non-racing sectors through news releases, fact sheets, researcher interviews and more. This provides value added for the funding program through a cycle of knowledge development and distribution, along with feedback from the industry for the next cycle to start and a higher return on the industry investment. Industry groups are encouraged to further distribute this information to their members and followers to widely disseminate up-to-date information in support of horse health and welfare.

The contributions of the funding group and their representatives are greatly appreciated. Equine Guelph would also like to acknowledge the dedicated service to this committee by Dr. Victoria Banks as representative for the Horsemen's Benevolent and Protective Association. Her insight and expertise will be greatly missed.

Research funding is provided by the HBPA, the E.P. Taylor Research Fund, Ontario Racing (Horse Improvement Fund), as well as from dedicated individuals who donate to the Research fund.

Dr. Thomas Koch continues in his role as Co-chair of the Research Committee. Discussions with industry leaders are always welcome and presentations on the research can be organized for industry associations to showcase the many ongoing research projects and the successfully completed ones.

Education and Training

It has been a common comment that fewer people are growing up with horses. This means less opportunity for hands-on learning about horse care over time. This has resulted in more societal conversations and presentation about the need for basic to advanced knowledge being disseminated to the industry in support for the Social License to Operate. There are also growing conversations about the role of traditional management practices that conflict with the growing body of evidence-based information about horse care, training, nutrition, and overall management, including growing environmental concerns.

It is this important role that sets Equine Guelph apart from many others in our industry. Equine Guelph responded to the need for more education and training, launching the first online equine course in May 2002 (even before EG was formally recognized!). Equine Guelph was truly a pioneer in this area with Senate-approved courses providing evidence-based, accessible learning for people in the industry. Today, that role is as important as ever for supporting knowledge development in our industry. In past surveys, and current conversations, people continue to mention the importance of education to our industry (over 90% in an EG survey) identify "time and money" as barriers to continuing education. Equine Guelph continues to respond to this need with three levels of educational offerings - 12-week courses, short courses on The Horse Portal and EquiMania! for youth.

12-week online courses are offered for UofG Certificates in Equine Science, Welfare and Business, and a Diploma program. The Horse Portal short courses (now 19) are continually growing in response to our partners recommendations like the racing-specific courses and queries from industry participants for Equine First Aid. We provide education and training on the important topics of biosecurity and the Code of Practice as basic knowledge needed in the industry by all owners and caretakers. With annual review and revisions, we ensure that the courses reflect best practices and evidence-based knowledge on health, welfare, and safety. We are pleased to welcome a growing number of internationally recognized instructors and guest speakers, who in turn, promote our program!

There were 446 students enrolled in our courses in 2023-2024, from over 22 different countries and the program attracted over 250 new students for our Certificate and Diploma courses.

EquiMania!

The past year was eventful for EquiMania!, marking a triumphant return to the road post-pandemic. EquiMania! displays at various events attracted large, enthusiastic crowds eager to learn about horse health and welfare. The high level of attendee engagement and interest in further learning opportunities was particularly noteworthy. Event organizers also expressed their satisfaction with EquiMania! as a significant draw.

Key events attended from May 2023 – April 2024 included:

- Guelph Eramosa Fire Department's Open House: May 13, 2023
- Horse Day in Erin: May 27, 2023
- Horse Capades at Toronto's CNE grounds: August 3 - 17, 2023
- Minnesota State Fair: August 24 - September 4, 2023
- RCMP Musical Ride at Mohawk: September 19 and 21, 2023
- Can-Am in Ancaster: March 22 - 24, 2024

Overall, the year of 2023 was a successful and rewarding year for EquiMania!, underscoring the vital role of in-person events in promoting community engagement and education. The year of 2024 is already off to a strong start and the team is busy planning for events and fall fairs in the coming months.

Funding for the education program comes through tuition/workshops, and corporate sponsorships. This is invested into new and ongoing program development, online education programs, and virtual presentations and webinars.

The Horse Portal short courses

In conversations with industry members, and followed up by Equine Guelph's industry survey, there was a great deal of interest for continuing education, but "time and money" were overwhelmingly identified as the major barriers. Hence, short courses, both facilitated and on-demand, to provide focused course topics rated as high interest was the next step for Equine Guelph in providing affordable educational opportunities from youth to adult, and at all levels. In 2015, development work started to build a bespoke online platform that could be managed by Equine Guelph. Two courses were launched in 2016 on the Code of Practice and the Biosecurity standard.

Equine Guelph continues developing this program and now offers 19 online short courses! By combining courses from the one or two-week courses, students can now receive micro-credentials for developing their career pathways and practical, evidence-based knowledge for the horse industry. Many partnerships have been developed with the provincial equestrian associations in Canada, racing partners and U.S. partners,

which help us continue to develop more courses, along with our course sponsors. The sponsors who help us develop our courses and extend special offerings for their members are greatly appreciated and an important part of our educational development with over 1,700 students registered.

Two new on-demand courses were added to the growing roster this year. In Summer 2023, a Provincial Officials Foundations course was developed for five provincial equestrian associations that partnered with Equine Guelph to offer online training for those interested in becoming horse show judges in grass roots circuits. The second new course was announced to ring in 2024. In January 2024, The Introduction to Body Condition Scoring course was offered to students in partnership with Masterfeeds.

The Ontario Equine Education and Employment Program, a partnership with the Ontario Harness Horse Association (OHHA) and VPI, Inc. received continued funding for 2024 and four new cohorts of students. Funded by the Ontario government, this program of training and work placement helps address the critical and ongoing need for new employees, providing pathways into the equine industry – a considerable challenge as pointed out by many of our students who want to find careers in the industry.

Students complete a 6-week online course on TheHorsePortal.ca. They learn important areas of health, welfare and safety of horse and person, including learning about the horse industry in Ontario. This is followed by the work experience program with mentors from the industry overseen by OHHA and using Equine JobTrack (supported by Grand River Agricultural Society) to find employers.

Equine Guelph greatly appreciates the ongoing support and the opportunity to continue to develop this important program for the industry. It would not be possible to build this program without our partners, Council members and our sponsors and donors. The Horse Portal has developed into a solid program that now offers specialized and customized training programs for the equine industry.

Horse Portal 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
- Equestrian Nova Scotia
- Ontario Equestrian
- Saskatchewan Horse Federation

Racing Organizations

- Ontario Racing
- Horse Racing Alberta
- PEI Harness Racing Association
- Central Ontario Standardbred Association
- Standardbred Canada
- Ontario Harness Horse Association

Youth Partners

- 4-H Ontario

Animal Welfare Organizations

- Campbell Centre for the Study of Animal Welfare

Accreditation Partners

- Equestrian Canada
- the Canadian Therapeutic Riding Association

International Partners

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

More information is provided in the Appendices.

Education Tuition Awards Provide Important Opportunities

Two tuition awards provide individuals in the racing industry educational opportunities through the Roger L'Heureux Memorial Award and Stuart Stocks Memorial award.

The Roger L'Heureux Memorial Award commemorates a dedicated racing enthusiast and provides an opportunity for a Standardbred driver, trainer or groom or University of Guelph student to continue with their educational studies.

Shelby Dennis is the recipient of the Roger L'Heureux Memorial Equine Award in 2023.

The award from the Stocks family is a moving tribute to a family member who was a passionate follower of racing as it gives important financial support to a student wanting to further their career goals.

Equine Guelph sincerely thanks the Stocks family and the L'Heureux family for their generosity providing these special educational awards and for their foresight in supporting the efforts of students for their career aspirations in the racing industry.

Large Animal Rescue Training Program

The Large Animal Rescue Program was developed for the equine industry and beyond for first responders, veterinary staff, and horse/facility owners in response to the need for this specialized training. This program helps with emergency preparedness and response training when there is a need to respond to rescuing horses and other animals in emergency situations – a high-risk activity that requires the specialised training offered by Equine Guelph. The following report reviews the training that has been completed in 2023-2024.

Hands-on training:

July 15, 2023 - Trinity Trotters, Burlington, Ontario: 1-day Awareness Level training



Release: <https://thehorseportal.ca/2023/08/first-responders-are-gaining-and-implementing-skills-for-large-animal-emergency-rescue/>

September 16 & 17, 2023 - WindReach Farm in Ashton ON (in partnership with Scugog Fire Department): 2-day operational level training.

Attended by Fire Departments from Scugog, Severn, Whitby, Kawartha Lakes and Caledon, as well as York Regional Police. Also in attendance were a handful of veterinarians, vet technicians, and members of PAWS – Provincial Animal Welfare Services (Ontario).

“The training we received introduced many hands-on, technical options for large animal rescue,” says Clint Walker, Training Officer, Scugog Fire & Emergency Services. “The course was extremely thorough and provided a wealth of knowledge. If your response demographic serves the farming community, equine centres, tracks, or fair boards you need this course in your toolbox.”



Release: <https://thehorseportal.ca/2023/09/first-responders-ready-for-large-animal-emergency-rescue/>

October 21, 2023 – University of Guelph – 1-day Awareness level course specialized for veterinarians was presented by Equine Guelph & the Department of Clinical Studies, Ontario Veterinary College, University of Guelph. OVC students, interns and residents took part and learned practical skills to aid large animals and livestock in emergencies.

Dr. Christopher Riley, BSc, BVSc (Hons), MSc, PhD, Dipl.ACVS, PGCIM, MANZCVS, CertTeReo, Professor & Chair of Department of Clinical Studies, Ontario Veterinary College, gave a wonderful presentation about the role of veterinarians attending a large animal incident scene.

“There is a need for veterinarians and other animal industry professionals to work with professional first responder agencies in emergency incidents involving animals,” says Riley. “Training provides participants with specialist skills that allow responders to collectively achieve the combined goals of human safety and optimal animal welfare outcomes.”

Release: <https://thehorseportal.ca/2023/10/ovc-veterinarians-gain-skills-in-large-animal-emergency-rescue/>

Tour: October 25, 2023 – University of Guelph: The Large Animal Emergency Rescue program was presented to members of the Council of Chief Veterinary Officers at Equine Guelph.

March 8, 2024 – University of Guelph: LAER one-day OVC fourth year elective was included as part of a pilot program on Emergency Management.

March 20, 2024 – Brantford, ON: Equine Guelph's Large Animal Emergency Rescue (LAER) training team kicked off their 2024 schedule with a one-day refresher workshop at the beautiful Holly Oaks Farm on March 20, in Lynden, ON. Among the attendees were members of the Hamilton Mounted police, York police, McKee-Pownall veterinary services, Troy Equine Services, and members of TEAD – therapeutic riding centre.



“In an emergency involving horses and other livestock, veterinarians often feel that the situation is entirely their responsibility. This course was extremely informative in presenting the logistics for the best possible outcome for both the animals as well as the people involved in a crisis scenario by presenting proven procedure standards as used by fire, police, and emergency medical agencies. Participants were engaged in various emergency situations and then coached through strategies to set up a chain of command and clear roles were established for everyone. By the end of the program, everyone felt that they had more skills to best assist in an emergency if necessary and that the best outcomes were a team effort.” – Participant, Dr. Angela Whelan

Release: <https://thehorseportal.ca/2024/03/first-responder-refresher-for-large-animal-emergency-rescue/>

Program Promotional videos:



1. https://www.youtube.com/watch?v=QtmucfXY6EQ&list=PLyInkrl6BP-lp45NugXcy_vY0giKzxC9Z&index=1
2. https://www.youtube.com/watch?v=TxLv9_u-uak&list=PLyInkrl6BP-lp45NugXcy_vY0giKzxC9Z&index=2

Online awareness level course:

Online awareness level course is in development.

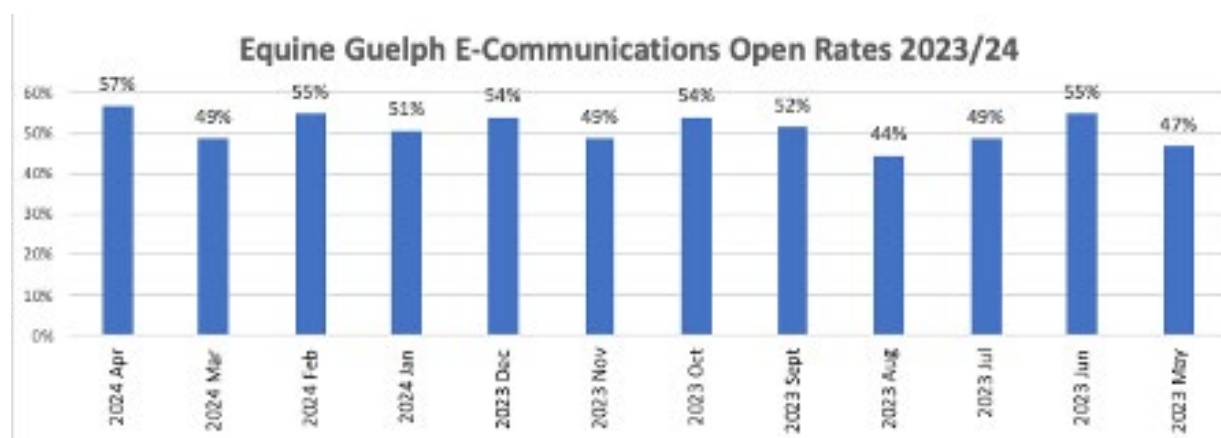
5 units – approx. 2hrs per unit

- Introduction to LAER – Incidents involving animals
- Incident Command System related to LAER
- Introduction to large animal behaviours (normal & stress behaviour)
- Equipment and Techniques
- Scenarios and Next Steps

Expenditures for the education program were \$699,310. This was invested into new online program development, online education programs, virtual presentations and webinars. The online education tuition returned \$146,995 demonstrating continued interest in online education. More detailed information on the education program can be found in the appendices.

Communications and Marketing

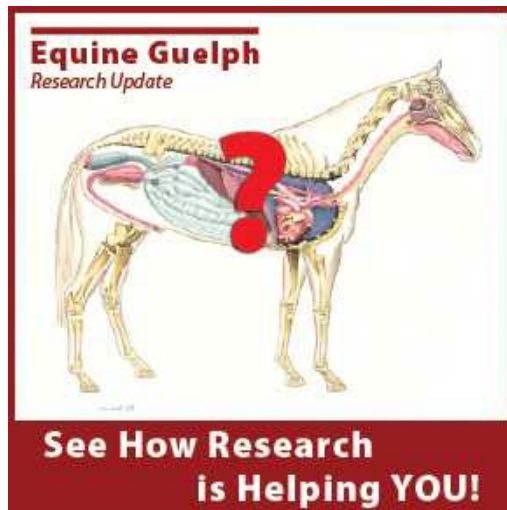
Equine Guelph continues to play a significant role in communication of important information and new findings from research over its 20-year history. Our dedicated E-news subscribers are more dedicated than ever with open rates soaring from 44 – 57%. Our media list also continues to grow and become more engaged with open rates rising from an average of 49% in 2022/23 to 54% in this fiscal year (the industry average open rate is 41.6% for an educational institute, as of March 2024, according to Constant Contact). Equine Guelph provides horse care and welfare news to this deeply committed audience.



Media response continues to be high with ongoing pickup for the resources and courses offered by The Horse Portal. Support from Ontario Racing, Central Ontario Standardbred Association and Standardbred Canada gives Equine Guelph the ability to offer free courses for the racing sector, including respiratory health, lameness/injury prevention, and gut health colic and ulcer prevention, for AGCO license holders and Standardbred Canada members. This project continues building on this successful partnership, first developed in 2020 (funded by AGCO). Media pick up of this program is excellent in the racing sector with ongoing coverage across many Standardbred, Thoroughbred, and Quarter Horse racing news sources and the racing media have responded with exceptional distribution of the Racing-Specific program.

Media interest continues for the Large Animal Emergency Rescue program (LAER) with hands-on offerings to provide unique training needed by fire fighters, first responders and the equine industry (both racing and non-racing sectors. Two promotional videos of the LAER program have been created in 2024 to showcase the training on offer. See Education section special report on Large Animal Rescue courses offered by Equine Guelph).

NEWSLETTER



Volume 21 of Equine Guelph's Research update was released in February 2024. It features research by Dr. Luis Arroyo, and his team, who are investigating gastrointestinal issues including bacterial biomarkers to predict intestinal dysbiosis.

Equine Guelph's newsletter has a major research focus along with providing updates on educational programs. The newsletter is partially supported by the industry investment into the research program as it extends distribution of research findings to the industry. A PDF copy is available on the Equine Guelph website. It is broadly advertised through the Equine Guelph E-news and press releases.

The annual digital version of the Equine Guelph Research Update was well-received and recapped several 2023 research related news releases, complete with links to several video interviews with researchers.

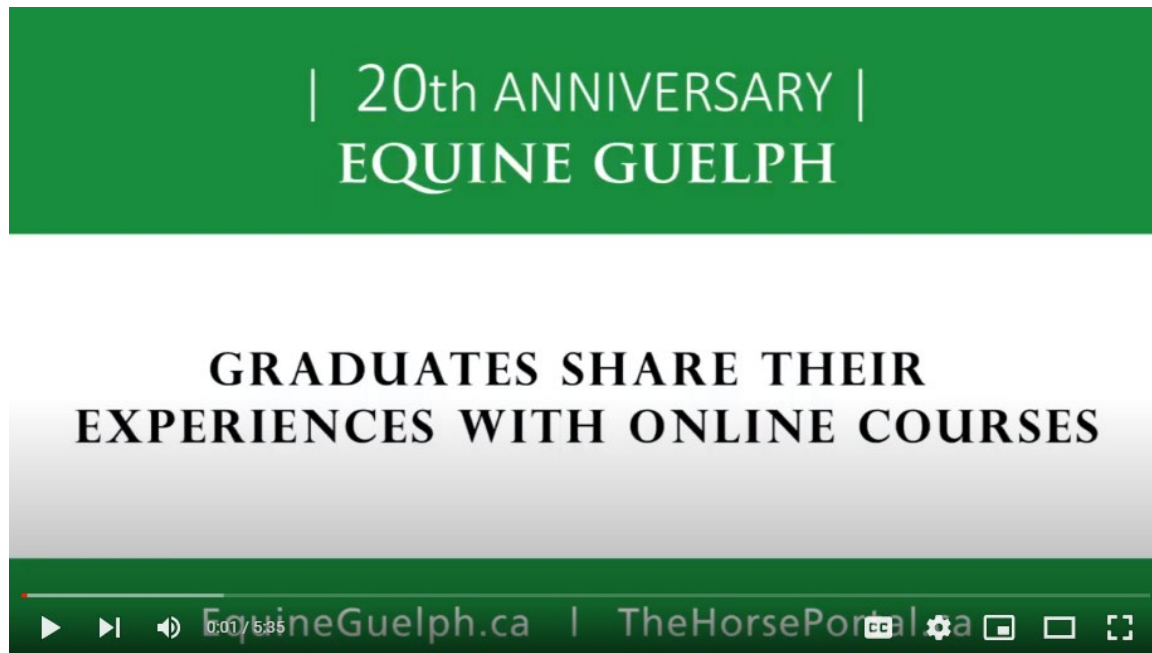


There was a great deal of interest in equine asthma research in the summer of 2023 as a direct result of the increase in forest fires. Dr. Janet Beeler-Marfisi was quick to respond with an article addressing concerns regarding the impact of smoke inhalation.

Other research articles distributed via the monthly E-news and press releases that received high distribution included topics covering kissing spine, lameness treatments utilizing stem cells and endometritis. Video interviews continue to accompany many of

the research features and are cross posted and disseminated through our social media channels, including the Equine Guelph YouTube channel.

Exciting videos of Equine Guelph Alumni were featured throughout 2023 and early 2024 E-news thanks to a partnership with University of Guelph, Bachelor of Bio-Management Resource students who conducted and helped produce this special feature series. Wonderful testimonials were shared by the graduates of Equine Guelph's many certificate programs and diploma program. Alumni attested to the quality of instruction, supportive environment, and impact on how the courses changed and improved their stable management and horse care skills. Here is a [link to the highlights video](#) for these heartfelt testimonials.



Direct industry funding support for the Communications and Marketing program was \$38,000 for the year, which came through the Horse Improvement Program (HIP) / Horsemen's Benevolent and Protective Association of Ontario (HBPA).

Equine JobTrack

The challenges for finding staff in the industry continues and Equine JobTrack continues to provide an important free service for the industry. Playing an instrumental role once again as part of the Ontario Equine Education and Employment program, this helps to match students to facilities looking to hire grooms and caretakers in starting roles. Equine Guelph recognized the important support of HBPA and funding from the Grand River Agricultural Society and Ontario Racing as this enables ongoing enhancements for JobTrack as a service to our industry. Equine Guelph continues to add more resources for job seekers such as the Equine Careers Showcase.

The Careers Showcase has been a massive undertaking with 78 roles in the horse industry represented thus far! The digital learning object has been created as part of the Ontario Equine Education and Employment Program to help students and newcomers learn about career opportunities. Video footage has been released in Equine Guelph's monthly communications featuring interviews with industry professionals sharing their thoughts on their roles within the industry. They also share their journey to assume those roles. 41 video interviews were produced and continue to be featured in Equine Guelph's monthly news.

Equine Guelph sincerely thanks HBPA, Ontario Racing, and Grand River Agricultural Society for their contributions that have enabled this valuable and free service to be upgraded and enhanced as a service to our industry.

Former jockey, [Robert Landry is among the career feature videos](#) released in our monthly E-news.



E-news & HEALTHflash

The small but mighty Communications team of Equine Guelph continues to develop and distribute Equine Guelph's monthly e-news. This free service to the industry helps our participants to remain updated and informed on area of health, welfare and safety and shows how the industry-funded research program continues to break new ground in equine health advances funded by industry support. New education and training opportunities are included to keep our industry up to date.

Through national and international media, strong pick-up continues for the e-news distribution as can be seen by the number of national and international media outlets that

pick up the articles each month, showing that the Equine Guelph releases are valued as an important part of their efforts to keep the readership informed.

The support of our sponsors makes it possible for Equine Guelph to create and distribute *HEALTHflash* (since its inception in 2013), a quarterly communication consisting of 4 seasonal email reminders + monthly health alerts. Over ten years later, this publication remains one of our most popular forms of communication to an international audience thanks to distribution by media across Canada and the U.S. including regular support from the Canadian provincial equine associations, HorseJournals.com, SystemEquine.com and The Rider, among a growing number of others.

Website

Equine Guelph developed The Horse Portal website as a virtual portal for a new program of online industry courses but also to become a “go-to” source for current information on research up-dates, special events, and for important pathways providing education and training programs for all sectors of the industry.

TheHorsePortal.ca page views are 246,241 and the combined total of page views for this fiscal year to both EquineGuelph.ca webpages and TheHorsePortal.ca is 297,368.

Equine Guelph’s website has reached over 26,808 new unique visitors with the most popular page being the Pregnancy Wheel connected to the Mare and Foal healthcare tool. The educational course offerings were next for most frequently visited pages. 37,456 new visitors came to the HorsePortal.ca this fiscal year. Traffic to Equine Guelph sites is primarily through organic and direct search with Google remaining as the source. The top landing page on TheHorsePortal.ca is EquineJobTrack.ca followed by the home page and educational online course listings.

There has been an enormous **154% increase in the traffic to the Equine Guelph YouTube channel** with 101,600 visits this fiscal year! The most popular videos pertain to the Large Animal Emergency Rescue course. The lameness lab first assessment video continues to draw viewers testing their abilities to visually identify lameness in horses.

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 337 (compared to 307 last year) articles have been published about the programs of Equine Guelph in the industry media (see Appendix 12).

Industry interest continues from a broad range and variety of industry publications, for both racing and non-racing sectors. Equine Guelph staff regularly review and monitor

industry magazines, newsletters, and websites to follow and record the ongoing coverage.

In 2023-24, there has been extensive coverage from: HorseJournals.com, The Rider magazine, COSA, Standardbred Canada, and Quarter Racing Owners of Ontario Inc.

Two press releases a month are disseminated through American Horse Publications to reach a list of equine publication groups in the United States.

Equine Guelph stories and resources were also featured in Canada's Equine Guide 2024 produced by Horse Journals, Equestrian Canada, Horse Sport, Horse-Canada.com, Ontario Equestrian, SystemEquine.com, BGracingalliance.ca, The Canadian Thoroughbred Horse Society – Ontario division, Ontario Harness Horse Association, WellingtonAdvertiser.com, University of Guelph Newslinks, Campbell Centre for the Study of Animal Welfare, Alberta Standardbred Horse Association, Holistic Horse Magazine, Guelph Today, NewsOntario.ca, The National Post, Toronto Star, The Globe and Mail, News.UoGuelph.ca, Ontario Farmer, OntarioRacing.com, Ontario Veterinary College bulletin, and the majority of Canada's provincial equine associations. New media interest was received from EastCoastEquestrian.net, MirageNews.com and HippoCampus.

In addition, Equine Guelph received coverage from international horse industry websites such as; HarnessLink.com (Globally distributed, tailored to Standardbred racing audience), HorseTalk.co.nz (New Zealand), Tolt Talk (Australia), EquiMed.com (California, USA), EquineChronicle.com (Florida, USA), EquusMagazine.com (USA media partner of the American Association of Equine Practitioners), Equine Science Update (UK with global distribution), Equine Info Exchange (USA with global audience), TheHorse.com (USA with global distribution), American Riding Instructors Association (USA), Cayuse Communications (USA), HorseNation.com (USA with global reach), HorseSafetyTips.com and the Northwest Horse Source (Colorado USA), Saddle Up Magazine (USA) and EverythingHorseUK.co.uk (UK with distribution beyond UK).

Trainer Magazine (with 2 publications in North America & Europe targeted to a Thoroughbred racing audience) has paid particular attention to Equine Guelph funded research projects featuring a different project in each quarterly issue.

New international media interest came from TB Breeders Ass UK who featured The Mare and Foal healthcare tool.

There was also global media interest in the OEEEEP program from the North American publication, Global Heroes Magazine when they picked up a story about the Ontario Equine Education and Employment Program (OEEEEP). Interest in the OEEEEP program was shown in the form of dissemination by the Ontario Federation of Agriculture, Toronto Star, Globe and Mail and the National post as well as Ontario Equestrian, and other Ontario equine media associations.

Equine Guelph received notable acknowledgement for their sponsorship of the Annual International Society of Equitation Science (ISES) Conference in New Zealand as well as on the ISES website, EquitationScience.com.



Links to Equine Guelph resources produced in 2023-24 continue to be created from sites including: Equestrian Canada, Provincial Equestrian Federation websites, veterinarian web sites, and blogs from social media sites (i.e., Facebook, Twitter, LinkedIn, and Instagram). Information and service sites are also actively posting links to Equine Guelph resources e.g.: Acera Insurance Services Ltd. and SystemEquine.com directing the public to Equine Guelph's online courses, horse owner tools and research.

Archived research videos continue to be accessed and recirculated by media such as HorseJournals.com, who have featured Research Radio videos regularly in their 2023/24 eblasts and embedded them on their webpage.

The strong support from Ontario Equestrian (OE) continues to help the distribution of EG communications through their social media channels and eblasts to their members. This provides important assistance in alerting their members to new educational opportunities, thus helping to boost student enrollment and increase tuition revenue. Important partnerships have been developed with OE including a program to contribute to research support.

Equine Guelph has also received growing support from several other provincial equine organizations as well as sponsors who ensure their members are receiving updated information and promoting the communications, research and education/training

initiatives including the tuition awards for racing, The Horse Portal course offerings, racing industry specific course offerings, 12–week course offerings and more.

The Horse Portal has linked 10 provincial equestrian federations nation-wide, as well as the OSPCA, Campbell Centre for the Study of Animal Welfare, Ontario Racing, Horse Racing Alberta, Standardbred Canada, 4-H Ontario, Canadian Therapeutic Riding Association, Equestrian Connection and Saddle Up Safely, each with their own unique landing page generating traffic to the short new courses offered by Equine Guelph.

Information Inquiries

As more media, partner and sponsor distribution of Equine Guelph material is distributed, Information requests for 2023-24 continue to grow and are a challenge to the staff! We receive many and growing information requests daily about new health issues, disease spread, welfare issues and many more topics and concerns. Requests for employment opportunities or searches arrive from many countries, which are directed to the Equine Job Track site. Providing an information portal for the industry in Ontario, Canada and beyond has been a growing role for Equine Guelph as we are seen to be an important information portal for the industry for ongoing information requests, employment, industry development and sustainability as well as environmental concerns, especially relating to forest fires and the impact on owners and their horses.

Our most frequent requests for information include topics of respiratory issues due to forest fires and pollution, heat stress, colic/ulcer prevention, nutritional advice, euthanasia, and disposal options. There is a growing number of calls about the decrease in equine veterinarians and resulting growing welfare concerns. Interest and questions continue on career pathways, large animal emergency rescue courses, biosecurity current outbreaks, identifying quality sources to find information on new and emerging diseases/medications diagnostics and nutrition, concerns about real or perceived welfare issues such as investigations for welfare issues, transportation issues, and environmental/management issues at facilities.

Development & Sponsorship

A. Equine Guelph 'Helping Horses for Life' Annual Fund Giving Campaign:

The following information reflects fundraising initiatives and private donations for FY2023-24:

Annual Fund Giving	FY22-23 Amount Raised	FY23-24 Amount Raised	FY23-24 No. of Unique Donors	FY23-24 Median Gift
OE Welfare Education Fund	\$1,290.00	\$50.00	1	\$50.00
Education	\$4,222.00	\$11,661.50	20	\$50.00
Research (donations only)	\$4,340.55	\$3,680.00	29	\$75.00
Greatest Need	\$34,587.00	\$29,586.00	92	\$100.00
Totals	44,439.55	\$44,977.50	142	

TABLE I - Funds raised from private donations to EG accounts during FY22-23 and FY23-24 including number of unique donors and the median size of gift for each account.

Annual Spring Appeal:

The 2023-24 appeal and e-chaser were moved from spring to fall. The appeal was mailed in October 2023 with the e-chaser e-mail in November 2023. The campaign focus was on Equine Guelph's 20th anniversary.

The following stats measure the gifts that came from people who received the EG appeal and responded directly to the letter:

OCT MAILING	FY22-23	FY23-24
Recipients	371	228
Total cash-in	\$2,545	\$3,880
Total donors	26	33
Average gift	\$97.88	\$117.58
Participation	7.01%	14.47%

TABLE II – Comparison of select metrics for the past two appeals.

Equine Guelph also sent the mailing to an acquisition segment – 191 portal students (with consent). This resulted in one donation of \$25.

The October mailing was followed by an e-mail chaser in November 2023. The following stats measure the gifts from this online initiative:

NOV E-MAIL CHASER	FY22-23	FY23-24
Recipients	187	118
Total cash-in	\$160	\$4,150
Total donors	2	8
Open rate	50%	60%
Click through rate	4.4%	5.7%

TABLE III – Comparison of select metrics for the past two appeals.

The e-mail chaser does not traditionally yield a high number of donors, but this past year saw a major increase and resulted in securing major donors.

Ontario Equestrian Annual Membership Mailing Fundraising Program:

Each year Ontario Equestrian (OE), through its annual membership renewal form, gives its members an opportunity to donate to a cause (Equine Guelph is one option on a list of choices). OE raised **\$2,486.88** in the calendar year of 2023 which was designated to the EG Education account in FY2023-24.

B. Major/Estate Giving:

The following information reflects major/estate gifts, both endowed and expendable funds, in FY2023-24:

Major/Estate Giving – Endowed Funds	FY22-23 Amount Raised	FY23-24 Amount Raised
Kerr Fund for Equine Education and Community Outreach	\$50,000	\$30,000
OVC Equine Guelph - Estate of Donna Moore Endowment	\$500,000	
Totals	\$550,000	\$30,000

TABLE IV – Comparison of major/estate gifts (endowed funds) received over the past two years.

Major/Estate Giving – Expendable Funds	FY22-23 Amount Raised	FY23-24 Amount Raised
The Grand River Agricultural Society	\$50,000	\$50,000
Kerr Fund for Equine Education and Community Outreach	\$50,000	\$70,000
OVC Equine Guelph - Estate of Donna Moore Endowment		\$400,000
Totals	\$100,000	\$520,000

TABLE V – Comparison of major/estate gifts (expendable funds) received over the past two years.

Kerr Fund for Equine Education and Community Outreach:

A generous EG supporter donated \$100,000 both in FY2022-23 and FY2023-24. The purpose of the Fund is to support ongoing base operational funding for EG horse education, communication, and community outreach initiatives. The split of the Kerr gifts, expendable versus endowed was 50/50 in 2022 and 70% expendable 30% endowed in 23. As of April 30, 2024, updated interest earnings of the endowed portions of the Fund were not available (endowment reports published in fall).

OVC Equine Guelph - Estate of Donna Moore Endowment: Endowed and expendable funds from the estate of Donna Moore were donated to fund now and in perpetuity, equine research and education/communications supporting research. Income from the endowment will be allocated annually, and as of April 30, 2024, updated interest earnings were not available (endowment reports published in fall).

The Grand River Agricultural Society: GRAS made a three-year commitment of \$150,000 in support of the following EG initiatives: Equine JobTrack, Large Animal Emergency Training and Youth Programming. The donation for the third year, FY2023-24, was \$50,000.

C. Major Industry Association Funding for Research:

Equine Guelph supports a number of high-quality projects at the University of Guelph, by virtue of funding provided largely by the racing industry (Standardbred, Thoroughbred and Quarter horse organizations): the Horse Improvement Program (HIP), The Horsemen's Benevolent and Protective Association (HBPA) and the E.P. Taylor Foundation.

The following information reflects major funding from the Ontario equine industry directed to the research programs in FY2023-24:

Major Industry Funding Designated for Research	FY22-23 Funding	FY23-24 Funding
EP Taylor Fund	\$100,030	\$99,720
HIP	\$125,000	\$125,000
HBPA	\$65,000	\$65,000
Totals	\$290,330	\$289,720

TABLE VI – Comparison of industry research funding received over the past two years.

EP Taylor Foundation: Started by leaders in the Thoroughbred industry, the EP Taylor Fund is now maintained in trust by the University and Equine Guelph. Interest derived from the fund annually is made available for Equine Guelph funded research projects as prioritized by the EG Research Committee.

Horse Improvement Program: HIP is overseen by Ontario Racing with a percentage of the wagering handle from Thoroughbred, Standardbred and Quarter Horse racing in Ontario directed to racing-related research funding.

HBPA: The HBPA represents owners and/or trainers of thoroughbred racehorses and the organization has supported the research program since Equine Guelph's inception in 2003. In FY 2023-24, HBPA provided \$65,000 in support of racing-related research funding.

D. Sponsorship:

The FY2023-24 sponsorship program revenue decreased from the year before (\$106,800), losing two major long-term sponsors while adding three new sponsors. Total revenue from the corporate sponsorship program was \$77,255.

Sponsor	Education Initiatives	Revenue
Acera Insurance Services Ltd. (formerly CapriCMW)	Colic Prevention Education Month (tool/course), Hoofprints program, lameness course, portal PTSO partner pages, risk brochures	\$16,375*
Boehringer Ingelheim Canada	EG E-News & Senior Horse Education Month (tool/course)	\$13,500
Central Ontario Standardbred Association	Free racing-exclusive course (respiratory)	\$5,000
Kubota Canada Ltd.	Online behavior & safety course (youth & adult offerings)	\$5,000
Masterfeeds - NEW	Equine Nutrition Education Month (body condition scoring course/tool)	\$10,000
Ontario Racing Management	Free racing-exclusive course (gut health with new ulcer content)	\$9,000
Standardbred Canada	Free racing-exclusive course (lameness)	\$2,300
Workplace Safety & Prevention Services	Fire Prevention Education Month (tool/course)	\$4,530
UofG Experiential Learning Hub - NEW	Equine JobTrack ad	\$1,050*
Wishing Well (Hay OptiMizer) - NEW	Forage course	\$500*
Zoetis	Vaccination Education Month (tool/course), World Rabies Day promo	\$10,000*
Total		\$77,255

TABLE VII – Represents sponsorship funds from FY2023-24

* Payments were received slightly after fiscal year 2023-24 but were included as they were considered secured funds based on sponsorship agreements signed in FY2023/24.

E. Equine Guelph Store

Equine Guelph retails laminated barn posters at major events and through mail-order. Total poster revenue in FY23-24 was \$251.09.



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.

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 \$800,730 (compared to \$770,693 for previous year) for the fiscal year with funding provided by our funding partners, donations, and online course tuition. Program expenditures totaled \$1,194,709 (\$830,437 last fiscal year).

The research program allocated \$216,728 for research projects, and \$493,089 was distributed to researchers this fiscal year, which included distributions to projects from last fiscal year whose AUPs were delayed.

Expenditures for the education and communications program were \$699,310, which included program development, online education programs, and marketing. Online education tuition returned a total of \$146,995 (compared to \$172,936 from last fiscal Year: more Horse Portal course revenue is sourced from sponsorships, rather than individual Portal registrations).

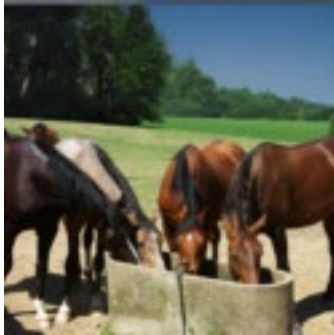
While there are still challenges for ongoing stability in funding for the racing industry, funding levels have been consistent in recent years. Industry funding was \$38,000, which equals what was contributed last year. This funding is used for the support of administration of the research funded program and direct-to-industry communications on the research program.

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. While funding has remained somewhat steady in recent years, 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 2023 – April 2024

Welcome to our highlight reel. If you would like to know more about any of the following press releases, click on the titles to follow the web link to the full story.



APR24

Testing 1-2-3 – Strangles Research

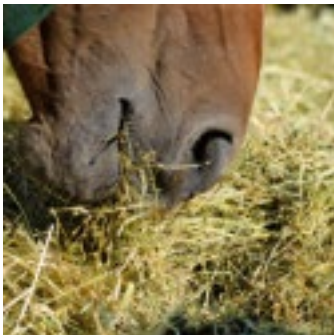
Strangles, the highly contagious upper respiratory disease caused by the bacterium, *Streptococcus equi* (S. equi) has been front and centre on social media lately with numerous disease alerts being posted. These alerts are triggered by positive test results for S. equi and reported by an official laboratory to the provincial or state veterinary office...



APR18

OEEEP Program Continues Creating Pathways to Employment in the Equine Industry

With an increasing number of want ads on horse industry job boards, there is no denying the equine industry is clamoring for suitable employees. Speaking with three facilitators of the Ontario Equine Education and Employment Program (OEEEP) it becomes abundantly clear, this is a Win-Win program for those looking to embark on a career with...



APR3

Balancing Act of Equine Nutrition

New Ration Balancer Info-sheet, Forage and the Importance of Analysis With the cost of feeding horses continuing to rise, horse owners need to become savvy when it comes to feeding their herd on a budget without compromising equine nutrition. A greater understanding of forage, the largest component of the equine diet, really improves the bottom...



MAR26

Researching Infertility in Mares due to Endometritis

It is not uncommon for mares to have trouble getting pregnant because their uterus remains too inflamed after breeding. This condition is referred to as persistent breeding-induced endometritis (PBIE). Ontario Veterinary College researcher, Dr. Tracey Chenier is working to find out what causes this inflammation and how to treat it. "Horse owners and breeders often...



MAR25

First Responder Refresher for Large Animal Emergency Rescue

Equine Guelph's Large Animal Emergency Rescue (LAER) training team kicked off their 2024 schedule with a one-day refresher workshop at the beautiful Holly Oaks Farm on March 20, in Lynden, ON. Among the attendees were members of the Hamilton Mounted police, York police, McKee-Pownall veterinary services, Troy Equine Services, and members of TEAD – therapeutic...



MAR7

Are your Equine Finances in Order for Tax time?

Looking to make the most of your equine business expense claims this tax time? Sign up for Equine Guelph's free monthly e-communications to gain access to resources like an informative video with BDO finance expert Glenn Ventrcek. If your receipts are all in a shoe box and you are wondering which expenses you can claim...



MAR6

Horse Portal Extends Free Offer to Youth

Start Early with Sickness Prevention! Learning healthy habits early makes biosecurity second nature and that is why Equine Guelph is offering their Sickness Prevention in Horses short online course on TheHorsePortal.ca FREE to teenagers (14 – 17). The March 18 – 29 offering of this course will be open to the grass roots of the...



MAR1

Your Vaccination Program may be Impacted by Climate Change

Learn more during Equine Guelph's Vaccination Education Month in March Have you noticed bug season starting earlier and finishing later? Have changes in the weather caused more standing water in your paddocks? If you answered yes to these questions and wonder how climate change may impact your horses, not to mention your vaccination program, read...

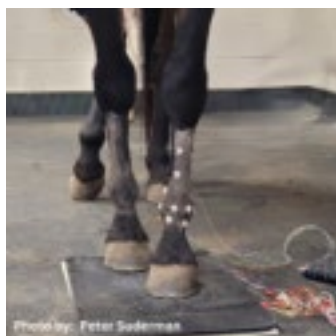


FEB29

EquiMania! and TheHorsePortal.ca have Resources for Ag Safety Week

March 10 – 16, 2024 is Canadian Agricultural Safety Week (CASW) an annual campaign held the third week of March of each year.

EquiMania! supports the campaign for #FarmSafetyEveryday with many free games and resources to keep youth safe on horse farms and until the end of March TheHorsePortal.ca is offering a free online...



FEB28

Ontario Veterinary College & University of Toronto Researchers Use Electroarthrography to Predict Cartilage Quality

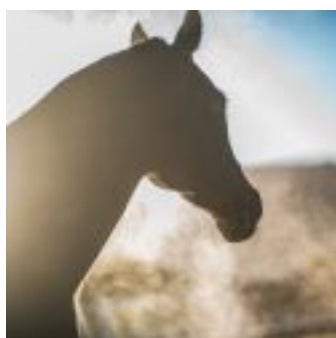
Researchers from the Ontario Veterinary College (OVC) and University of Toronto are developing a novel method to measure the quality of cartilage in horses using electroarthrography (EAG). EAG is a non-invasive technique that uses electrodes attached to the skin around a joint to detect electrical signals produced by the cartilage when....



FEB22

Equine Guelph Offers Body Condition Course on World Horse Day

Free Global Registration for One Day Only! World Horse Day has been celebrated on March 1st every year since it was created in 2005 to raise awareness of equine welfare and protection. As a culmination of Equine Guelph's 20th anniversary celebrations, the organization will be offering its new online course, Introduction to Body Condition Scoring...



FEB12

Racehorse Respiratory Health Course Completes the Trifecta in Winter Online Learning Series!

Equine Guelph has partnered with Standardbred Canada, Ontario Racing and Central Ontario Standardbred Association (COSA) to offer three online courses in Winter of 2024 in priority healthcare areas of respiratory, lameness and gut health. Sponsored by Standardbred Canada, the Racehorse Respiratory Health course is the final course in this winter series. The two-week online short...



FEB5

Learn How Horses Communicate in this Free Online Course for Youth

Adult offering too! Learn Together for a fun Family Day Experience! Do you love horses and want to understand them better? Do you want to learn how to read their body language, and the cues they give one another? If so, you might be interested in a free online course offered by Equine Guelph, the...



FEB1

Colic Prevention Education Month 2024 Focuses on GI Health for Your Horse

February is Equine Guelph's Colic Prevention Education Month when we tackle the number one killer of horses with our highly popular free healthcare tool, Colic Risk Rater. After you complete the free risk rater to assess your horse's risk, you will have the option to learn more by signing up for Equine Guelph's short...



JAN30

A Stable Gut: The Key to a Healthy Equine

Equine Guelph 2024 Research Annual Volume 21 – cover story by: Jackie Bellamy-Zions Gastrointestinal issues (GI) are the number one cause of morbidity in horses other than old age. An unhealthy digestive system can cause poor performance, pain, discomfort, diarrhea, and a whole host of issues that can sideline your horse. It's no wonder researchers...



JAN18

20th Anniversary Feature with Shawna Ward

Alumni, Shawna Ward shares her passion for equine management after taking Equine Guelph's online 12-week courses. The nutrition course has reduced Shawna's horse keeping costs. Forage based diets was a topic of great interest for Shawna. The following downloadable information sheet explains key take-aways and the benefits of feeding a forage-based diet.



JAN16

Go with Your Gut: Learn from the Racehorse Gut Health & Ulcer/Colic Prevention Course on TheHorsePortal.ca

For the third year in a row, Equine Guelph has partnered with Central Ontario Standardbred Association (COSA), Ontario Racing and Standardbred Canada to offer three online courses in Winter of 2024 in priority healthcare areas of lameness, respiratory and gut health. Sponsored by COSA, the Racehorse Gut Health & Ulcer/Colic Prevention course is the second...



JAN8

20th Anniversary Feature with Cathy Wentworth-Stanley

Alumni, Cathy Wentworth Stanley shares her passion for learning theory and equine behaviour after taking Equine Guelph's online 12-week courses and completing her diploma. An MSc. later, Cathy instructs Equine Guelph's Equine Behaviour course! Of great interest was learning theory for horses. The following downloadable information sheet explains positive and negative reinforcement as well as...



JAN4

Free Youth Course on the Language of Horses

Horses are masters at picking up on our body language but how good are we at picking up on theirs? Discover the fascinating body language of horses with youth from all over the world! Students from all over Canada and as far away as Australia, New Zealand, Italy, and the United Kingdom have participated in...



JAN3

Equine Guelph makes a New Year's Resolution!

To help you optimize your horse's nutrition. What's yours? Equine Guelph has made a New Year's Resolution to empower horse owners to learn more about their horse's nutrition and needs. January, dubbed by Equine Guelph as Nutrition Education Month, will be dedicated to increasing awareness of what caregivers can do to take control of their...



DEC19

2023 Racing Industry Scholarship Winner Announced

Equine Guelph has announced that Shelby Dennis is the recipient of the 2023 Roger L'Heureux Memorial Equine Award. Selected for her love of horses, commitment to their welfare and desire to learn, Dennis will receive two online courses through Equine Guelph valued at \$625 each (Certificates are available in Equine Science, Equine Welfare and Equine...)



DEC11

Racehorse Lameness Prevention Course Starts Online Learning Series off on the Right Foot

For a third consecutive year, Ontario Racing (OR) is partnering with Equine Guelph, Standardbred Canada (SC) and Central Ontario Standardbred Association to offer three online courses in this winter in priority healthcare areas of lameness, respiratory and gut health. Sponsored by OR, the Racehorse Injury/Lameness Prevention & Care course will be first up in January...



DEC5

Every Day is Horse Day at Equine Guelph

Horses have shaped history and continue to play an important role as our partners today. On, December 13th National Horse Day is celebrated in the U.S.A. Equine Guelph, promotes the welfare of horses every day by providing top level online education for those who endeavour to be the best advocates they can for their horses....



DEC4

20th Anniversary Feature with Alumni Holly Heartz

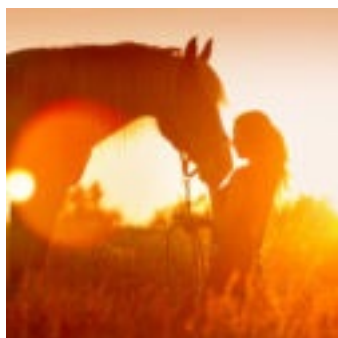
Alumni, Holly Heartz has a real appreciation for horse behaviour and the prevention of stereotypies thanks to Equine Guelph's online 12-week courses. Of great interest was learning what causes stereotypies in horses. The following downloadable information sheet examines what causes stereotypies and how they can be prevented through implementing best stable management practices.



NOV27

A New Approach for Treating Kissing Spine

Overriding Spinous Process, otherwise known as Kissing Spine, can cause back pain and poor performance, especially when two or more vertebrae touch or overlap. Assistant Professor Dr. Nathalie Cote in the department of Large Animal Surgery at Ontario Veterinary College recently presented a new less invasive surgical approach to treat this issue that is showing...



NOV20

Equine Industry Symposium 2023

“Saddle up for Stable Solutions at Equine Symposium” Do you manage an equine facility? Do you struggle with business decisions or finding qualified staff? Join University of Guelph equine management faculty and students at the 8th annual Equine Industry Symposium. This year’s symposium will explore business and employment awareness to provide critical solutions on how...



NOV13

Free Online Racing-Exclusive Courses Back for Winter 2024!

Thanks to Equine Guelph’s incredible racing industry education partners, Equine Guelph will host three racing-exclusive online courses again on TheHorsePortal.ca in the winter of 2024. With funding from Central Ontario Standardbred Association, Ontario Racing and Standardbred Canada, these short courses will be available free (value \$95) for AGCO licensees and Standardbred Canada members.

“Racehorses are...



NOV6

Become Roadworthy with the Horse Trailer Safety Online Course at TheHorsePortal.ca

Hauling a horse trailer is a steep learning curve if your experience is limited to coordinating just four wheels and not putting thousands of pounds behind your vehicle. The consequences of having the wrong tow package, insufficient towing vehicle or missing a safety step while getting hitched can be dire for the precious cargo and...



NOV1

20th Anniversary Special Feature with Alumni Monica Laane-Fralick

20th Anniversary Alumni, Monica Laane-Fralick has a real appreciation for welfare-based management strategies thanks to Equine Guelph’s 12-week online courses. Of great interest was learning about the myths in some traditional stable management practices and dispelling them with evidence-based sources such as those provided by Equine Guelph courses. Anthropomorphism can create ...



OCT31

November Fire Prevention Education Month at Equine Guelph

New Barn Fire Prevention Resource – Inspecting Extinguishers When is the last time you checked your fire extinguisher? Find out important maintenance information in a new video posted on TheHorsePortal.ca. Learn about this and more barn fire safety practices throughout November as part of Equine Guelph's Fire Prevention Education Month. The new feature video in...



OCT30

Infographic Distills Research Investigating a Parasite that may be Involved in Equine Abortions

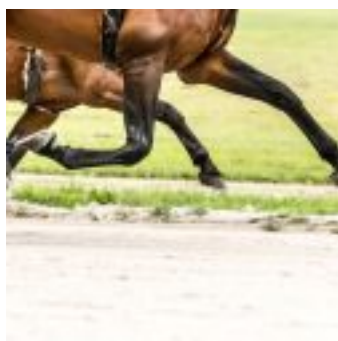
A study has uncovered that exposure to Neospora parasites is widespread among Ontario broodmares and may play a role in Equine Abortions. Dr. Chenier, MSc student Olivia Johns and epidemiologist Dr. David Pearl at the Ontario Veterinary College have collected samples from Ontario breeding farms to find seroprevalence is close to 30%. Risk factors identified...



OCT30

OVC Veterinarians Gain Skills in Large Animal Emergency Rescue

The final offering in 2023 of Equine Guelph's Large Animal Emergency Rescue (LAER) training was a specialized workshop for veterinarians held at the University of Guelph campus. On Saturday, October 21, 2023, this course was presented by Equine Guelph & the Department of Clinical Studies, Ontario Veterinary College, University of Guelph. OVC students, interns and...



OCT3

A New Look at Lameness

Prevention is the ideal when it comes to lameness but practically everyone who has owned horses has dealt with a lay-up due to an unforeseen injury at some point. The following article will provide tools to sharpen your eye for detecting lameness, review prevention tips and discuss the importance of early intervention. It will also...



OCT2

Ontario Racing Industry Scholarships from Equine Guelph

Tuition awards for the Ontario racing industry have been making a difference; giving racing industry employees a leg up in their careers. Hundreds of Ontario Racing industry members have discovered ways to optimize the health and performance of their racehorses by taking online short courses through TheHorsePortal.ca. For those ready to take that learning to the...



SEP27

First Responders Ready for Large Animal Emergency Rescue

2023 has seen an uptick in training of first responders with over seven fire departments, two mounted police units and five veterinary clinics participating in training this year. The next stop for Equine Guelph's Large Animal Emergency Rescue (LAER) training team will be at the Ontario Veterinary College, October 21, for a special offering for...



SEP25

September 28 is World Rabies Day

Did you know there is a Global Alliance for Rabies Control (GARC)? On September 28, 2023, GARC coordinates World Rabies Day and this year's theme is: All for 1, One Health for All. This date also marks the anniversary of Louis Pasteur's death, the French chemist and microbiologist, who developed the first Rabies vaccine...



SEP25

20th Anniversary Special Feature with Alumni Stacey Jennings

Equine Guelph alumni police constable, Stacey Jennings, has a real appreciation for stable management, including paddock management, thanks to Equine Guelph's 12-week online courses. Of great interest was learning about fencing, water options, paddock dangers and the presence of wildlife on the property.



SEP5

New Equine Careers Showcase for Exploring Career Pathways in the Horse Industry

Ever considered a career in the horse industry? 78 roles are represented in the newly launched Equine Careers Showcase which can be found on Equine Guelph's EquineJobTrack.ca website. Videos with horse professionals, sharing their journey and career pathways...



AUG31

September is Senior Horse Education Month at Equine Guelph

We love our senior citizens of the equine community. Keeping up with their changing needs as they age becomes easy with the resources available from Equine Guelph. Learning to advocate for the health and welfare of your silent senior is a duty every horse owner will eventually encounter. A great place to check your preparedness...



AUG21

20th Anniversary Special Feature with Alumni Mary Gibson

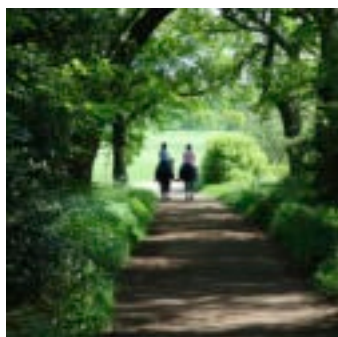
20th Anniversary Alumni, Mary has a real appreciation for environmental stewardship thanks to Equine Guelph's 12-week online courses. Of great interest was learning about ways to use natural resources in everyday barn management, improving ventilation and the benefits of composting manure.



AUG9

First Responders are Gaining and Implementing Skills for Large Animal Emergency Rescue

The next stop for Equine Guelph's Large Animal Emergency Rescue (LAER) training team will be Ashburn, Ontario on Sept 16 and 17, 2023. The two-day operational level course, presented by Equine Guelph (University of Guelph), WindReach Farm and Scugog Fire Department, will be important training for emergency response teams that are called out to extricate...



JUL26

20 Years of Supporting the Global Equine Community

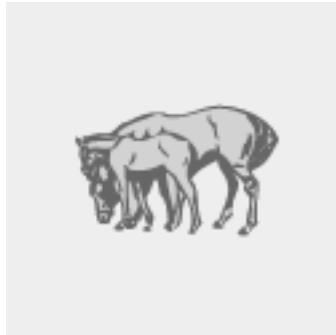
By: Anya Barradas This summer, Equine Guelph celebrates its 20th anniversary. The award-winning centre at the University of Guelph is dedicated to improving the health and welfare of horses through education and research. "Over the years, our centre has become a model for online equine education programs and a hub for horse professionals from around..."



JUL26

Provincial Foundations Officials Course – Here Comes the Judge!

It's official! Five provincial equestrian associations have partnered with Equine Guelph to offer online training for those interested in becoming horse show judges in grass roots circuits. Entry level judges are a vital part of equestrian sport and beginning this spring the opportunity to train to become a recognized provincial official will be offered on TheHorsePortal.ca through the new...



JUL26

20th Anniversary Special Feature with Alumni Robin Vanheeswyk

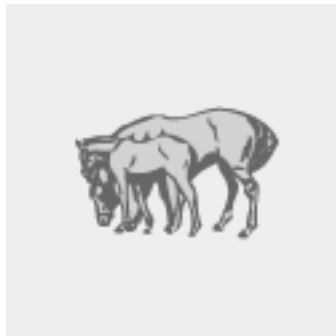
20th Anniversary Alumni, Robin Vanheeswyk has a growing interest in equine nutrition thanks to Equine Guelph's online 12-week online courses. Of great interest was learning about the issues in equine nutrition pertaining to overfeeding horses which in turn can cause health problems, behavioural issues and also hit the rider in the pocketbook.



JUL26

Erin Horse Day Supports Equine Welfare

Horse Day Erin, held in early June at the Erin Fairgrounds, gave back to the local equine community to support horse education and horse welfare. "One of the goals of Horse Day Erin is to create a long term, community event, that supports horses in Erin, in Wellington County, and throughout Ontario." says Bridget Ryan, event organizer...



JUL18

Disease specialist speaks to importance of protecting pets, livestock from air pollution

Air pollution from smoke storms, smog, dust can cause lung damage: Dr. Beeler-Marfisi First published by the Wellington Advertiser – Robin George July 8, 2023. When air thick with haze and the acrid smell of wildfire smoke pushes air quality health indexes to high levels, people are advised to remain indoors. But what about animals...



JUL5

Happy 20th Anniversary Equine Guelph!

July 1, 2023, marks Equine Guelph's 20th Anniversary. Over 20 years ago, several dedicated individuals with a vision worked together to create Equine Guelph, a centre for the horse owner at the University of Guelph, by the industry and for the industry. A note from Equine Guelph's director, Gayle Ecker as Director of Equine...



JUL4

Air Quality and Air Pollution's Impact on Your Horse's Lungs

Story by: Dr. Janet Beeler-Marfisi There's nothing like hearing a horse cough to set people scurrying around the barn to identify the culprit. After all, that cough could mean choke, or a respiratory virus has found its way into the barn. It could also indicate equine asthma. Yes, even those "everyday coughs" that we sometimes...



JUN21

OEEEP: Supplying Employees for the Horse Industry

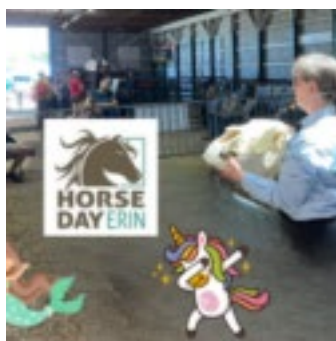
The Ontario Equine Education and Employment Program prepares students for horse-related jobs and encourages businesses to sign on with wage incentives. First posted by Horse Sport Magazine: June 21, 2023, most horse farm owners, breeders, show barns and racing businesses can agree that finding suitable employees can be extremely difficult, frustrating, and time-consuming. The Ontario...



JUN12

Equine Guelph Supports BGRA and Donates Courses for Derby Winners

Equine Guelph, a leader in equine research and dedicated to improving the health and well-being of horses, is supporting the Bill Galvin Racing Alliance (BGRA) by providing complimentary courses for the senior division winners of the four horse themed youth contests. "Equine Guelph supported the 2018 Literary Derby, and we are very supportive of the..."



JUN6

Show and Tail at Horse Day Erin

A town where unicorns, ponies, horses, dogs, goats, sheep, humans and one mermaid were recently observed delivering important messages about the wonderful world of equines to face-painted children wearing horse hats. This rare sighting was documented on May 27, 2023, at the Erin Fairgrounds during Horse Day Erin. Gayle Ecker, Equine Guelph's director, was at the...



MAY15

Equine Welfare Best Practices

Equine Guelph 20th Anniversary Special Feature Graduate of Equine Guelph's Equine Business Management Certificate in 2021, Heather Sproul has optimized her horse husbandry with Equine Guelph's online 12-week courses and set up a business offering equine massage. During what is now Equine Guelph's 20th anniversary year of offering award-winning online courses for the horse industry...



MAY15

Screening for biomarkers & indicators of intestinal health among equine microbiota

No one will argue that prevention is better than cure and early intervention is certainly preferable to watching an equine partner go from not feeling 100% to being completely sidelined. Ontario Veterinary College researcher, Dr. Luis Arroyo is embarking on a very interesting collaborative study that may result in the ability to detect the first

Summary of Highlights

Throughout 2023, Equine Guelph celebrated 20 years as the Centre for the horse owner at the University of Guelph!

Equine Guelph continues to be pro-active on the development of materials for the industry to help participants respond to emerging issues. For example, resources responding to current issues included information sheets and articles on protecting horse health in the face of smoke Inhalation dangers from forest fires raging across the country in the summer of 2023. An FAQ on Strangles was among several important articles and information sheets addressing concerns from horse owners and industry leaders reaching out to Equine Guelph for trusted advice.

Working in partnership with our racing partners, Equine Guelph also ensures a two-way conversation about the funding of research projects to move the state-of-knowledge forward for health and welfare research that addresses current priorities. On the education and training front, Equine Guelph actively worked with Ontario Harness Horse Association, government and industry employers to advance the Ontario Equine Education and Employment program, along with the Equine JobTrack and the Careers Showcase to help our industry for staffing challenges and pathways for newcomers. Our 12-week courses are kept up-to-date and provide evidence-based information on health, welfare and safety. They not only attract a growing number of students, but also internationally known instructors and guest speakers. New priority topics for courses such as the Body Condition Scoring short course and BCS healthcare tool have been developed in an easily accessible way for horse owners. The courses are low cost and there is a growing array of free horse owner tools, fact sheets and so much more!

The input we have from our Council, donors, partners and students help move this program forward to meet new challenges and respond to industry needs. The growing coverage of our research stories, student testimonials and 20th anniversary activities attracted many newcomers, new and experienced, from many different countries, to truly make Equine Guelph an international centre and assist our growth and services for the industry. One of the wonderful aspects of program development was to be the first university-recognized provider of online equine courses. Our growth in that sector, as an online education provider, has singled us out, not only as a pioneer in online education since 2002, but as a “fast responder” to new and emerging interests and priorities for health and welfare with award-winning and respected courses for UofG Diplomas and Certificates and more than a dozen short courses on offer, with more on the way.

Equine Guelph acknowledges and sincerely thanks the members of the Advisory Council and funding/supporting 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, Central Ontario Standardbred Association, Standardbred Owners Association of Ontario, Canadian Thoroughbred Horse Society, the Ontario Ministry of Agriculture, Food and Rural Affairs, the Ontario Harness Horse Association, Ontario Racing, the Ontario Veterinary College, and the University of Guelph. We also thank our wonderful and dedicated donors, partners and sponsors who help us cover costs for ongoing administration and program development.

Appendices

Appendix 1: Current Equine Guelph Advisory Council

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Appendix 2: Equine Guelph Partners



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Equine Research**



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Profiles at: <https://thehorseportal.ca/the-horse-portal-team/>

Appendix 4: Research Projects for 2023-2024

New Projects in 2023-24:

Investigator	Title
Arroyo, L.	Pulse Wave Velocity in Equine Palmar Digital Arteries and Laminitis - A Pilot Study
Arroyo, L.	Improving Methods for Detection of Intestinal Dysbiosis in Horses
Changoor, A. & Koenig, J.	Portable Electroarthrography & Biomechanical Measurement System to Evaluate Equine Cartilage Quality at the Point-of-Care
Koenig, J.	Can 10 or 20 million Umbilical Cord Blood-Derived Mesenchymal Stromal Cells Treat Equine Fetlock Synovitis Effectively?
Muñoz, A.	Near-infrared display of indocyanine green in intraoperative tissue blood flow and tissue perfusion of healthy equine small intestine under laparoscopic guidance
Pyle, G. & Avison, A.	Equine Myocardial Ion Channel Expression
Riley, C.	A Prospective Study of Antimicrobial Susceptibility and Multidrug Resistance in Bacteria Isolated from Diagnostic Samples from Foals in Ontario
Torrent, A.	Fecal Microbiota Transplantation in horses via Pelvic Flexure Enterotomy during Colic Surgery

Continuing Projects:

Investigator	Title
Arroyo, L.	Comparative Anatomy: Equine Pulmonary Arterial Structure and Function
Arroyo, L.	The longitudinal development of the fecal microbiome and metabolome in neonatal foals
Arroyo, L.	Improving fecal transplantation in horses: determining optimal conditions for preparation & storage
Arroyo, L.	Screening for biomarkers indicators of intestinal health among the equine microbiota
Beeler-Marfisi, J.	The relationship between EIPH and exposure to ambient air pollution in Thoroughbred and Standardbred racehorses
Beeler-Marfisi, J.	Identification of putative exercise-induced pulmonary hemorrhage causing variants in Ontario's Thoroughbred racehorses
Beeler-Marfisi, J.	Macrophage responses of healthy and severely asthmatic horses to agents that exacerbate equine asthma

Changoor, A. & Koenig, J.	Evaluation of Non-invasive Electroarthrography to Predict Cartilage Quality in Equine Osteoarthritis
Chenier, T.	Efficacy of an Oral Supplement Containing Omega Fatty Acids for Treatment of Persistent Breeding-Induced Endometritis (PBIE) in Mares.
Cote, N.	Evaluation of factors contributing to upper airway obstruction through repeated resting and dynamic respiratory endoscopies in 2-year-old Standardbreds
Cribb, N.	Ultrasound examination for assessment of closure of the nephrosplenic space in horses
Gomez, D.	Hypotonic versus isotonic maintenance fluids in critically ill foals
Gomez, D.	Endothelial glycocalyx degradation in critically ill foals
Gomez, D.	Enteroinsular axis in healthy horses and horses with gastrointestinal diseases during hospitalization
Gomez, D.	Fecal and serum metabolome and fecal bile acids and D-lactate concentrations in healthy horses and horses with colitis.
Gomez, D.	Cardiovascular effects of rapid and slow intravenous administration of sodium penicillin in horses undergoing exploratory laparotomy for colic: A randomized clinical trial.
Koch, T.	Enhancement of Immune-Modulatory Properties of eCB-MSCs
Koch, T.	Mesenchymal stromal cells for the treatment of equine tendonitis
Koenig, J.	Mesenchymal stromal cells for the treatment of equine osteoarthritis
Koenig, J.	Cone beam CT technique development to image the standing horse cervical spine.
Pearson, W.	New insights into immunomodulatory effects of Spirulina in vitro
Pyle, G. and Avison, A.	Cardiac Dysfunction and sudden death in horses
Valverde, A.	Comparison of two intraoperative lidocaine constant rate infusions on cardiorespiratory function and quality of recovery in healthy isoflurane-anesthetized horses undergoing elective surgery
zur Linden, A.	Equine Pulmonary Biopsy: Improving Safety and Efficacy

Appendix 5: Lay Summaries of Research Projects for 2023-2024

New Projects:

Arroyo, L. - Pulse Wave Velocity in Equine Palmar Digital Arteries and Laminitis: A Pilot Study

Laminitis is a common crippling condition in horses, causing relevant losses in the equine industry. To date, the mechanisms of the disease have not been fully understood. With increased arterial stiffness of elastic arteries and changes in the vascular tone of the peripheral muscular arteries, the distal capillary beds may be exposed to increased mechanical stimulus by faster and more pulsatile blood flow. In humans, arterial stiffness appears to play a significant role in cardiovascular diseases, brain and kidney injury, by causing microvascular damage in these organs. The microvascular changes observed in laminitis are comparable to those observed in the brain and kidney lesions of humans with increased arterial stiffness and reported changes in hemodynamic in laminitic horses are also compatible with increased arterial stiffness of central arteries and vasodilation of peripheral muscular arteries. More, two of the main triggers of laminitis are known to affect arterial stiffness in humans (systemic inflammation and hyperinsulinemia). Pulse wave velocity (PWV) is a good indicator of arterial stiffness and should be measurable on equine distal limbs. There are many unanswered questions about laminitis, but the study of pulse wave velocity in the equine distal limb has the potential to deepen our knowledge regarding its pathogenesis and point out new targets for treatment of this condition. Thus, palmar digital artery PWV in horses appears as a new and extremely relevant topic waiting to be investigated.

Arroyo, L. Improving Methods for Detection of Intestinal Dysbiosis in Horses

Intestinal diseases are the leading cause of mortality in horses and are normally associated with microbiota changes before and during the outset of diseases or treatment with antibiotics. DNA sequencing (NGS) has been used to characterize changes in the microbiota of horses, but those technologies are relatively expensive, have a long turnaround time and require complex bioinformatic analyses. In addition, a major limitation of those techniques is the lack of absolute quantification, meaning that it is impossible to know how many bacteria were present in the feces. Recently, we have used quantitative methods to show that there were markedly lower amounts of bacteria in the feces of horses with colitis compared to healthy animals. In addition, we were able to find some bacteria that were statistically more abundant in horses that were euthanized compared to horses that survived. The objective of this study is to expand the markers that were found to be good indicators of microbial imbalances in horses with colitis. In the present study, we will conduct a multicenter study to determine if the dysbiosis present in horses with colic can be used to distinguish the type of colic and measure severity.

Changoor, A. & Koenig, J. - Portable Electroarthrography & Biomechanical Measurement System to Evaluate Equine Cartilage Quality at the Point-of-Care

Osteoarthritis (OA) is the most common cause of lameness in horses and is characterized by progressive and irreversible cartilage degradation. Cartilage is the thin tissue that lines the ends of bones in joints and normally enables pain free movement. Early recognition of OA is important to be able to treat and potentially prevent disease progression, yet veterinarians have no easy way of identifying cartilage changes and objectively monitoring joint disease. Electroarthrography (EAG) is an innovative technology that evaluates cartilage through sensors placed on skin around a joint, such as the equine fetlock (metacarpophalangeal) joint. This is similar to the way heart health can be understood using electrocardiography. EAG, measured with a prototype measurement system, successfully followed OA progression and treatment in an equine fetlock model of early OA. The prototype EAG-based measurement system used in this recent clinical

study was critically evaluated to identify areas for performance improvement. The proposed research aims to create a reliable, accurate and portable EAG-based measurement system for evaluating cartilage quality at the point-of-care. We hypothesize that such a system can be created by combining existing sensor technologies in a unique way to measure both EAG and biomechanics simultaneously in real-world situations and that the system can be successfully validated against a gold-standard. This research is expected to produce a robust EAG based measurement system that can be used by equine veterinarians to evaluate cartilage health in real time. Achieving the study aims would provide a critical link to further develop EAG into a sensitive diagnostic method and dramatically improve how OA is managed in horses.

Koenig, J. - Can 10 or 20 Million Umbilical Cord Blood-Derived Mesenchymal Stromal Cells Treat Equine Fetlock Synovitis Effectively?

Osteoarthritis (OA) is a condition in horses where the joints undergo changes that affect their structure and function. It's a common reason for lameness and reduced performance in athletic horses. While there are treatments available to manage OA symptoms, none of them directly targets the underlying disease process. We're looking at using mesenchymal stromal cells (MSCs) to treat joint inflammation, known as synovitis, in horses' fetlock or carpus joints. MSCs are thought to have longer-lasting effects than corticosteroids, another type of treatment commonly used to treat OA. In our study, we want to see if injecting either 10 million or 20 million MSCs, along with hyaluronic acid (HA), can improve the clinical signs of synovitis in horses. We'll compare this with using HA alone to see which approach is more effective in treating naturally occurring synovitis in client-owned horses.

Muñoz, A. - Near-infrared display of indocyanine green in intraoperative tissue blood flow and tissue perfusion of healthy equine small intestine under laparoscopic guidance

There is no objective method for intraoperative assessment and quantification of blood perfusion in the equine gastrointestinal tract. Quantitative evaluation of indocyanine green fluorescence during laparoscopic and laparotomy surgery will enhance the precision and accuracy of real-time intraoperative visualization of blood flow and perfusion in the small intestine of healthy horses. This pilot study will set the framework for further studies of colic surgery in the clinical setting.

Pyle, G. and Avison, A. - Equine Myocardial Ion Channel Expression

Since their domestication, horses have been selected for their athletic ability. However, Thoroughbred racehorses have been estimated to have up to 260 times greater risk of sudden athletic death than human athletes. Additionally, non-fatal heart rhythm disturbances or "arrhythmias" are common in racehorses. It is estimated that at least 20% of equine sudden athletic deaths may be the result of rhythm disturbances that proved fatal. The reason horses are susceptible to these arrhythmias is not known. In order to advance our understanding of cardiac contributions to sudden athletic death, we require a greater understanding of the normal heart electrical activity in horses. As such, we aim to investigate specific proteins that are essential to the heart's electrical activity in horses, which has never been done before, and is an essential step to understanding potential predispositions to dangerous heart rhythm disturbances. The overall goals of this project are to identify markers of cardiac dysfunction in performance horses, identify those horses most at risk for sudden cardiac death, and reduce the risk of morbidity and mortality of equine athletes.

Riley, C. - A Prospective Study of Antimicrobial Susceptibility and Multidrug Resistance in Bacteria Isolated from Diagnostic Samples from Foals in Ontario

Ontario is a major hub for horse breeding in Canada and North America, with Thoroughbred and Standardbred horses being a significant part of the industry. The success of the breeding and performance sector in Ontario depends on the survival, health, and growth of foals. Unfortunately,

many neonatal foals are admitted to veterinary hospitals due to sepsis, a severe infection, and only 60 to 80% of them survive. This is a leading cause of death in young horses. The key to effectively treating these infections is to use antibiotics, but treatment often starts before the lab results are available. Therefore, it's essential to understand the likely bacteria causing the infection and their antibiotic resistance patterns. Adhering to guidelines for antibiotic use is recommended, but these guidelines should be adapted to the specific region (i.e., Ontario), as antibiotic resistance patterns differ between regions and change over time. While some studies have looked at antibiotic resistance in Ontario's horses, none have focused on neonatal foals. Investigating antibiotic resistance in sick foals is crucial to improve their survival and prevent the spread of antibiotic resistance in Ontario's horse breeding operations. We believe that antibiotic resistance patterns in sick neonatal foals in Ontario are unique, and the rates of multidrug resistance are unknown compared to other regions. We aim to identify the species of bacteria causing infections in Ontario's foals under 30 days old by studying bacteria from diagnostic samples and determining the antibiotic susceptibility patterns and the extent of multidrug resistance in the isolates from these neonatal foals.

Torrent, A. - Fecal Microbiota Transplantation in horses via Pelvic Flexure Enterotomy during Colic Surgery

Diarrhea is a common postoperative complication observed after colic surgery in horses. Diarrhea increases post-operative morbidity and is associated with abdominal pain, dehydration, electrolyte and acid-base disturbances, toxemia, sepsis, and increased risk of laminitis. Overall, represents a complication that affects the well-being of the horse, may endanger its life, prolongs hospitalization times, drains resources and increases the cost of treatment. Historically there has been limited evidence supporting the effectiveness of oral administration of microbiota from healthy donors in restoring the normal microbiota of the large intestine in horses with diarrhea. The digestive juices secreted in the stomach and small intestine, along with the fermentation processes occurring within the cecum, are the most likely cause of failure. There is conflicting evidence among studies. Recent research conducted by McKinney et al. in 2021 has endorsed the use of fecal microbiota transplant (FMT) to mitigate the severity of diarrhea in horses with colitis and enhance the diversity of the microbiome. The current research project aims to explore an alternative route of administration of microbiota in horses. Our hypothesis suggests that the direct introduction of fecal microbiota from healthy donors into the large intestine during colic surgery will be both effective and readily available to the intestine, resulting in a positive impact on the patient's microflora after surgery.

Continuing Projects:

Arroyo, L. - Comparative Anatomy: Equine Pulmonary Arterial Structure and Function

During their career, more than 80% of racehorses can be expected to develop Exercise-Induced Pulmonary Haemorrhage (EIPH). This disease, which occurs mainly in the most upper and rearward region of the lungs, is characterized by blood leaving the microvasculature of the lungs and entering the airways. The management and treatment of EIPH has a substantial economic impact to the equine industry, with the cost of treating EIPH estimated to exceed \$100 million annually in the United States alone. The cause of EIPH has not been determined, consequently current treatment and mitigation measures are empiric and speculative. There is intense interest in understanding the relationship between the anatomy and mechanical properties of the large arteries and the manifestation of microvascular diseases in humans. Arterial anatomy and elasticity determine the nature of the pulse wave which transmits pulsatile energy to the microvasculature. Pulse wave energy transmission is viewed as a fundamental aspect underlying the development of microvascular diseases. Studying the pulse wave in horse lungs is an

important step in understanding what causes EIPH and will improve the potential to develop effective treatment outcomes and mitigation strategies. Detailed knowledge of the physical dimensions (anatomy), mechanical properties (strength, elasticity) and structural composition of arteries is required. This information is poorly described or unknown for the equine pulmonary vascular system. Comparative information between these properties in lung regions typically affected and unaffected by EIPH will be obtained from five horses and analysed for differences which will guide continued research into the cause of EIPH

Arroyo, L. - The longitudinal development of the fecal microbiome and metabolome in neonatal foals

Neonatal diarrhea is a common occurrence in foals that can develop into a life-threatening condition. However, at present the etiology is poorly understood and it is unclear why diarrhea progresses in some foals whereas others recover without additional symptoms. The microbial environment within the neonatal gut rapidly becomes colonized following birth. However, several factors influence the particular microbes that are present such as location, maternal diet, and even breed, making comparisons between individuals challenging. Therefore, the metabolic activity of gut microbes may provide a more analogous comparison and improve our understanding of bacterial function at this critical stage of gastrointestinal development. Integrating both microbial and metabolic data will enable a comprehensive understanding of how the gut environment matures in horses and what key aspects denote health. This research will also begin to reveal potential deviations from health that occur during critical bouts of diarrhea in foals. Understanding the gut microbial development in foals will advance the field of equine neonatal care and move it towards personalized treatments and therapeutics.

Arroyo, L. Improving fecal transplantation in horses: determining optimal conditions for preparation & storage

The development of new DNA sequencing technologies has revealed that the interaction between intestinal bacteria and the host is extremely important to health maintenance. In fact, an altered composition of the intestinal bacteria (called dysbiosis) is present in horses with intestinal diseases such as colitis and colic and during treatment with antimicrobial drugs. The correction of dysbiosis to decrease inflammation and to resolve diarrhea faster. Different methods can be attempted to resolve dysbiosis including probiotics, supplements, or fecal microbiota transplantation (FMT), which is the transferring of all microorganisms and metabolites present in the feces of a healthy donor to a sick patient. FMT has been used with great success in humans and dogs, resolving over 95% of cases of diarrhea in people with *Clostridioides difficile* infection, which is also a leading cause of diarrhea in horses. FMT has been given to horses with diarrhea, but so far, scientific evidence indicates that FMT is not so efficient in horses. Our preliminary data show that the current recommendations of FMT to correct dysbiosis in horses has no evident impact on the microbiota of horses. This might be related to the fact that FMT cannot be given by enema, as in other species, because of the horse's anatomy and the administration via nasogastric tube drastically decreases the viability of the transferred bacteria. Furthermore, it has been shown that over 80% of the bacteria present in feces die during FMT preparation because of exposure to Oxygen and freezing. Therefore, increasing bacterial viability in the transplanted solution is fundamental to improve FMT efficacy in horses. The objectives of this study are to optimize bacterial viability of FMT using anaerobic conditions and to identify microbiota patterns associated with higher resistance to storage.

Arroyo, L. Screening for biomarkers indicators of intestinal health among the equine microbiota

Intestinal diseases are the leading cause of mortality in horses. Recently, the intestinal microbiota has been shown to be essential to the health of the host. Marked changes in the intestinal

microbiota (dysbiosis) are present before and during the outset of diseases and after treatment with antibiotics. New technologies such as next generation DNA sequencing (NGS) are reliable to characterize changes in the microbiota, but are relatively expensive, have a long turnaround time and require complex bioinformatic analyses. Specific bacterial markers are currently being used in other species to accurately predict intestinal dysbiosis. For example, increased Enterobacteriaceae and the decreased Lachnospiraceae are constantly observed along with intestinal inflammation. This study will find and validate key bacteria that could be measured by real time PCR (qPCR), which is quicker and cheaper than DNA sequencing. The objective is to identify potential markers of intestinal dysbiosis to be used as an alternative to DNA sequencing to detect dysbiosis in horses, allowing early treatment and closer monitoring of those animals.

Beeler-Marfisi, J. - The relationship between EIPH and exposure to ambient air pollution in Thoroughbred and Standardbred racehorses

Worldwide, the prevalence of exercise induced pulmonary hemorrhage (EIPH) is estimated between 44% to 85% of Thoroughbred (TB), and up to 87% in Standardbreds (SB) racehorses. The condition is important to Ontario racing because affected horses are suspected to have shortened racing careers, and in rare instances, may suffer sudden death from massive hemorrhage. EIPH is caused by stress failure of capillaries in the caudodorsal lung, secondary to repeated high-intensity work. However, Veterinarians who regularly assess racehorses by tracheobronchoscopy at Woodbine and Woodbine-Mohawk Park (Mohawk) racetracks in Ontario, Canada are concerned that their proximity, respectively, to Lester B. Pearson Airport and a major highway is exposing racehorses to excessive air pollution, which might contribute to development of EIPH. Two previous studies showed a relationship with EIPH and cooler temperature, but studies on air pollution and EIPH are lacking. The provincial and federal governments have air quality monitoring stations and weather stations located close to Woodbine and Mohawk. These collect air pollution data including nitrogen dioxide (NO₂), ozone (O₃) fine particulate matter less than 2.5 microns in diameter (PM_{2.5}), and temperature data.

Beeler-Marfisi, J. - Identification of putative exercise-induced pulmonary hemorrhage causing variants in Ontario's Thoroughbred racehorses

Exercise-induced pulmonary hemorrhage (EIPH) is a common disease affecting up to 80% of training and racing Thoroughbreds (TBs). EIPH refers to bleeding within the lung during exercise and is diagnosed by visualizing blood in the trachea by endoscopic examination after work. The disease is caused by stress failure of the lung's capillaries during intense exercise from increased capillary pressures in what should otherwise be a low-pressure organ. Additionally, for unknown reasons, severely affected horses can suffer fatal bleeding into the lungs during high-intensity work. In 2001, the Alcohol and Gaming Commission of Ontario, developed the Equine Incidences in Ontario Racing program, and mandated that any horse dying during or within 60 days of a race must undergo post-mortem examination. From 2003-2015, pulmonary hemorrhage and EIPH were determined as the cause of death in 76% of all sudden death cases, representing 37% of all sudden deaths in TB racehorses. Therefore, the disease is important to the racing industry not only as a cause of poor performance but also for its negative impact on the health and welfare of the horse, and the distress it causes to the general public and the people involved with the affected animal. Genetics were shown to have a moderate to high role in determining whether a TB will develop EIPH. As such, there may be genetic markers, or variants, within the TB genome that are associated with the development of EIPH. These variants could be used to identify horses at high risk of developing EIPH or fatal EIPH; however, these variants have yet to be discovered. In this study, we will identify genetic markers of EIPH using whole-genome sequencing of DNA from TBs with fatal EIPH. Our long-term goal is to identify and verify these EIPH-causing variants, with the aim of developing a genetic test, which could be used to inform breeding and training decisions in genetically predisposed TBs.

Beeler-Marfisi, J. - Macrophage responses of healthy and severely asthmatic horses to agents that exacerbate equine asthma

Severe equine asthma (SEA) is the most common non-infectious inflammatory airway disease of mature horses. This disease causes decreased athletic ability and with progression may lead to euthanasia. Severe equine asthma is caused by exposure to airborne dusts found in the barn, including fungal spores, LPS and inorganic particulates, such as silica from soil (challenge material, Beeler-Marfisi et al. 2010). Although studied for decades, it remains unclear why some horses develop SEA while others with the same dust exposure do not. Alveolar macrophages (AMs) are the first line of defence in the lung and during inflammation, are supplemented by monocyte-derived macrophages (MDMs). Broadly speaking, AMs and MDMs are classified as pro- or anti-inflammatory based on expression of cell surface markers including CD163 and CD206, as well as patterns of protein production. In previous work comparing healthy and SEA-affected horses (Kang et al. 2021), we noted that AMs from asthmatic horses had a different immunophenotype to healthy horses suggesting a relationship between this altered immunophenotype and lung inflammation. Therefore, we believe that differences exist in AM and MDM immunophenotype and other cellular responses between healthy and SEA-affected horses which will explain why some horses become asthmatic while others do not.

Changoor, A. & Koenig, J. Evaluation of Non-invasive Electroarthrography to Predict Cartilage Quality in Equine Osteoarthritis

Osteoarthritis (OA) is the most common cause of lameness in horses and is characterized by progressive and irreversible cartilage degradation. Cartilage is the thin tissue that lines the ends of bones in joints and normally enables pain free movement. Early recognition of OA is important to be able to treat and potentially prevent disease progression. Veterinarians could benefit from having a way of identifying cartilage changes that would allow them to objectively monitor OA. Electroarthrography (EAG) is an innovative technology that evaluates cartilage through sensors placed on skin around a joint, such as the equine fetlock. This is similar to the way heart health can be understood using electrocardiography. The proposed research aims to improve EAG collection to make it easier to use in the clinic, as well as evaluate the ability of EAG to follow OA progression and treatment in an equine fetlock (metacarpophalangeal) model of early OA. We hypothesize that we can streamline EAG collection by creating a read-to-wear device and that EAG will be able to detect cartilage changes over time and show a relationship to magnetic resonance imaging (MRI) and direct observations of cartilage quality using arthroscopy. This research will be the first to demonstrate that non-invasive EAG can be used in a clinical setting to monitor cartilage health and we anticipate EAG will produce comparable results to MRI.

Achieving the study aims would provide a critical link to further develop EAG into a sensitive diagnostic method that could be deployed at the point-of-care and dramatically improve how OA is assessed and treated in horses.

Chenier, T. Efficacy of an Oral Supplement Containing Omega Fatty Acids for Treatment of Persistent Breeding-Induced Endometritis (PBIE) in Mares.

The health of the breeding industry is critical to the overall success of the horse industry. Reproductive efficiency in horses is generally low, for a variety of reasons, including infertility caused by uterine disease. Endometritis is the third most common medical condition encountered overall in equine veterinary practice (Traub-Dargatz et al. 1991), and approximately 60% of mares affected by endometritis are barren (Overbeck et al. 2011). Causes of endometritis include acute bacterial infections, chronic infections, and persistent breeding-induced inflammation (PBIE). PBIE is characterized by a prolonged inflammatory response following breeding, leading to early

embryonic loss and infertility. A normal, transient inflammatory response occurs post-breeding; however, in a subset of susceptible mares, this inflammation persists. One study identified PBIE in 43% of a mixed population of mares and found a lower pregnancy rate in affected mares compared to normal mares (49% versus 62%; Newcombe 1997). Given the large number of horses in the breeding sector both in Ontario and Canada as a whole, endometritis and more specifically PBIE, causes a significant economic impact to both the Canadian and Ontario breeding industries. Cytokines are proteins produced by cells that have an effect on the immune system to fight disease. The uterine inflammatory response can be characterized by alterations in these cytokines. Levels of both pro-inflammatory and anti-inflammatory cytokines are different between PBIE-susceptible versus normal mares. This study will compare uterine lavage, uterine infusion of platelet-rich plasma and oral supplementation with Omega-3 fatty acids, as treatments in mares with PBIE. Levels of several inflammatory proteins (cytokines) in the uterus will be evaluated, and clinical signs of endometritis will be assessed. The benefits of this study include potential identification of a new, effective therapy for PBIE in mares, resulting in reduced antibiotic use, improved fertility and improved understanding of this important condition.

Cote, Nathalie - Evaluation of factors contributing to upper airway obstruction through repeated resting and dynamic respiratory endoscopies in 2-year-old Standardbreds

Identification of upper airway abnormalities at the beginning of a racing career may predict future airway obstruction and therefore the productive performance of the horse. It has been demonstrated that endoscopy at rest is not a sufficient means of evaluating underlying upper airway pathology. Therefore, a combination of resting and dynamic endoscopies is recommended to fully evaluate the upper respiratory system. It is well described in the literature that abnormalities found during post-sale endoscopies are negative predictors for future racing performance (e.g., lower earnings). Currently, it is unknown the number of yearlings racehorses that develop upper airway problems during their careers despite normal resting and dynamic endoscopic evaluation post-sale. Proposed predisposing factors for the development of upper airway disease include viral infection, pharyngeal lymphoid hyperplasia (PLH), lower airway inflammation (LAI), and exercise-induced pulmonary hemorrhage (EIPH). However, contradictory results have been reported in the literature and currently it is unknown what the contributing factors are in these individuals for the development of upper airway problems. A prospective longitudinal cohort study is needed to evaluate the number of horses that develop upper airway diseases and the contributing factors on the development of those diseases. Performing periodic resting and dynamic endoscopies may predict the development of upper airway disease and help identify factors that may play a role in their development. Furthermore, changes to the appearance of the upper airway in these young racehorses may occur under the influence of exercise and as they mature.

Cribb, N. - Ultrasound examination for assessment of closure of the nephrosplenic space in horses

Currently, preventative laparoscopic surgery for nephrosplenic entrapment colic is the recommendation for horses to reduce the risk of disease of this type. The technique is well established but 2 recent reports in the scientific literature have highlighted our lack of knowledge of aspects of this surgery. The papers have highlighted that firstly, we currently do not know how long the preventative effects from the surgery last, and, secondly, we do not know whether the outcome from the surgery can be evaluated by ultrasound examination. In our research herd, there are 12 horses that have recently undergone closure of the nephrosplenic space by the PI. It is our aim to follow these horses for up to 3 years following their surgery to determine whether the adhesions last this length of time. These findings will be correlated with a concurrent

ultrasonographic examination to see if this imaging modality can be used to determine closure of the space.

Gomez, D. – Hypotonic versus isotonic maintenance fluids in critically ill foals

Critically ill foals often receive maintenance intravenous fluids (IVFs) to correct and maintain normal hydration once the initial fluid resuscitation therapy has finished. Historically, administration of low-sodium (hypotonic) fluids as opposed to fluids with sodium concentration similar to those in the blood (isotonic fluids) was recommended. This practice was extrapolated from guidelines developed for healthy children in 1950s. However, this recommendation has recently been questioned in human medicine because some children can develop life-threatening low blood sodium levels. Thus, the use of isotonic fluids has increased for maintenance of hydration in ill children while the use of hypotonic fluids declined. Despite this, the current veterinary literature continues recommending hypotonic solution for maintenance IVFs in sick foals. This approach can be adequate in some cases because anecdotal reports suggest that administration of isotonic fluids to foals could lead to complications such as high levels of sodium in blood, fluid accumulation in the body, and increased blood pressure. However, these recommendations lack of evidence-based support. The objective of this study is to compare the effect of isotonic versus hypotonic maintenance fluid therapy on blood sodium concentrations, cardiovascular variables, sodium-regulating hormones, and urine production in critically ill foals. Results of this study are expected to provide data to support evidence-based protocols and the development of guidelines for fluid therapy in critically ill foals.

Gomez, D. – Endothelial glycocalyx degradation in critically ill foals

The endothelial glycocalyx (EG) is a thin gel-like layer covering the internal surface of blood vessels that regulates the transport of fluids, proteins oxygen and nutrients to the tissues. The EG also provides anticoagulant effects and protects the blood vessels from toxic insults. Damage to the EG occurs when the blood supply to the tissue is compromised, in inflammation, and in patients with localized or blood-borne infections. In human medicine, there is increasing evidence that administration of large volume of fluids during resuscitation of critically ill patients damage the EG, even more than the disease itself. Increased blood levels of markers associated with EG damage are also associated with increased risk of death. Administration of resuscitation intravenous fluid is one of the most important interventions in the management of critically ill foals presented to referring hospitals. However, no information is available regarding the blood levels of markers associated with EG damage in critically ill foals, their association with mortality and the impact of resuscitation fluid on the EG degradation. Therefore, the objective of this study is to determine the blood levels of EG damage markers in critically ill foals, before and after fluid resuscitation to determine whether this practice can worsen the integrity of the blood vessels. We hypothesise that the blood levels EG degradation markers will be associated with disease severity, degree of inflammation, as well as volume and speed of intravenous fluids administered during early resuscitation.

Gomez, D. - Enteroinsular axis in healthy horses and horses with gastrointestinal diseases during hospitalization

Endotoxemia are conditions where bacteria and their products gain access to the blood and set up widespread infections, often leading to death. Consequences of sepsis and endotoxemia include organ failure, loss of hormonal control, and metabolic/electrolyte derangements, including high glucose (hyperglycemia). These abnormalities are linked to severity of illness and death. Recent research has shown that hormones from the intestine (known as incretins) are important to control glucose levels and the ability of the pancreas to produce insulin. However, there is no information on the incretins in horses with gastrointestinal disease. The goal of this study is to investigate incretins (GLP-1, GLP-2, GIP) and insulin in healthy horses and horses with colic and

diarrhea and determine their association with clinical findings, severity of disease, and likelihood of mortality. This information will have clinical implications in the diagnosis, treatment, and prognosis of critically ill horses.

Gomez, D. - Fecal and serum metabolome and fecal bile acids and D-lactate concentrations in healthy horses and horses with colitis.

Colitis (inflammation of the colon resulting in diarrhea) is a serious disease in horses with high rates of morbidity and mortality. Infectious agents causative of colitis include: bacteria, virus and parasites. Microbiological evaluations of feces from diarrheic horses revealed an association between some gut bacteria communities and the development of the diarrhea and the mortality of horses with colitis. However, the metabolites produced by bacteria during colitis are unknown as well their association with disease severity (i.e., mortality). Investigation of the metabolic-end products of bacterial activity will help to elucidate the significance of gut bacteria communities during inflammation of the gut. Therefore, the aim of this study is to examine the fecal and serum metabolites and fecal bile acids concentrations of healthy horses and horses with colitis. This research will combine several microbial and metabolic parameters to uncover the complex relationships between bacteria and gut inflammation in diarrheic horses especially in those that succumb to disease. The discovery of these novel relationships will enable the progress of targeted and individualized animal health care to improve disease prognosis and welfare.

Gomez, D. - Cardiovascular effects of rapid and slow intravenous administration of sodium penicillin in horses undergoing exploratory laparotomy for colic: A randomized clinical trial.

Perioperative antimicrobial prophylaxis is recommended in horses with colic that undergo abdominal corrective surgery. Current recommendations include administering antimicrobials drugs within 60 min before surgery and readminister time-dependent antimicrobial drugs, such as sodium penicillin, every 60 minutes after the first dose if the surgery is still ongoing. However, compliance with re-administration is usually not followed because intravenous administration of sodium penicillin in anesthetized horses is associated with a decrease in arterial blood pressure, often already present in compromised colic horses, and can result in multiple systemic complications, including death. In healthy anesthetized horses, the decrease in arterial blood pressure caused by sodium penicillin administration is usually transient and of less clinical impact, although its severity is thought to depend on the speed of administration. The effect of sodium penicillin and the speed of administration on arterial blood pressure in horses with compromised cardiorespiratory function, such as colic, have not been investigated. Thus, the benefit of proper antimicrobial treatment has been outweighed by the risk of affecting cardiovascular function, without a proper assessment of this situation in a clinical scenario. The objective of this study is to compare the cardiovascular effects of rapid versus slow intravenous intraoperative administration of sodium penicillin in horses undergoing exploratory laparotomy for colic.

Koch, T. - Mesenchymal stromal cells for the treatment of equine tendonitis

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 do heal with rest, the fibroelastic scar tissue formed is functionally deficient in comparison to more flexible tissue of normal tendons. The result is compromised performance of the horse and high re-injury rates. Currently, tendon injuries are treated in numerous ways including simple lay-off and rest, controlled rehabilitation exercise programs, shock-wave therapy, and biologics such platelet rich plasma and so-called stem cell therapies to name the most common therapies. This range of treatments reflects that no treatment has proven superior, and that adequate tendon repair

remains an unmet clinical need. Culture expanded mesenchymal stromal cells (MSC) have shown promise in reducing the re-injury rate in horses suffering from tendonitis. Improved MSC efficacy may be achieved by extending the dwell time of the cells within the tendon tissue. This has the prospect of healing more horses and extending the careers of more horses suffering from tendon injuries. Improved MSC efficacy may be achieved by extending the dwell-time of the cells within the tendon tissue. Hyaluronic acid (HA) is used to extend dwell-time of cells within synovial joints. This increased dwell-time is expected to be associated with increased inflammatory modulation within the tissue and improved tissue healing.

Koch, T. - Enhancement of Immune-Modulatory Properties of eCB-MSCs

Horses are multi-use livestock that contribute more than \$19 billion annually to the Canadian economy. Joint inflammation due to osteoarthritis or injury is among the most common causes of lost training days or premature retirement in equine athletes. Stem cells hold the promise of novel therapeutic approaches to these difficult-to-treat problems. Mesenchymal stromal cells (MSCs) can be expanded in culture to achieve the desired number for treatment and are capable of modulating cells of the immune system even after long-term storage, which makes them desirable for treatment of immune and inflammatory disorders. We expect that equine cord blood-derived (CB-) MSCs can be enhanced to have improved anti-inflammatory and immunomodulatory properties for future use as treatment of a variety of inflammatory or immune related disorders in horses. Our sole objective of this study is to determine possible in vitro enhancement of equine CB-MSCs using a novel proprietary culture engineering method to improve these immunomodulatory properties. The work will generate pivotal data to support the clinical evaluation of enhanced allogenic equine CBMSCs to treat joint inflammation in research horses. Upon proving the concept in research horses with induced inflammation, the enhanced equine CB-MSC would be tested in a randomized clinical trial for the treatment of joint inflammation in client-owned horses suffering from osteoarthritis. Fully implemented, this therapy would provide a safe, efficacious, and technically simple treatment for selected inflammatory or immune-related disorders in horses.

Koenig, J. - Mesenchymal stromal cells for the treatment of equine osteoarthritis

Mesenchymal Stromal Cells (MSC) has been shown to alleviate pain in mild to moderate osteoarthritis (OA) of the fetlock joint. To date, these cells have been from single donor animals which makes the therapeutic response less standardized. We hypothesize that equine umbilical cord blood (eCB) MSC are safe and effective in treating joint pain and inflammation in an injury-induced equine model compared to placebo treatment. Our objectives are: 1) To compare the clinical safety and efficacy of eCB-MSC with that of saline in an equine fetlock-chip model; 2) To compare joint response to treatment on a molecular level to gain insights into possible mode of action of the eCB-MSCs. These feasibility studies will be conducted in research horses, and the horses will be returned to the research herd upon completion of the study. We expect that the tested cell formulation will not trigger significant adverse reactions following multiple injections. These results will set the stage for testing in horses with lameness due to fetlock OA.

Koenig, J. – Cone beam CT technique development to image the standing horse cervical spine.

Using computed tomography (CT) to diagnose diseases of vertebra and associated structures of the neck in people and other species is common. In horses we rely largely on radiographs to diagnose diseases of the neck. In a recently published study, we showed that diagnosing osteoarthritis in neck joints on radiographs is not reliable and not repeatable. Misdiagnosis of compressive lesions with survey radiography alone occurs in 61% of cases compared with necropsy. CT evaluation of the neck in horses enables more accurate identification of bone and soft tissue lesions than traditional laterolateral radiography. Currently, to perform CT general

anesthesia is required and complete cervical vertebral column examination has been limited by horse size and CT scanner gantry size. Development of a standing CT technique will avoid the expense and risk of general anesthesia and the cone beam CT is better able to image the caudal cervical spine. Development of this technique may also allow for CT myelography of the standing horse as the soft tissue differentiation with cone beam CT is limited, but excellent for bone. We hypothesize that cone beam CT will allow evaluation of the cervical spine in standing horses that is comparable to that of a standard helical CT scanner for bones, and the procedure can be safely performed with reproducible results and will identify bony abnormalities in clinical horses that are not fully characterized or seen with radiographs.

Pearson, W. New insights into immunomodulatory effects of Spirulina in vitro

Inflammation and its associated oxidative stress have complex, dualistic adaptive and maladaptive effects on exercise performance, exercise recovery, and acclimation to repeated exercise bouts (i.e., 'training effect'). When these dualistic roles are in balance, exercise-induced inflammation imparts a net benefit to the training effect; however, when it exceeds adaptive capacity of tissue, degenerative inflammatory conditions such as arthritis can result. Dietary ingredients with the potential to dampen inflammation may reduce the incidence of exercise-induced tissue damage and degenerative disease but may also interfere with exercise recovery and training effect. Spirulina (*Arthrospira* sp.) is a nutrient-dense feed supplement with the potential to support robust health and optimize exercise performance in horses. Beyond just classical nutrition, Spirulina has marked antioxidant, anti-inflammatory, and immunomodulatory activities in various inflammatory conditions, including the inflammatory condition of exercise. These effects have not been shown in horses, and equine-specific downstream effects of Spirulina on local (cartilage) and systemic adaptation to exercise stress is not known.

The purpose of the proposed study is to: 1) quantify direct, dose-dependent in vitro effects of Spirulina on cartilage explants responses to hypoxic and impact strain with respect to biomarkers of inflammation (IL-1 β , IL-6, TNF α , PGE $_2$), inflammation resolution (RvD1), cartilage turnover (GAG, CS846), and oxidative stress (total antioxidant status, catalase, SOD activity) 2) determine whether the observed in vitro effects are also observed in spirulina-supplemented horses during exercise recovery. This study will result in new information pertaining to the direct effect of Spirulina on cartilage and muscle health, and to its application in optimizing systemic and local adaptation to high-intensity exercise in horses.

Pyle, G and Avison, A. - Cardiac dysfunction and sudden death in horses

Fatality among equine athletes is a rapidly growing concern with respect to animal welfare, ethical considerations, human safety, and public perception of equine sports. Emerging evidence by our group supports cardiovascular disease –specifically cardiac arrhythmias and conduction disturbances –as a significant and under-recognized factor. The contribution of arrhythmias to racehorse fatalities is difficult to quantify and is often a presumptive diagnosis of exclusion owing to the inability to assess cardiac function after death. In addition to concerns regarding fatalities, there is ongoing public and industry unease about exercise-induced pulmonary hemorrhage (EIPH) and the use of race-day medication (Lasix®, furosemide). It is widely accepted that non-fatal arrhythmias are often identified during exercise or in the immediate post-exercise period in apparently normal equine athletes. However, their frequent detection does not negate their possible significance. Small or transient increases in pulmonary vascular pressure due to such rhythm disturbances may be the underlying cause or a contributor to EIPH in many horses. Therefore, the overall contribution of cardiac dysfunction to equine mortality remains unknown.

Valverde, A. - Comparison of two intraoperative lidocaine constant rate infusions on cardiorespiratory function and quality of recovery in healthy isoflurane-anesthetized horses undergoing elective surgery

Delivery of general anesthesia using a combination of at least 1 injectable anesthetic drug during maintenance with inhalational anesthetics is nowadays very common in equine anesthesia and known as balanced anesthesia or partial intravenous anesthesia. Reduced doses of individual anesthetic drugs are possible with balanced anesthesia techniques because of synergistic or additive effects between the different drugs and often result in better analgesia and relaxation, less cardiorespiratory depression, and in horses may contribute to a better quality of recovery. Anesthetic mortality in horses is the highest among domestic species and recent studies show that most of the fatal outcomes occur in the postoperative period, including the recovery phase from anesthesia; therefore, the impact of intraoperative anesthetic drugs on the quality of recovery should be thoroughly considered. Lidocaine, routinely used intraoperatively in balanced techniques, has a sparing effect on the required concentration of inhalational anesthetic through analgesic and central nervous depression effects, which promotes a more stable cardiorespiratory function and a lighter plane of anesthesia. A negative association of lidocaine with the quality of recovery can outweigh these benefits by causing ataxia and visual dysfunction, especially if the infusion of lidocaine is not stopped for at least 30 minutes before the end of surgery, since plasma and tissue concentrations can be high at the time the horse attempts to recover and interfere with motor function and coordination. This study will investigate the feasibility of a higher rate of lidocaine and its effects during anesthesia and the recovery period.

zur Linden, A. - Equine Pulmonary Biopsy: Improving Safety and Efficacy

Percutaneous lung biopsy is a common method for obtaining diagnostic samples of lung tissue abnormalities in humans and other species. Due to blood vessels and airways that run throughout the lung tissue, complications can arise due to puncture of high flow structures during biopsy. Currently there has been no characterization of the detailed branching of either airways or blood vessels within the equine lung. Because anatomy differs between individuals, and anomalies of anatomy may occur, a preventative strategy will further increase safety of the procedure. Filling the biopsy tract with a material to reduce bleeding and air leakage, shows promising results but is not yet standard practice. By using data collected from dissection and multi detector computed tomography (MDCT) of cadaver horse lungs, we plan to elucidate the paths of major vessels and airways within the equine lung. Correlation of regions of minimal functional importance with external anatomical landmarks on adult equine cadavers will allow us to make recommendations on the safest locations for biopsy. These recommendations will be provided as landmarks easily identified by clinicians to improve the safety of the procedure in adult horses, which due to size, must be performed without imaging guidance. Development of a preventative step following biopsy will begin with testing gel foam embolization techniques for air and blood leakage in ventilated and perfused cadaver lungs. We hypothesize that greater anatomical knowledge, recommendations for biopsy locations, and preventative strategies will increase the safety and efficacy of blind percutaneous lung biopsy in horses.

Appendix 6: Research Publications:

Dr. Luis Arroyo

Papapetrou MA, **Arroyo LG**, Meister TL, Baird JD, Steinmann E, Lillie BN. Prevalence of equine parvovirus-hepatitis in healthy broodmares in Ontario, Canada. *Can J Vet Res.* 2023 Jul;87(3):169-175.PMID: 37397641

Zakia LS, Gomez DE, Caddey BB, Boerlin P, Surette MG, **Arroyo LG**. Direct and culture-enriched 16S rRNA sequencing of cecal content of healthy horses and horses with typhlocolitis. *PLoS One.* 2023 Apr 13;18(4): e0284193. doi: 10.1371/journal.pone.0284193. eCollection 2023.PMID: 37053174

Zakia LS, MacNicol JL, Borges AS, Yu S, Boerlin P, Gomez DE, Surette MG, **Arroyo LG** Fecal prevalence of *Clostridium innocuum* DNA in healthy horses and horses with colitis...*Anaerobe.* 2023 Feb; 79:102681. doi: 10.1016/j.anaerobe.2022.102681. Epub 2022 Dec 5. PMID: 36481352

LG Arroyo Julia Assis Arantes, Alexandre Secorun Borges, Luiza Stachewski Zakia, Michael Gordon Surette, JS Weese, Marcio Carvalho Costa. *Effect of dietary iron supplementation on the equine fecal microbiome. The Canadian Journal of Veterinary Research.* 2023;87, pp 97-104

Dr. Tracey Chenier

Olivia Johns, David Pearl, Robert Foster, John Barta and **Tracey Chenier**. The seroprevalence and risk factors for exposure to *Neospora caninum* and *Neospora hughesi* in Ontario broodmares. *Veterinary Parasitology: Regional studies and reports.* Volume 50, May 2024.

Dr. Thomas Koch

TG Koch, Kuzma-Hunt, AG, Shah, V, Di Marco, S, Russell, KA, Betts, DH (2023, June). Opening the "Black Box" Underlying Barriers to the Use of Canine Induced Pluripotent Stem Cells: A Narrative Review. *Stem cells and development*, 32 (11-12): 271-291. Retrieved from Link to Manuscript PDF (Published)

TG Koch, Wu, K, Jimenez, C., Mehrpouyan, S, Laouar, L, Jomha, N. (2023). A cryopreserved and customizable articular cartilage for joint resurfacing engineered from cord blood mesenchymal stromal cells. *Tissue Engineering.* Retrieved from Link to Manuscript PDF (Submitted) MANUSCRIPT ID: JTE-May-23-0123

TG Koch, Roberts, E.L, Abraham, B., Dang, T, Gysel, E, Mehrpouyan, S., Alizadeh, A, . . . Kallos, M.S. (2023). Computer Controlled Expansion of Mesenchymal Stromal Cells on Microcarriers in 3L Vertical-Wheel® Bioreactors. *Frontiers in Bioengineering and Biotechnology.* Retrieved from Link to Manuscript PDF (Submitted) Special topics issue "Advanced Bioprocessing Strategies for Tissue Engineering and Biomimetic Modelling Applications"

TG Koch, Roberts, E.L, Lepage, S.I.M, & Kallos, M.S. (2023). Bioprocess Development for Cord Blood Mesenchymal Stromal Cells on Microcarriers in Vertical Wheel Bioreactors. *Biotechnology and Bioengineering*. Retrieved from Link to Manuscript PDF (Revision Requested)

TG Koch, Antunes, J, Salcedo, R, Lively, S., Nathalie, C, Dubois, MS, Koenig, J, Kapoor, M (2023). miRNAs are differentially expressed in equine plasma of horses with osteoarthritis and osteochondrosis. Retrieved from Link to Manuscript PDF (Submitted)

TG Koch, Alizadeh, AH, Lively, S, Lepage, S, Potla, P, Russell, S, Amanda Ali, S (2023). MicroRNAs as prognostic markers for chondrogenic differentiation potential of equine mesenchymal stromal cells. *Stem Cells and Development*. (Revision Requested)
Manuscript ID SCD-2022-0295

TG Koch, Farag, HI, Templeman, JR, Hanlon, C, Joshua, J, Niel, L... Martino, TA. (2023). One Health: Circadian Medicine for Animals and Humans. *Journal of Biological Rhythms*. (Revision Requested)
Manuscript ID JBR-23-0041

TG Koch, Kuzma-Hunt, AG & Russell, KA. (2023). Overview of Equine Stem Cells: Sources, Practices, and Potential Safety Concerns. *Veterinary Clinics of North America: Equine Practice*. Retrieved from Link to Manuscript PDF (Accepted)
Special topic: Use of Biologic and Regenerative Therapies in Equine Practice

Dr. Wendy Pearson

Golestani, N.; **Pearson, W.**, Response of cartilage explants to LPS cultured in normoxic and hypoxic conditions is modulated by spirulina: implications for exercise recovery in vivo., *Journal of Equine Veterinary Science* (March 2024)

Dr. J Scott Weese

LG Arroyo Julia Assis Arantes, Alexandre Secorun Borges, Luiza Stachewski Zakia, Michael Gordon Surette, **JS Weese**, Marcio Carvalho Costa. Effect of dietary iron supplementation on the equine fecal microbiome. *The Canadian Journal of Veterinary Research*. 2023;87, pp 97-104.

Appendix 7: Research Presentations

Dr. Janet Beeler-Marfisi

April 13, 2024 - Quarter Horse Racing's Annual General Meeting - EG2020-05 (EIPH x bleeding and informally EIPH x genetics in TB)

April 1, 2023 - Can-Am All Breeds Equine Expo - Equine Airway (1h) and Barn Dusts - what are we doing to our horse's lungs and how can we stop? (1h)

Dr. Tracey Chenier

Podcast with Dr. Alison Moore of OAHN: The seroprevalence and risk factors for exposure to *Neospora caninum* and *Neospora hughesi* in Ontario broodmares. (May 2023)

Dr. Diego Gomez-Nieto

American Association of Equine Practitioners (AAEP) Convention. Dec 2023.

Platform presentation (1 hour): In-depth session: non-colic gastrointestinal diseases. treatment approaches in horses with diarrhea

Large Animal Internal Medicine Update conference. Nov 2023. Mexico City, Mexico.
Platform presentation (1 hour) – Update on foal's sepsis

International congress of equine medicine, surgery and reproduction. Sep 2023. Medellin, Colombia. Enteroinstular axis in healthy horses and horses with gastrointestinal diseases during hospitalization.

American College of Veterinary Internal Medicine (ACVIM) annual forum. Jun 2023, Philadelphia, Pennsylvania, USA. Platform presentation (1 hour) - Newer Insights on Large Animal Neonatal Sepsis

American College of Veterinary Internal Medicine (ACVIM) 2023 annual forum.

Poster presentation: Ayubi A, Toribio R, Verbrugghe A, Fortin-Trahan R, Kamr A, Renaud DL, Gomez DE. Enteroinstular Axis in Healthy Horses and Horses with Colitis. J Vet Intern Med 2024,38(1); 530-729. <https://doi.org/10.1111/jvim.16913>

American College of Veterinary Internal Medicine (ACVIM) 2023 annual forum.

Platform presentation (1h) - Newer Insights on Large Animal Neonatal Sepsis

American College of Veterinary Internal Medicine (ACVIM) 2023 annual forum.

Poster presentation: Gomez DE, Perica A, Parra L, Kamr A, Toribio RE. Endothelial Glycocalyx Integrity in Healthy and Septic Foals. J Vet Intern Med 2024,38(1); 530-729.
<https://doi.org/10.1111/jvim.16913>

American College of Veterinary Internal Medicine (ACVIM) annual forum. Jun 2023

Abstract presentation: Parra LA, Zakia LS, Tran V, Lack Amy, Toribio RE, Renaud DL, Gomez DE. Calcium, Magnesium, and Phosphorus Concentration in Septic Foals. J Vet Intern Med 2024,38(1); 530-729. <https://doi.org/10.1111/jvim.16913>

Dr. Judith Koenig

Suderman, R. P.; Pascual, J.; Luque, R. Munevar; Grynpas, M.; Naguib, H.; **Koenig, J.**; Changoor., A., "Non-Invasive Electroarthrography Follows Progression of Early Osteoarthritis in an Equine Chip Model and Corresponds to Clinical Outcomes," Canadian Orthopedic Association, Canada, Halifax, Conference Proceedings, (June 2024) Conference Date: June 2024

P. Suderman, R. Munevar Luque, M. Grynpas, H. Naguib, **J. Koenig**, A. Changoor., "Non-Invasive Electroarthrography to Monitor Cartilage in an Equine Model of Early Osteoarthritis," Canadian Connective Tissue Society, Canada, London, (June 2024) Conference Date: May 2024

Josephine Lui, R. Peter Suderman, Rodrigo Munevar Luque, Marc Grynpas, Hani Naguib **Judith Koenig**, Adele Changoor, The Relationship Between Centre-of-Pressure and Electroarthrography, a Non- invasive Method for Cartilage Assessment, Canadian Connective Tissue Society, Canada, London Conference Date: May 2024

Koenig, JB; Henderson, B; Luque, RM; Alizadeh, AH; Russel, K; Koch, TG, Comparable Results with 10 Million or 20 Million Allogenic Mesenchymal Stromal Cells in Treating Synovitis in Horses, American College of Veterinary Sports Medicine, United States, Naples, FL, Page Range: 06, Veterinary and Comparative Orthopaedics and Traumatology-Open, (January 2024) Conference Date: April 2024

Rodrigo Munevar Luque, Thomas Koch, Laurie Goodrich, Andres Giraldo, Alexander Valverde, Alex Zur Linden, Janet Beeler Marfisi, **Judith Koenig**, POOLED CORD BLOOD MESENCHYMAL STROMAL CELLS SLOW THE PROGRESSION OF OSTEOARTHRITIS IN AN EQUINE FETLOCK CHIP MODEL, American College of Veterinary Sports Medicine, United States, Naples, FL, Page Range: 06, Veterinary and Comparative Orthopaedics and Traumatology-Open, (April 2024) Conference Date: April 2024

Suderman, R. P.; Pascual, J.; Luque, R. Munevar; Grynpas, M.; Naguib, H.; **Koenig, J.**; Changoor., A., Non-invasive Electroarthrography and Centre of Pressure Measurements Track Progression in An Equine Chip Model of Early Osteoarthritis, Orthopaedic Research Society, United States, Palm Beach, Conference Proceedings, (2024) Conference Date: January 2024

Giraldo Andres, LePage Sarah, Madan Pavneesh, Hamed Alizadee, Koch Thomas, **Koenig Judith**, Effect of ESWT on on the immunomodulatory and anti-inflammatory properties of allogeneic CB MSC, 2023 ACVS Surgery Summit, United States, Louisville, Kentucky, Veterinary Surgery, (October 2023) Conference Date: October 2023

Judith Koenig, Rodrigo Munevar Luque, Thomas Koch, Laurie Goodrich, Andres Giraldo, Alexander Valverde, Alex Zur Linden, Janet Beeler Marfisi, Mesenchymal stromal cells for the treatment of surgically induced equine fetlock osteoarthritis, North American Veterinary

Regenerative Medicine Association, United States, Kona, Hawaii, Conference Proceedings
Conference Date: September 2023

JB Koenig, A. Merchán Muñoz, N Côté, T Koch, S Mehrpouyan, H. Alizadeh, K Russell, G Monteith, Repeated Intralesional Injection of Allogeneic Umbilical Equine Cord Blood Mesenchymal Stromal Cells for Treatment of Equine Superficial Digital Flexor Tendonitis, North American Veterinary Regenerative Society Association, United States, Kona, Hawaii, Conference Proceedings Conference Date: September 2023

Koenig J; Munevar Luque R; Koch T; Goodrich L; Valverde A; et al, Pooled allogeneic MSC for treatment of surgically induced osteoarthritis in the equine fetlock, ECVS Annual Scientific Meeting, Poland, Krakow, Veterinary Surgery, (August 2023) Conference Date: July 2023

Koenig J; Munevar Luque R; Koch T; Goodrich L; Valverde A; et al, Pooled allogeneic MSC for treatment of surgically induced osteoarthritis in the equine fetlock, ACVSMR Symposium, United States, Charleston, Veterinary and Comparative Orthopaedics and Traumatology-Open, (April 2023) Conference Date: April 2023

DVSc Thesis September 2023 Andres Giraldo: Effect of ESWT on the immunomodulatory and anti-inflammatory properties of allogeneic CB MSC

Dr. Wendy Pearson

*Golestani, N.; **Pearson, W.**, 31 New insights into inflammatory and cartilage turnover biomarkers of Spirulina in response to inflammation in cartilage explants in vitro in normoxia and hypoxia, *Equine Science Society Biannual Conference*, United States, Grapevine, Page Range: 104333, Journal of Equine Veterinary Science, (2023) Conference Date: June 2023

Dr. Glen Pyle and Dr. Amanda Avison

Avison A, * Pyle G, Physick-sheard P. Electrocardiographic restitution in the racehorse during maximal intensity exercise. University of Guelph Centre for Cardiovascular Investigations Research Day. June 2023.

Dr. Alexander Valverde

Comparison of two intraoperative lidocaine constant rate infusions on cardiorespiratory function and quality of recovery in healthy isoflurane-anesthetized horses undergoing arthroscopic surgery. Henderson ARP, **Valverde A**, Côté N, Sanchez A, Johnson R, Arroyo L. - Abstract submitted for September 2024.

Effects of repeated anesthetic events with two different anesthetic protocols for surgical or imaging purposes, and recovered in different recovery stalls, on the quality of recovery. Henderson ARP, Valverde A, Koenig J, Sears W. - Abstract submitted for September 2024.

Appendix 8: Presentations and Talks Given by Equine Guelph

Presentations & Talks by Gayle Ecker

May 13, 2023, Rockwood Fire Department Open House, Rockwood, Ontario

May 27, 2023, Erin Horse Day, Erin, Ontario

July 4, 2023, Presentation on Equine Guelph to Swedish Racing tour, Mohawk Racetrack, Campbellville, ON

October 14, 2023, Youth Derby Awards, Mohawk Racetrack, Campbellville, ON

October 25, 2023, Chief Veterinarians of Canada presentation on Equine Guelph, University of Guelph, Guelph, ON

November 12, 2023, BBRM Open House display

Mar 22, 2024, *"The Horse Health Check"*, Can-Am All Breeds Expo, Ancaster, Ontario

Mar 23, 2024, *"Journey through the Horse's Gut"*, Can-Am All Breeds Expo, Ancaster, Ontario

Mar 24, 2024, *"Learn how to perform Equine Body Condition Scoring"*, Can-Am All Breeds Expo, Ancaster, Ontario

Presentations & Talks by Susan Raymond

S. Raymond, *"Large Animal Rescue - Introduction"*, EG LAER Operational Level Course, September 16 & 17, 2023, WindReach Farm, Ashton, ON

S. Raymond, *"Large Animal Rescue - Introduction"*, EG LAER Awareness Course, October 21, 2023, University of Guelph, Guelph, ON

S. Raymond, *"Fire Prevention & Emergency Preparedness Workshop"*, Undergraduate degree BBRM (EQN 3070), March 7, 2024, University of Guelph, Guelph, ON

S. Raymond, *"Large Animal Rescue - Introduction"*, EG LAER Awareness Course – OVC 4th Year Elective, March 8, 2024, University of Guelph, Guelph, ON

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: Dr. Robin Foster PhD)
Equine Behaviour (Instructor: Zoë Thorbergson MSc & Cathy Wentworth-Stanley MSc)
Equine Business Finance and Risk Management (Instructor: Dr. Julie Fischer MBA, D.M.& Dr. Ev Post DVM)
Equine Business Management (Instructors: Rachael Hunter MBA & Christine Polhkamp)
Equine Event Management (Instructor: Shellie Kwitkowski MBA)
Equine Genetics (Instructor: Dr. Dianne Winkelman-Sim PhD)
Equine Journalism (Instructor: Emily Esterson, MFA, PhD)
Equine Nutrition (Instructor: Nicole Weidner PhD)
Equine Welfare (Instructor: Gayle Ecker MSc)
Exercise Physiology (Instructor: Dr. Amanda Waller PhD)
Equine Functional Anatomy (Instructors: Dr. Jeff Thomason PhD & Dr. Ev Post DVM)
Global Perspectives in Equid Welfare (Instructor: Dr. Tamara Tadich, PhD DVM)
Management of the Broodmare, Stallion and Foal (Instructor: Catherine Williams)
Equine Health & Disease Prevention (Instructor: Dr. Ev Post DVM)
Management of the Equine Environment (Instructors: Dr. Susan Raymond PhD & Cathy Wentworth-Stanley MSc)
Marketing & Communications in the Equine Industry (Instructor: Tracy Dopko)
Stewardship of the Equine Environment (Instructor: Dr. Susan Raymond PhD)
The Equine Industry (Instructor: Gayle Ecker MSc)

Short Online courses (16) offered by Equine Guelph on TheHorsePortal.ca

Equine Business 101 (On-Demand)
Equine First Aid (Instructor: Dr. Laura Frost, DVM)
Fire and Emergency Preparedness (Instructor: Dr Susan Raymond, PhD; Dr Rebecca Husted, PhD)
Gut Health and Colic/Ulcer Prevention (Instructor: Dr Nicole Weidner, PhD)
Horse Behaviour and Safety (Instructor: Dr. Rebecca Husted, PhD)
Horse Behaviour and Safety for Youth (On-Demand)
Horse Care and Welfare (Instructor: Gayle Ecker, MSc)
Introduction to Body Condition Scoring (On Demand)
Introduction to Forage (Instructor: Dr Paul Sharpe, PhD)
Provincial Foundations Officials Course (On-Demand)
Racehorse Lameness & Injury Prevention and Care (Instructor: Dr. Melissa McKee, DVM)
Racehorse Respiratory Health (Instructors: Drs. Sarah Shaw and Amy Lack, DVM)
Racehorse Gut Health & Ulcer/Colic Prevention (Instructor: Dr Nicole Weidner, PhD)
Sickness Prevention in Horses (Instructor: Dr Susan Raymond, PhD)
Sport Horse Lameness & Injury Prevention and Care (Instructor: Dr. Bri Henderson, DVM)
The Senior Horse (Instructor: Dr. Bettina Bobsien, DVM)
Horse Trailer Safety (Part One) (Instructor: Dr. Rebecca Husted)

Appendix 10: Summary of the Equine Studies program

Diploma in Equine Studies

The diploma in equine studies requires 6 core and 4 elective courses. In 2009 we awarded our first Diploma in Equine Studies. With 29 diplomas awarded in 2023/24, the total number of diplomas awarded has increased to 437.

Program Requirements

Diploma Required/Core Courses:

2200000	Management of the Equine Environment
2200004	Equine Health and Disease Prevention
2200006	Equine Nutrition
2200005	Equine Functional Anatomy
2200002	Equine Behaviour
2200010	Stewardship of the Equine Environment

Electives students can choose from the Equine Science specialty:

2200001	Equine Exercise Physiology
2200008	Equine Genetics
2200018	Management of the Broodmare, Stallion and Foal

and/or combine courses from the Equine Business Management courses:

2200007	Equine Journalism
2200009	Equine Event Management
2200011	The Equine Industry
2200012	Equine Business Finance and Risk Management
2210002	Equine Business Management
2240000	Marketing and Communications in the Equine Industry
2200017	Global Perspectives in Equid Welfare

and/or combine courses from the Equine Welfare certificate:

2200011	The Equine Industry
2200013	Equine Welfare
2200017	Global Perspectives in Equid Welfare
2200014	Advanced Equine Health through Nutrition
2200015	Advanced Equine Behaviour

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 22 Equine Science Certificates awarded in 2023/24, to date 515 Equine Science Certificates have been awarded.

Program Requirements:

2200000	Management of the Equine Environment	Required
2200004	Equine Health and Disease Prevention	Required
2200006	Equine Nutrition	Required
2200005	Equine Functional Anatomy	Required
2200002	Equine Behaviour	Elective
2200001	Equine Exercise Physiology	Elective
2200008	Equine Genetics	Elective
2200018	Management of the Broodmare, Stallion and Foal	Elective

Certificate in Equine Business Management

The Certificate in Equine Business Management requires 5 core and 1 elective course. With 9 Certificates in Equine Business Management awarded in 2023/24, to date 100 Equine Business Management Certificates have been awarded.

Program Requirements:

2200000	Management of the Equine Environment	Required
2200011	The Equine Industry	Required
2200012	Equine Business Finance and Risk Management	Required
2210002	Equine Business Management	Required
2240000	Marketing and Communications in the Equine Industry	Required
2200017	Global Perspectives in Equid Welfare	Elective
2200010	Stewardship of the Equine Environment	Elective
2200007	Equine Journalism	Elective
2200009	Equine Event Management	Elective

Equine Welfare Certificate

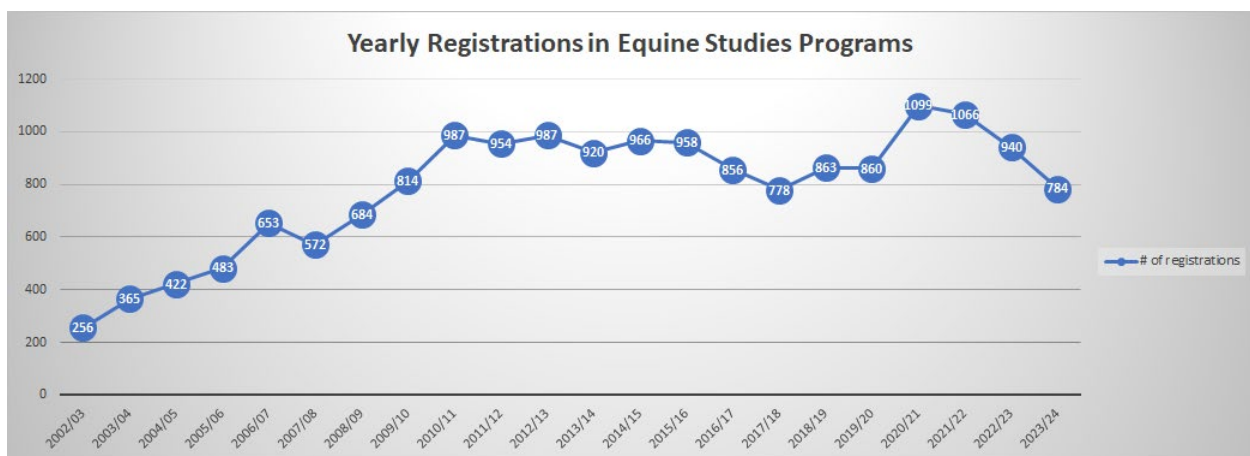
The Equine Welfare Certificate requires 4 core and 2 elective courses. The Equine Welfare Certificate is a partnership between Equine Guelph, Campbell Centre for the Study of Animal Welfare and Open Learning and Educational Support. With 7 Certificates in Equine Welfare awarded in 2023/24, to date 47 Equine Welfare Certificates have been awarded.

2200011	The Equine Industry	Required
2200013	Equine Welfare	Required
2200017	Global Perspectives in Equid Welfare	Required
2200002	Equine Behaviour	Elective
2200006	Equine Nutrition	Elective
2200014	Advanced Equine Health through Nutrition	Elective
2200015	Advanced Equine Behaviour	Elective

2023 – 2024 Student Registration Profile

New students	253
Total Individual Students	446
Total Number of registrations	784

Equine Yearly Student Registration Summary



Yearly Student Registration All Programs and Courses

Year	# of registrations	Projections	# of Unique 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
2018 - 2019	863	920	562
2019 - 2020	860	920	516
2020 - 2021	1099	1000	607
2021 - 2022	1066	1000	707
2022 - 2023	940	1000	596
2023 – 2024	784	1000	446

New Students by Semester

S23	105
F23	58
W24	90
Total New Students	253

Enrollment Count Reporting

Summer 2023

Management of the Equine Environment	30
Equine Exercise Physiology	35
Equine Behaviour	36
Equine Nutrition	44
Equine Business Finance & Risk Management	20
Global Perspectives in Equid Welfare	12
Total enrollment Summer 2023	177

Fall 2023

Management of the Equine Environment	42
Equine Behaviour	37
Equine Health & Disease Prevention	38
Equine Functional Anatomy	50
Stewardship of the Equine Environment	42
Equine Welfare	33
Advanced Equine Health through Nutrition	8
Management of Broodmare, Stallion and Foal	33
Equine Business Management	30
Total enrollment Fall 2023	313

Winter 2024

Management of the Equine Environment	37
Equine Health & Disease Prevention	51
Equine Nutrition	57
Equine Genetics	42
Equine Event Management	26
The Equine Industry	34
Advanced Equine Behaviour	19
Marketing & Communications in the Equine Industry	28
Total enrollment Winter 2024	294

TOTAL ENROLLMENTS

784

Advanced Courses

Course	Semester	# of registrations
Advanced Equine Health Through Nutrition	F23	8
Advanced Equine Behaviour	W24	19
	TOTAL	27

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 registrations
Global Perspectives in Equid Welfare	S23	12
Equine Welfare	F23	33
	TOTAL	45

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
2016 - 2017	23
2017 - 2018	21
2018 - 2019	26
2019 - 2020	22
2020 - 2021	22
2021 - 2022	23
2022 - 2023	24
2023 - 2024	23

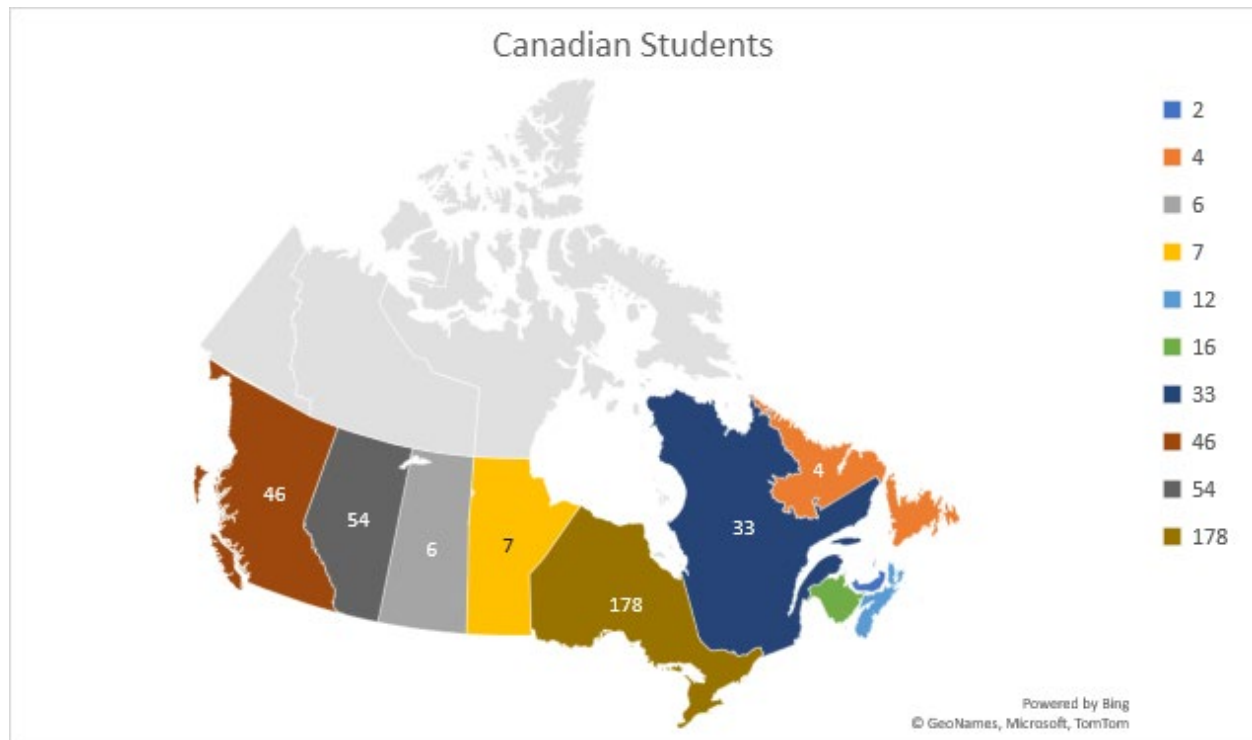
Different individual courses available

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
2016 - 2017	18
2017 - 2018	16
2018 - 2019	17
2019 - 2020	14
2020 - 2021	17
2021 - 2022	17
2022 - 2023	17
2023 - 2024	18

Where Students Are Coming From

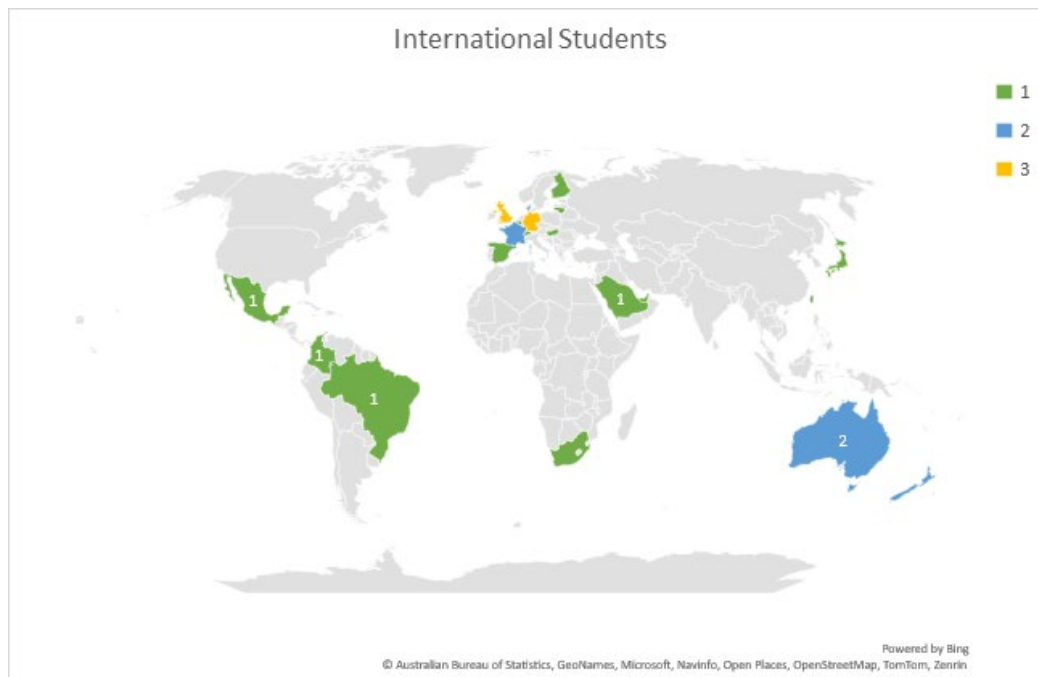
Canadian Students (enrolled)

AB	54	15.69%
BC	46	13.07%
MB	7	1.96%
NB	16	4.58%
NL	4	0.98%
NS	12	3.27%
ONT	178	47.71%
PE	2	0.65%
QC	33	9.48%
SK	6	1.96%
YT	2	0.65%
	360	



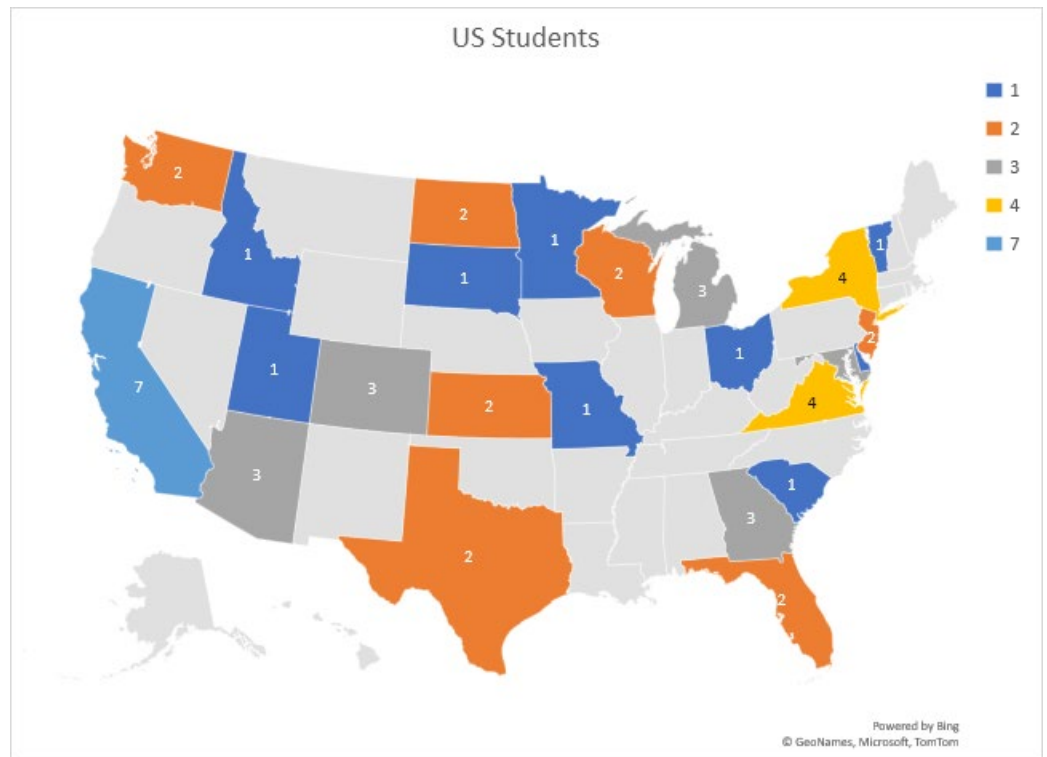
International Students Enrolled

Australia	2
Belgium	1
Brazil	1
Columbia	1
Denmark	2
Finland	1
France	2
Germany	3
Hungary	1
Japan	1
Lebanon	1
Lithuania	1
Mexico	1
New Zealand	2
Saudi Arabia	1
South Africa	1
Spain	1
Switzerland	1
Taiwan	1
UAE	1
UK	3
Total	29



US Students (enrolled)

AZ	3
CA	7
CO	3
DC	1
DE	1
FL	2
GA	3
ID	1
IN	1
KS	2
MD	3
ME	1
MI	3
MN	1
MO	1
ND	2
NJ	2
NY	4
OH	1
OR	1
SC	1
SD	1
TX	2
UT	1
VA	4
VT	1
WA	2
WI	2
TOTAL	57



Year to Year Comparison by student geographic location

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	23/24
CAN	459	442	461	451	424	428	428	387	469	573	498	360
US	31	54	38	44	56	40	40	94	88	93	62	57
INT	13	20	23	45	45	80	94	50	50	40	37	29
	503	516	522	540	525	548	562	572	607	706	597	446

Graduates of our Certificates and Diploma Program of Studies

<i>Fiscal Year</i>	<i>ESC</i>	<i>CEBM</i>	<i>DipES</i>	<i>WEL</i>
2004/05	36	n/a	n/a	n/a
2005/06	27	n/a	n/a	n/a
2006/07	32	n/a	n/a	n/a
2007/08	25	n/a	n/a	n/a
2008/09	38	n/a	n/a	n/a
2009/10	20	n/a	22	n/a
2010/11	30	2	13	n/a
2011/12	30	6	23	n/a
2012/13	28	7	29	n/a
2013/14	19	9	25	n/a
2014/15	21	6	20	n/a
2015/16	50	14	38	3
2016/17	27	6	34	3
2017/18	15	8	29	4
2018/19	20	10	27	8
2019/20	31	13	49	7
2020/21	18	4	37	3
2021/22	13	2	23	4
2022/23	13	4	39	8
2023/24	22	9	29	7
	515	100	437	47

ESC – Equine Science Certificate

CEBM – Certificate in Equine Business Management

DipES – Equine Studies Diploma

WEL – Certificate in Equine Welfare

The Horse Portal 2023 – 2024

Course Offering Overview 2023-2024

Course	Enrollment Total	Enrollment PTSO	# Paid Students	% Paid Enrollment	Revenue
The Senior Horse – F23	32	15	31	97%	\$2,675
Horse Care & Welfare – F23*	35	6	30	86%	\$3,612
Equine First Aid - F23*	50	10	50	100%	\$4,784
Fire and Emerg Preparedness - F23*	36	2	11	31%	\$1,237
Horse Trailer Safety, Pt 1. - F23	67	7	22	33%	\$1,905
Equine Business 101 - On Demand**	58	4	57	98%	\$2,154
Behaviour and Safety - Youth - On Demand**	463	13	34	7%	\$796
Intro to Body Condition Scoring – On Demand**	509	50	28	6%	\$836
Racehorse Lameness/Injury - W24**	80	0	4	5%	\$380
Horse Behaviour & Safety - W24	26	6	22	85%	\$1,755
Racehorse Gut Health & Colic – W24**	61	0	2	3%	\$176
Gut Health & Colic Prev. - W24	38	7	33	87%	\$2,755
Racehorse Respiratory Health – W24**	58	0	0	0	\$0
Sickness Prevention in Horses - W24	59	7	13	22%	\$1,230
Introduction to Forage – S24	32	13	26	81%	\$2,052
Equine First Aid – S24	53	15	47	89%	\$3,732
Total	1691	161	426	52%	\$31,499

*Course offered as part of a "buy-one-get-one-half-off" package deal or BOGO deal

**Course registrations available for free with use of coupon, through partnership with sponsor

Course Enrollment Stats

Year	Total Enrollment	Federation Enrollment	% Federation Enrollment
2016-2017	58	35	60%
2017-2018	434	207	48%
2018-2019	681	333	49%
2019-2020	1153	155	13%
2020-2021	1626	182	11%
2021-2022	2817	289	10%
2022-2023	1163	158	14%
2023-2024	1691	161	9%

Provincial Breakdown

PTSO	Registered Students – 2023-24
Alberta (AEF)	7
British Columbia (HCBC)	21
Manitoba (MCH)	7
New Brunswick (NBEA)	12
Newfoundland (NLEA)	4
Nova Scotia (ENS)	13
Ontario (OE)	87
Prince Edward Island (IHC)	5
Saskatchewan (SHF)	3
Yukon (EAY)	2
Totals	161
% of Registrations:	9%

Appendix 11: Equine Guelph's Promotional Events

Displays and Events for Equine Guelph programs

Events Calendar – 2023-24

Can-Am All Breeds Expo – booth for Equine Guelph and Ontario Equine Education and Employment Program, Ancaster, ON March 22 – March 24, 2024

Large Animal Emergency Rescue Awareness Level for local responders (private session), Lynden, ON, March 20, 2024

Large Animal Emergency Rescue Awareness Level OVC student course (private session) Guelph, ON, March 8, 2024

Large Animal Emergency Rescue Awareness Level course, University of Guelph, veterinary student offering, Guelph, ON, Oct 2, 2023

RCMP Musical Ride at Mohawk – EquiMania! Display, Campbellville, ON, Sept 19 and Sept 21, 2023

Large Animal Emergency Rescue Operational Level course, WindReach Farm and Scugog Fire Dept. Sept 16 – 17, 2023

Horse Capades – EquiMania! Display, CNE, Toronto, ON, August 3 - 17, 2023

Minnesota Fair – EquiMania! Display, Minnesota, USA, Aug 24 - Sept 4, 2023

Large Animal Emergency Rescue Awareness Level Course, Burlington, ON Jul 15, 2023

Horse Day – EquiMania! and Equine Guelph, Erin, ON May 27, 2023

Open House for Guelph Eramosa Fire Department – Equine Guelph booth presenting emergency preparedness resources, Rockwood, ON, May 13, 2023

Appendix 12: Media Coverage Summary

Topic	Articles (May 1, 2023-April 30, 2024)
Research	68
Education	173
Special Projects	82
EquiMania!	14

Coverage of Special Events, Programs or Research Projects

Topic	Articles (May 1, 2023- April 30, 2024)
Portal Free Racing courses	33
Ontario Equine Education Employment Program	32
Equine Asthma Research	23
Free Youth Behaviour Course	23
20 th Anniversary	14
Large Animal Emergency Rescue	13
TheHorsePortal.ca courses	12
Gut Health Research	10
Kissing Spine Research	10
Careers Showcase	10
Fire Safety	9
Trailer Resources	8
World Horse Day (BCS course)	8
Colic Risk Rater	8
Erin Horse Day	8
A New Look at Lameness	7
Biosecurity Calculator	7
Provincial Foundations Course	6
Nutrition Education Month	6
Endometritis	6
Vaccination Equi-Planner	6
Senior Horse Education Month	6

Total Features: 337

100% of the 38 media releases sent out by Equine Guelph this fiscal year were picked up for further distribution. Equine Guelph's releases are distributed to a media list of over 160 equine media outlets including national and provincial associations and partners and a growing number of personal SM sites from our students to disseminate our communications to industry participants in Ontario and worldwide. This network includes Facebook, Twitter, LinkedIn, Instagram, and YouTube. And our growing followers include breed organizations, saddle fitters, rescue and rehoming facilities, equine trade shows, EquiMed, the Royal Agricultural Winter Fair, American Farriers Journal, Tack shops, AAEP American Association of Equine Practitioners, OAVT Ontario Association of Veterinary Technicians, The College of Veterinarians of Ontario, Ontario Veterinary Medical Association and Canadian Vet Medical Association and more.

Equine Guelph shared 532 posts on Facebook resulting in a collective reach of over 255,000 with highest engagement for posts on the Ontario Equine Education and Employment Program.

Highest engagement for Facebook posts included: the 2023 Roger L'Heureux Memorial Equine Award winner announcement, an introduction to Gayle Ecker, as the instructor for Equine Guelph's Equine Industry course and a promotion on World Horse Day offering free registration for TheHorsePortal.ca new Body Condition Scoring online course. Other big hits were the Sport Horse Injury and Lameness course registration announcement, EquiMania!'s Holiday activity book for youth and an interview with photographer Dave Landry, in the Equine Careers Showcase.

Articles and news pertaining to The Horse Portal continue to be very popular. In 2023-24, the course offerings developed for the Racing-focused courses on Lameness, Respiratory and Gut Health and Colic Prevention were the most redistributed press releases!

Equine Guelph's investment in membership with American Horse Publications (AHP) has given a much wider audience with their distribution of 2 media articles per month which are then distributed to a broad list of U.S. equine publications.

Media Coverage List

Date	Magazine or Website	Article Title
23-May	Saddle Up Magazine	Colic Prevention Tips
23-May	Farms.com	Immunization Plan - Horse Care Tips

23-May	TheRider.com	Can-Am Draws Record Crowd and Raises Funds for Equine Guelph
23-May	TheRider.com	Horse Day Erin is Back
23-May	TheRider.com	OEEEP Returns: Training Employees for Horse Industry Careers
23-May	QROOI newsletter	OEEEP Program Training Employees for Equine Industry
23-May	StandardbredCanada.ca	Hamilton Mounted Police Continue Large Animal Rescue Training
23-May	HorseJournals.com Hoof beats	Equine Emergency Preplan Checklist
23-May	StandardbredCanada.ca	Research Reveals Biosecurity Perspectives in Horse Owners (Greer)
23-May	GuelphToday.com	Meet a Unicorn in Erin Later this Month
23-May	WellingtonAdvertiser.com	Grand River Agricultural Society supports Horse Day Erin
23-May	CosaOnline.com	Research Reveals Biosecurity Perspectives in Horse Owners (Greer)
23-May	HorseTalk.co.nz	Vaccination just one factor in protecting horses from diseases, researchers say (Greer)
23-May	EverythingHorse.UK.co.uk	Equine Asthma - Is your horse coughing?
23-May	EverythingHorse.UK.co.uk	How to avoid equine asthma and respiratory issues with better management
23-Jun	EquusMagazine.com	Proactive Care Tips for Broodmares
23-Jun	QuarterHorseNews.com	Hydration Systems
23-Jun	TB Breeders Ass UK	Mare and Foal Care Tool - Pregnancy Wheel
23-Jun	TheRider.com	Biosecurity Research Findings - More than just vaccination (Greer)
23-Jun	BGracingalliance.ca	Equine Guelph Supports BGRA
23-Jun	HarnessLink.com	Equine Guelph supports Bill Galvin Racing Alliance
23-Jun	HorseTalk.co.nz	Biomarkers employed to find first signs of equine gastro-intestinal disease
23-Jun	Horse Sport & then TheHorsePortal.ca	OEEEP: Supplying Employees for the Horse Industry
23-Jun	Toronto Star	OEEEP: Supplying Employees for the Horse Industry
23-Jun	National Post	OEEEP: Supplying Employees for the Horse Industry
23-Jun	Globe & Mail	OEEEP: Supplying Employees for the Horse Industry

23-Jun	Global Heroes Magazine	Unbridle Your Potential: Career Opportunities in Ontario's Equine Industry.
23-Jun	CosaOnline.com	Large Animal Rescue Training
23-Jun	CosaOnline.com	Deadline Approaching for Youth Contests
23-Jun	OntarioRacing.com	Deadline Approaching for Youth Contests
23-Jun	CosaOnline.com	Equine Guelph Donates Courses for Youth Contests
23-Jun	CosaOnline.com	Horses and Smoke Inhalation
23-Jun	AmericanHorsePubs.org	Biosecurity Research Findings – More than Just Vaccination (Greer)
23-Jun	StandardbredCanada.ca	Deadline Approaching for Youth Contests
23-Jun	StandardbredCanada.ca	Equine Guelph Donates Courses for Youth Contests
23-Jun	HorseJournals.com Hoof beats	How to test your horse for dehydration
23-Jun	HorseJournals.com Hoof beats	Developing the Sport Horse - The Importance of Hydration (Henderson)
23-Jun	StandardbredCanada.ca	Horses and Smoke Inhalation
23-Jun	HippoCampus	Equine Thermoregulation and Heat Stress
23-Jul	EquiMed.com	Equine Asthma and Pollution
23-Jul	WellingtonAdvertiser.com	Equine Guelph offering online training for grassroots-level horse show judging
23-Jul	WellingtonAdvertiser.com	Heat Stress and Dehydration Can Harm Horses - OVC Professor
23-Jul	WellingtonAdvertiser.com	Horse Day Erin Benefits Local Equine Organizations
23-Jul	StandardbredCanada.ca	Erin Horse Day Supports Equine Welfare - Donation to Equine Guelph...
23-Jul	BarnMice.com	Hire an Ontario Equine Education and Employment Graduate
23-Jul	TheRider.com	Hire an Ontario Equine Education and Employment Graduate
23-Jul	TheHorsePortal.ca	20 Years of Supporting the Global Equine Community (OEEEP mention)
23-Jul	HorseTalk.co.nz	Let's clear the air: Equine asthma's major triggers
23-Jul	HorseTalk.co.nz	Provinces combine for new course for grassroots horse show judges
23-Jul	HorseTalk.co.nz	Nontuberculous mycobacteria in horses
23-Jul	EverythingHorse.UK.co.uk	Air Quality and Air Pollutions Impact on Your Horse's Lungs

23-Jul	Saddle Up Magazine	Smoke Inhalation - Protect Your Horse's Health
23-Jul	CosaOnline.com	Erin Horse Day Supports Equine Welfare - Donation to Equine Guelph...
23-Jul	HarnessLink.com	Erin Horse Day Supports Equine Welfare - Donation to Equine Guelph...
23-Jul	CosaOnline.com	Air Quality and Air Pollutions Impact on Your Horse's Lungs
23-Jul	AmericanHorsePubs.org	Air Quality and Air Pollutions Impact on Your Horse's Lungs
23-Jul	Wellington Advertiser	Disease Specialist Speaks to Importance of Protecting Pets from Air Pollution
23-Jul	News.UoGuelph.ca	Wildfire Smoke Increases Risk of Equine Asthma, U of G Vet Says
23-Jul	HarnessLink.com	How to Protect Your Horse's Lungs
23-Jul	HorseNation.com	Heat Stress in Horses
23-Jul	TheHorse.com	Conditioning Horses on Different Surfaces
23-Jul	QROOI newsletter	Air Quality and Air Pollutions Impact on Your Horse's Lungs
23-Jul	QROOI newsletter	Ontario Equine Education and Employment Program has huge benefits for Employers!
23-Jul	North American Trainer Magazine	Air Quality and Air Pollutions Impact on Your Horse's Lungs
23-Jul	EquineInfoExchange.com	Air Quality and Air Pollutions Impact on Your Horse's Lungs
23-Jul	StandardbredCanada.ca	Air Quality and Air Pollutions Impact on Your Horse's Lungs
23-Jul	TheRider.com	Provincial Foundations Officials Course - Here Comes the Judge
23-Jul	TheRider.com	TheHorsePortal.ca Ad
23-Jul	TheRider.com	OEEEP - employer Ad
23-Jul	Horse-Canada.com	Provincial Foundations Officials Course - Here Comes the Judge
23-Jul	EquineScienceUpdate.com	Looking for biomarkers of intestinal health in the equine gut
23-Aug	Saddle Up Magazine	Officials Course
23-Aug	HolisticHorse.com	Air Quality and Air Pollutions Impact on Your Horse's Lungs
23-Aug	HorseJournals.com Hoofbeat	Equine Guelph: 20 Years of Supporting the Global Equine Community
23-Aug	Cayuse Communications	Equine Guelph Celebrates 20th Anniversary
23-Aug	StandardbredCanada.ca	Equine Guelph Celebrates 20th Anniversary

23-Aug	HorseSport.com	Equine Guelph Celebrates 20 Years
23-Aug	OpenEd.UoGuelph.ca	Equine Guelph Marks Two Decades of Equine Education and Research
23-Aug	Equestrian Canada	Two Decades Promoting the Health, Welfare & Safety of Horses, Owners & Caretakers
23-Aug	The Rider Magazine	OEEEP: Working with Horses
23-Aug	The Rider Magazine	Horse Day Erin Gives Back
23-Aug	The Rider Magazine	Equine Guelph Celebrates 20 Years
23-Aug	StandardbredCanada.ca	Upcoming OEEEP Information Sessions
23-Aug	HorseTalk.co.nz	Horses for courses: Equine Guelph celebrates 20th anniversary
23-Aug	CosaOnline.com	Upcoming OEEEP Information Sessions
23-Aug	CosaOnline.com	Youth Derby Contest Entries Due
23-Aug	AmericanHorsePubs.org	First Responders are Gaining and Implementing Skills for Large Animal Emergency Rescue
23-Aug	AmericanHorsePubs.org	20 Years of Supporting the Global Equine Community
23-Aug	HorseJournals.com Hoofbeat	How to Get Ticked Off - Horses and Ticks
23-Aug	HorseJournals.com Hoofbeat	20 Years of Supporting the Global Equine Community
23-Aug	HarnessLink.com	20 Years of Supporting the Global Equine Community
23-Aug	HorseJournals.com Hoofbeat	Equine Welfare Research Study
23-Aug	2023 CTHS Canadian Premier Yearling Sales Catalogue	2023 CTHS Canadian Premier Yearling Sales Catalogue - AD promoting EG 20th & donation drive
23-Aug	EquiMed.com	Equine Guelph Horse Behaviour & Safety - Youth Course (ages 13-17) Available "On-Demand"
23-Aug	EquineInfoExchange.com	What to do if your Horse is Sick - Checklist
23-Aug	EquineInfoExchange.com	Biosecurity Risk Calculator Healthcare tool
23-Aug	HarnessLink.com	Deadline for Youth Photo and Video Derby.
23-Aug	OVC Bulletin	20 Years of Supporting the Global Equine Community
23-Aug	QROOI Newsletter	Quarter Racing members, Equine Guelph is looking for your feedback (Careers Showcase)
23-Aug	HorseNation.com	Air Quality and Your Horse's Lungs
23-Aug	EquiMed.com	Disease Specialist Speaks to Importance of Protecting Horses from Air Pollution

23-Aug	EquusMagazine.com	A New Clue to Postpartum Colic Risk
23-Sep	HorseNovaScotia.ca	Horse Portal Short courses
23-Sep	HorseNovaScotia.ca	Here Comes the Judge - Provincial Foundations Course
23-Sep	EquineChronicle.com	September is Senior Horse Education Month
23-Sep	HarnessLink.com	September is Senior Horse Education Month
23-Sep	HorseSport.com	September is Senior Horse Education Month
23-Sep	Ontario Equestrian	Start Working with Horses - OEEEP program
23-Sep	HorseJournals.com	11 Reasons Not to Wear a Riding Helmet
23-Sep	HarnessLink.com	Equine Guelph launches new Equine Careers Showcase
23-Sep	Horse Sport	First Responders Ready for Large Animal Emergency Rescue
23-Sep	HorseTalk.co.nz	#OneHealth: Rabies the deadliest of core equine killer diseases
23-Sep	HorseTalk.co.nz	New initiative showcases horse industry career pathways
23-Sep	AmericanHorsePubs.org	September is Senior Horse Education Month at Equine Guelph
23-Sep	Wellington Advertiser	Equine Guelph Offers Tuition Awards
23-Sep	Wellington Advertiser	Equine enthusiasts recognize Senior Horse Education Month
23-Sep	EquiMed.com	Senior Horse Education Month Featuring Short Online Course and Free Tool!
23-Sep	TheRider.com	New Equine Careers Showcase
23-Sep	TheRider.com	Ontario Equine Education and Employment Program
23-Sep	HorseJournals.com	Would you like to work in Ontario's Equine Industry?
23-Sep	COSAonline.com	Horse Care and Welfare
23-Sep	COSAonline.com	Equine Guelph Launches Equine Careers Showcase
23-Sep	COSAonline.com	Back To School for Adults! - Senior horse course
23-Sep	AmericanHorsePubs.org	Sept 28 is World Rabies Day
23-Sep	AmericanHorsePubs.org	New Equine Careers Showcase for Exploring Career Pathways in the Horse Industry
23-Sep	QROOI newsletter	Try out an online short course this fall
23-Sep	QROOI newsletter	Ontario Equine Education and Employment Program

23-Sep	HorseJournals.com	The Impact of Air Quality and Pollution on Your Horse's Lungs
23-Sep	EastCoastEquestrian.net	Rise in Smoke and Smog Leads to Equine Asthma
23-Oct	OVC Bulletin	Large Animal Emergency Rescue Workshop Oct 21
23-Oct	OHHA.ca	Ontario Equine Education Employment Program: Bridging the Gap with Hands-On Experience
23-Oct	North American Trainer Magazine	A New Look at Lameness
23-Oct	BGracingalliance.ca	BGRA Hosts Youth Derby Awards Night at Woodbine Mohawk Park
23-Oct	HorseTalk.co.nz	The Lamé Game Diagnostic improvements lead shift in equine injury treatment
23-Oct	HorseJournals.com Hoofbeat	Preparing Fences Before Freezing Temperatures
23-Oct	HorseJournals.com Hoofbeat	Autumn Nutrition Myths
23-Oct	HorseJournals.com Hoofbeat	Test Your Hay Knowledge
23-Oct	HorseJournals.com Hoofbeat	Winter Woes and Equine Colic Prevention
23-Oct	BGracingalliance.ca	A Night to Remember for Youth Derby Finalists
23-Oct	StandardbredCanada.ca	Veterinarians Gain Skills in Large Animal Emergency Rescue
23-Oct	MirageNews.com	Canadian Chief Vets Unite to Safeguard Animal Health, Welfare (Visit to EG mentioned)
23-Oct	SystemEquine.com E-newsletter	System Equine Oct 13 Newsletter – EG Health Flash
23-Oct	COSAonline.com	Veterinarians Gain Skills in Large Animal Emergency Rescue
23-Oct	COSAonline.com	A New Look at Lameness
23-Oct	HorseSport.com	A Modern Look at Lameness
23-Oct	COSAonline.com	Plan Ahead
23-Oct	COSAonline.com	Start Planning Your Fall Semester! - Equine Guelph 12-week Courses
23-Oct	StandardbredCanada.ca	Equine Guelph Accepting Tuition Award Applications
23-Oct	COSAonline.com	Equine Guelph Accepting Tuition Award Applications
23-Oct	COSAonline.com	Bill Galvin Racing Alliance Youth Derby Awards

23-Oct	COSAonline.com	20 Years of Equine Guelph - 12-week courses
23-Oct	AmericanHorsePubs.org	OVC Veterinarians Gain Skills in Large Animal Emergency Rescue
23-Oct	AmericanHorsePubs.org	A New Look at Lameness
23-Oct	QROOI newsletter	Ontario Racing Industry Scholarships
23-Oct	QROOI newsletter	Ontario Racing Industry Scholarships
23-Oct	HarnessLink.com	Equine Guelph hosting large animal rescue course for first responders
23-Oct	EquusMagazine.com	A New Way to Spot Stress in Horses
23-Nov	Wellington Advertiser	Equine Guelph teaches drivers how to haul horse trailers safely
23-Nov	StandardbredCanada.ca	Equine Guelph Shares Barn Fire Prevention Resources
23-Nov	QROOI newsletter	Free Courses to Quarter Horse Sector
23-Nov	QROOI newsletter	Nov Horse Portal Courses
23-Nov	HarnessLink.com	Equine Guelph hosting course for Fire Prevention
23-Nov	HorseJournals.com Hoofbeat	Winter Watering Options for Your Horse Farm
23-Nov	QROOI newsletter	Free Courses to Quarter Horse Sector
23-Nov	QROOI newsletter	Nov Horse Portal Courses
23-Nov	EquiMed.com	Study Investigates Parasite That May Be Involved in Equine Abortions
23-Nov	StandardbredCanada.ca	Free Racing-Exclusive Courses Back This Winter
23-Nov	StandardbredCanada.ca	Equine Guelph Offers Horse Trailer Safety Course
23-Nov	QROOI newsletter	Free Courses to Quarter Horse Sector
23-Nov	QROOI newsletter	Ontario Racing Industry Scholarships from Equine Guelph
23-Nov	TheRider.com	Equine Industry Symposium 2023
23-Nov	HorseTalk.co.nz	Course on trailer safety a must for horse owners
23-Nov	ARIA newsletter	Air Quality and Air Pollution's Impact on Your Horse's Lungs
23-Nov	HorseJournals.com Hoofbeat	Looking for Work? Canada's Horse Industry Has Endless Job Opportunities
23-Nov	Canada's Equine Guide 2024 – Horse Journals	Looking for Work? Canada's Horse Industry Has Endless Job Opportunities
23-Nov	TheHorse.com	Understanding Classical Conditioning in Horses

23-Nov	TheRider.com	A New Approach for Treating Kissing Spine
23-Nov	HorseJournals.com Hoofbeat	The Wrap on Horse Blankets
23-Nov	HorseJournals.com Hoofbeat	How to Wrap a Horse's Legs
23-Nov	QROOI newsletter	Free Courses to Quarter Horse Sector
23-Nov	HarnessLink.com	Register now for Stable Solutions at Equine Symposium
23-Nov	OntarioRacing.com	Equine Guelph Offering Free Online Racing-Exclusive Courses for Winter 2024
23-Nov	TheRider.com	Equine Industry Symposium 2023
23-Nov	TheRider.com	Would you like a Career in Ontario's Equine Industry?
23-Nov	TheRider.com	November Fire Prevention Education Month at Equine Guelph
23-Nov	HorseJournals.com Hoofbeat	Winter Watering Options for Your Horse Farm
23-Nov	HorseJournals.com Hoofbeat	Preparing Fences Before the Freezing Temperatures
23-Nov	HorseJournals.com Hoofbeat	Equine Industry Symposium
23-Nov	Northwest Horse Source Magazine	Become Roadworthy with the Horse Trailer Safety Online Course at TheHorsePortal.ca
23-Nov	HorseSafetyTips.com	Become Roadworthy with the Horse Trailer Safety Online Course at TheHorsePortal.ca
23-Nov	AmericanHorsePubs.org	Become Roadworthy with the Horse Trailer Safety Online Course at TheHorsePortal.ca
23-Nov	AmericanHorsePubs.org	November Fire Prevention Education Month at Equine Guelph
23-Nov	CosaOnline.com	Saddle up for Equine Industry Symposium
23-Nov	CosaOnline.com	Free Racing-Exclusive Courses Back This Winter (2nd posting one week after first)
23-Nov	CosaOnline.com	Free Racing-Exclusive Courses Back This Winter
23-Nov	OHHA.ca	Free Racing-Exclusive Courses Back This Winter
23-Nov	CosaOnline.com	Equine Guelph Offers Horse Trailer Safety Course
23-Nov	CosaOnline.com	Equine Guelph Shares Barn Fire Prevention Resources
23-Nov	AmericanHorsePubs.org	A New Approach for Treating Kissing Spine
23-Nov	AmericanHorsePubs.org	Looking for Work? Canada's Horse Industry Has Endless Job Opportunities
23-Nov	HorseSafetyTips.com	Become Roadworthy with the Horse Trailer Safety Online Course at TheHorsePortal.ca

23-Dec	OntarioRacing.com	Racehorse Lameness Prevention Courses Offered Online
23-Dec	OHHA.ca	Racehorse Lameness Prevention Course Starts Online Learning Series off on the Right Foot
23-Dec	HorseJournals.com	Looking for Work? Canada's Horse Industry Has Endless Job Opportunities
23-Dec	HorseJournals.com Hoofbeat	How to Prevent and Treat Thrush
23-Dec	CosaOnline.com	A New Approach for Treating Kissing Spine
23-Dec	HorseTalk.co.nz	Kissing Spine in horses: Less invasive surgery proves successful
23-Dec	QROOI newsletter	Free Courses to Quarter Horse Sector
23-Dec	QROOI newsletter	Free Courses to Quarter Horse Sector
23-Dec	QROOI.com	Free Racehorse Lameness Course
23-Dec	EquusMagazine.com	A New Approach for Treating Kissing Spine
23-Dec	HorseSport.com	Treating Kissing Spine in a New Way
23-Dec	EverythingHorseUK.co.uk	A New Approach for Treating Kissing Spine
23-Dec	BGracingalliance.ca	Gratifying First Year for the BGRA
23-Dec	HorseJournals.com Hoofbeat	Horse Community Heroes: Brian Tropea
23-Dec	HorseJournals.com Hoofbeat	Learning From 2023 Wildfires - Actions to Keep Horses Safe
23-Dec	EquiMed.com	Protect Your Horse's Health - Guard Against Dust!
23-Dec	HarnessLink.com	Every Day is Horse Day at Equine Guelph
23-Dec	StandardbredCanada.ca	Community Engagement Highlights BGRA
23-Dec	HorseJournals.com Hoofbeat	Equine Industry Symposium Offers Stable Solutions
23-Dec	HorseJournals.com Hoofbeat	How to Cool out a Hot Horse in Winter
23-Dec	HorseJournals.com Hoofbeat	A New Approach for Treating Kissing Spine
23-Dec	HorseJournals.com Hoofbeat	OEEEP students for hire
23-Dec	Equestrian Canada	Canadian Equine Sector Socio-Economic Insights 2023 – (OEEEP program mention)
23-Dec	HarnessLink.com	Equine Guelph announces 2023 Roger L'Heureux Memorial Equine Award winner
23-Dec	HorseJournals.com Hoofbeat	Air Quality in the Horse Barn
23-Dec	HorseJournals.com Hoofbeat	Learning From 2023 Wildfires - Actions to Keep Horses Safe (EG resources)
23-Dec	HorseJournals.com Hoofbeat	Equine Industry Symposium Offers Stable Solutions

23-Dec	StandardbredCanada.ca	Lameness Prevention Course Begins in January
23-Dec	StandardbredCanada.ca	Equine Guelph Awards L'Heureux Scholarship
24-Jan	AmericanHorsePubs.org	Free Youth Course on the Language of Horses
24-Jan	StandardbredCanada.ca	Equine Guelph introduces Body Condition Scoring Tool
24-Jan	Ontario Farmer	Equine Guelph focuses on Body weight
24-Jan	HarnessLink.com	Equine Guelph dubs January Nutrition Education Month
24-Jan	AmericanHorsePubs.org	Equine Guelph's New Year's Resolution: Empowering Horse Owners to Optimize ... Nutrition
24-Jan	CosaOnline.com	Equine Guelph introduces Body Condition Scoring Tool
24-Jan	CTHSont.com	Equine Guelph Offers Online Courses January to March
24-Jan	QROOI newsletter	Racehorse Lameness Prevention Course Starts Online Learning Series off on the Right Foot
24-Jan	HorseSport.com	The Language of Horses: A Free Youth Course
24-Jan	HorseSport.com	What it's Like to be a Working Student (EquineJobTrack.ca)
24-Jan	TheRider.com	Year of the Hay Belly
24-Jan	TheWellingtonAdvertiser.com	Equine Guelph offers free youth course on horse behaviour, safety
24-Jan	QROOI newsletter	Racehorse Lameness Prevention Course Starts Online Learning Series off on the Right Foot
24-Jan	HorseJournals.com Hoofbeat	Online Education for Horse Owners
24-Jan	TrainerMagazine.com	A New Look at Lameness (Koenig)
24-Jan	StandardbredCanada.ca	Ulcer Prevention Course Begins in February
24-Jan	QROOI newsletter	Go with Your Gut: Learn from the Racehorse Gut Health & Ulcer/Colic Prevention Course ...
24-Jan	CosaOnline.com	Last Call - Racehorse Injury/Lameness Prevention + Care
24-Jan	CosaOnline.com	Go with Your Gut: Learn from the Racehorse Gut Health & Ulcer/Colic Prevention Course ...
24-Feb	CosaOnline.com	Colic Prevention Education Month Begins

24-Feb	TheRider.com	Free Youth Course on the Language of Horses
24-Feb	TheRider.com	Equine Guelph Makes a New Year's Resolution
24-Feb	TheRider.com	Equine Industry Symposium Recap
24-Feb	TheRider.com	Racehorse Lameness Prevention Course Starts Online Learning Series off on the Right Foot
24-Feb	TheRider.com	A New Approach for Treating Kissing Spine
24-Feb	TheRider.com	Winter Management of the Outdoor Horse
24-Feb	CosaOnline.com	Racehorse Gut Health & Ulcer/Colic Prevention
24-Feb	CosaOnline.com	Racehorse Respiratory Health Course
24-Feb	CosaOnline.com	Equine Guelph Offers Free Youth Horse Course
24-Feb	HorseSport.com	Preventing Colic Year-Round
24-Feb	AmericanHorsePubs.org	Colic Prevention Education Month 2024 Focuses on GI Health for Your Horse
24-Feb	HarnessLink.com	Equine Guelph offers free online course for youth
24-Feb	StandardbredCanada.ca	Equine Guelph Shares Colic Prevention Tips
24-Feb	QROOI newsletter	Go with Your Gut: Learn from the Racehorse Gut Health & Ulcer/Colic Prevention Course ...
24-Feb	North American Trainer Magazine	A Stable Gut - The Key to a Healthy Equine
24-Feb	OVC Bulletin	A Stable Gut - The Key to a Healthy Equine
24-Feb	EquiMed.com	A Stable Gut - The Key to a Healthy Equine
24-Feb	Horse-Canada.com	A Stable Gut - The Key to a Healthy Equine
24-Feb	QROOI newsletter	Racehorse Respiratory Health Course Completes the Trifecta in Winter Online Learning Series!
24-Feb	CosaOnline.com	Last Call! Racehorse Respiratory Health Online Course
24-Feb	CosaOnline.com	Equine Guelph Offering Free Course on World Horse Day
24-Feb	AmericanHorsePubs.org	A Stable Gut: The Key to a Healthy Equine
24-Feb	AmericanHorsePubs.org	Equine Guelph Offers Body Condition Course on World Horse Day
24-Feb	OntarioRacing.com	Equine Guelph to offer three online courses

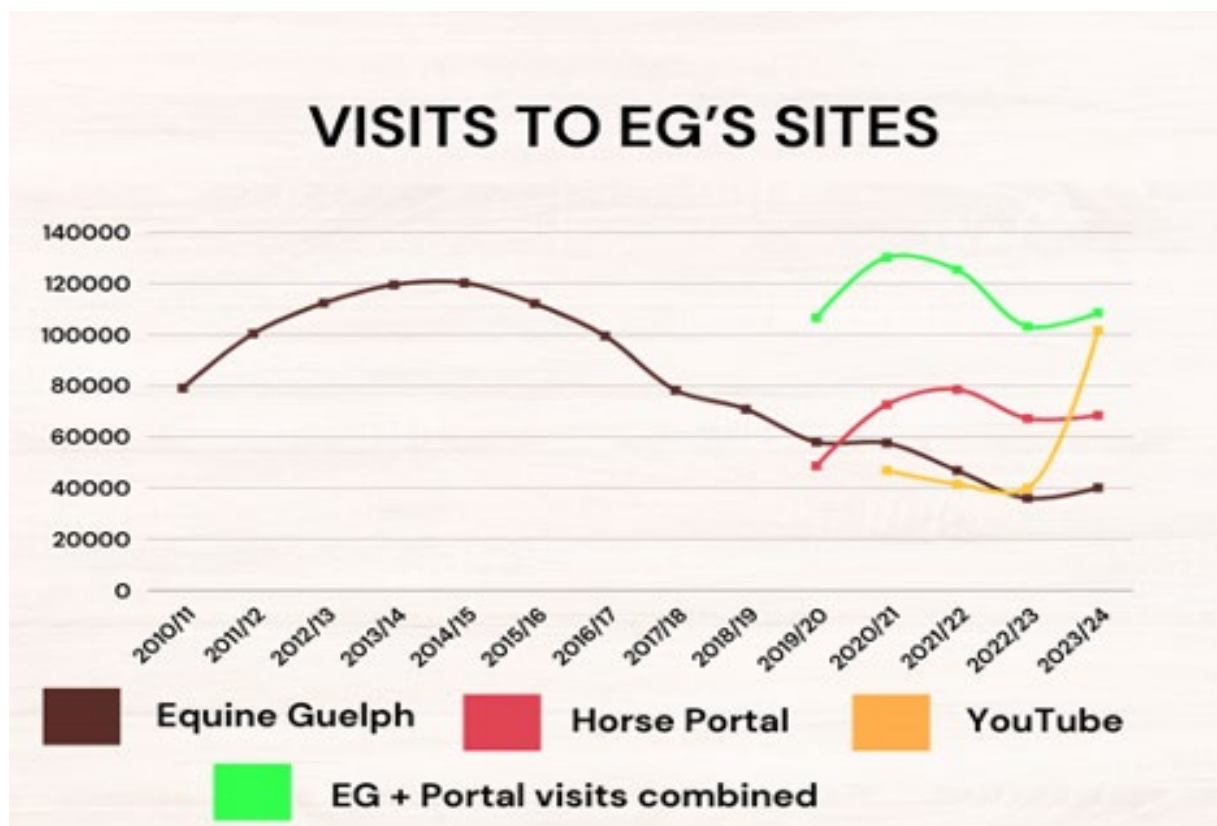
24-Feb	OHHA.ca	Racehorse Respiratory Health Course Completes the Trifecta in Winter Online Learning Series!
24-Feb	HorseSafetyTips.com	Free Youth Course on the Language of Horses
24-Feb	NWHorseSource.com	Free Youth Course on the Language of Horses
24-Feb	StandardbredCanada.ca	Equine Guelph Offers Free Youth Horse Course
24-Feb	StandardbredCanada.ca	Racehorse Respiratory Health Course Starts in March
24-Feb	StandardbredCanada.ca	Free for Standardbred Canada Members (Respiratory course)
24-Feb	HarnessLink.com	Dr. Arroyo discusses equine gut health
24-Feb	HarnessLink.com	Equine Guelph to celebrate World Horse Day with free online course
24-Feb	StandardbredCanada.ca	Free Body Condition Course on World Horse Day
24-Feb	HorseSport.com	Free Body Condition Course on World Horse Day
24-Feb	EquitationScience.com	Sponsors for International Equitation Science Conference
24-Feb	OVC Bulletin	Free On-Demand Course: Introduction to Equine BCS – March 1
24-Feb	WellingtonAdvertiser.com	Strategies to Safeguard Against Equine Colic
24-Feb	WellingtonAdvertiser.com	Equine Guelph offers free body condition course on World Horse Day
24-Mar	QROOI newsletter	Racehorse Respiratory Health Course Completes the Trifecta in Winter Online Learning Series!
24-Mar	TheRider.com	Equine Guelph Offers BCS Course on International World Horse Day
24-Mar	HarnessLink.com	Equine Guelph Offers Free Course to Youth (Sickness Prevention in Horses)
24-Mar	StandardbredCanada.ca	Equine Guelph Shares Youth Resources for Ag Safety Week
24-Mar	WellingtonAdvertiser.com	Horse safety programming, resources for youth offered online during Agricultural Safety Week
24-Mar	CosaOnline.com	Equine Guelph Shares Youth Resources for Ag Safety Week
24-Mar	HarnessLink.com	Equine Guelph celebrates Ag Safety Week with free online course for youth

24-Mar	StandardbredCanada.ca	Ontario First Responders Train for Large Animal Rescue
24-Mar	EquineChronicle.com	Horse Portal Extends Free Offer to Youth
24-Mar	OpenEd.uoguelph.ca	Advancing Equine Knowledge Online
24-Mar	HorseJournals.com	Advancing Equine Knowledge Online
24-Mar	CosaOnline.com	Ontario First Responders Train for Large Animal Rescue
24-Mar	CosaOnline.com	Bill Galvin Racing Alliance Youth Contests Return
24-Mar	StandardbredCanada.ca	Horse Vaccination Programs May Be Impacted by Climate Change
24-Mar	AmericanHorsePubs.org	Horse Portal Extends Free Offer to Youth
24-Mar	AmericanHorsePubs.org	Your Vaccination Program may be Impacted by Climate Change
24-Apr	HorseJournals.com	Online Education for Horse Owners
24-Apr	HorseJournals.com	Learning From 2023 Wildfires
24-Apr	TheRider.com	Equine Guelph 12-week courses

Appendix 13: Web Site Report

May 1, 2023 – April 30, 2024

	Equine Guelph	TheHorsePortal.ca	Combined Total	YouTube
Visits/Sessions	41, 570	68,447	110, 017	101,600
Page Views	51,127	246,241	297,368	101,600 (channel views)
New Users	26,807	37,456	64,263	n/a
Avg. Session Time	1m 38s	4m 44s	6m 22s	1:08



Above is a growth chart for visits to Equine Guelph's various sites over the years

CONTENT**TOP LANDING PAGES. (Behaviour – Site Content – Landing Pages)**

	Equine JobTrack Pages	Views	Users
	EquineJobTrack.ca	42,623	10,684
1	Home page	14,966	6,401
2	Browse Jobs	8,707	3,402
3	Login – Equine JobTrack	1,184	379
4	/post-a-job/	908	212
5	/job-dashboard/	653	270
6	/job/hbpa-of-ontario-woodbine-racetrack-toronto-ontario-thoroughbred-racing-thoroughbred-exercise-rider/	610	270

Equine JobTrack continues to be an important website for the equine industry.

Appendix 14: Sponsors

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



Quarter Report - Q4, Equine Guelph, 2023-2024 FY

Operating Accounts:

As at 30 Apr 2024

Revenue-Expense	Category	Type	YTD	Notes
REVENUE				
	GENERAL REVENUE	HORSE PORTAL, LAR, OEEEP, EQUIMANIA, ETC.	-\$217,466	
		OPEN-ED - 12 WK COURSE TUITION	-\$112,471	
			-\$329,937	
TRANSFERS				
	TRANSFERS	FUND TRANSFER - HIP/QH/HBPA RES. SUPPORT	-\$38,000	
		SPONSORSHIP, GRAS, DONATIONS	-\$119,296	GRAS Yr. 2 transferred (50k)
		SALARY BUDGET ADJUSTMENT (OVC)	-\$58,144	
			-\$215,440	
EXPENSES				
	PERSONNEL	SALARIES/BENEFITS - EG STAFF	\$593,369	
	OPERATING	EDUCATIONAL SEMINAR (STAFF, HON'S)	\$12,756	LAR events, EquiMania staffing, PAWS, memberships
		HORSE PORTAL REG - VISA/MC FEES	\$1,255	
		LEASE AND RENTAL PMTS - PRINTER	\$997	
		OFFICE SUPPLIES	\$534	
		SUPPLIES- DATA PROCESSING/COMPUTERS	\$31,016	Portal maintenance, new website, fixes & upgrades
		PRINTING AND PUBLICATION CHARGES	\$14,253	
		UofG PHONE SERVICES, PARKING, MAILING	\$8,651	
		TRAVEL/RELOCATION/HOSPITALITY	\$14,716	
		MISCELLANEOUS SUPPLIES	\$9,612	
		MISCELLANEOUS EXPENSES	\$12,151	Tree of Life repair
Sub-Total			\$105,941	
		TOTAL EQUINE GUELPH Q3	\$153,933	
		2022-2023 BUDGET CARRYFORWARD	\$188,542	
		TOTAL EQUINE GUELPH CARRYFORWARD	\$34,609	

EQUINE GUELPH - Funds Held in Alumni House / OVC Endowment Accounts

As at: 30 April 2024

Donation/Sponsorship Accounts	Acct #	Total	Notes
Education	802091	\$27,652	3rd Installment of 3 Year Agreement
Sponsorship	802811	\$176,773	
Area of Greatest Need	802089	\$93,054	
For The Herd	803694	\$1,355	
JobTrack, LAR (GRAS)	803914	\$50,000	
OE Welfare Fund	802764	\$4,050	
Total		\$352,884	
Endowment Accounts			
Kerr Fund for Eq. Education	710859	\$107,178	New Endowment Fund from Cheryl Kerr
Research Donations			
	802092	\$2,565	Available for 2023-24 competition.
Scholarship Accounts			
Roger L'Heureux	803258	\$6,330	Awarded to tuition award winner in Winter 2024 (\$1100)
Stuart Stocks	803240	\$555	To be allocated to tuition award winner - Winter 2024

Equine Guelph Financial Report - Research Program

As at: 31 April 2024

	EP TAYLOR		HIP/QH		HBPA		Donations/Other		
Account Number:	710655		045878		046071		022298		Totals:
FUND BALANCE, Previous Year End	\$172,864		\$65,345		\$27,898		\$2,159		\$268,266
REVENUE									
EP Taylor Endowment	\$99,720		-		-		-		\$99,720
HIP/QR Allocation	-		\$125,000		-		-		\$125,000
HBPA Allocation	-		-		\$65,000		-		\$65,000
Donations	-		-		-		\$8,841	A	\$8,841
TOTAL REVENUE	\$99,720		\$125,000		\$65,000		\$8,841		\$298,561
INTERNAL TRANSFERS									
HIP/QH Admin Support (20%)	-		-\$25,000		-		-		-\$25,000
HBPA Admin Support (20%)	-		-		-\$13,000		-		-\$13,000
Other			\$0		\$0				\$0
TOTAL TRANSFERS	\$0		-\$25,000		-\$13,000		\$0		-\$38,000
PROGRAM EXPENDITURES									
Research Project Allocations	-\$238,881		-\$163,400		-\$79,808		-\$11,000		-\$493,089
Peer Review Honorariums	-\$2,310								-\$2,310
Other Expenses (Travel, etc.)	\$0								\$0
	-\$241,191		-\$163,400		-\$79,808		-\$11,000		-\$495,399
FUND BALANCE as at 31 April 2024	\$31,393		\$1,945		\$90		\$0		\$33,427

A - Donation amount was transferred from Alumni House account to fund project, and bring account to zero balance.