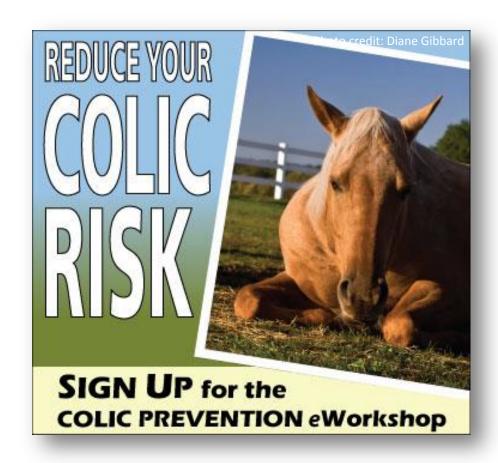


# **Equine Guelph**



The Year of Colic Prevention

**Annual Report** 

May 1, 2012 – April 30, 2013

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## **Executive Summary**

Support of horse health and welfare is a subject Equine Guelph has taken seriously since its inception in 2003. Equine welfare continues to play a growing role in our society as a result of policy changes and government announcements that have profoundly changed the racing industry. Equine Guelph has always been a strong leader for equine welfare through the Equine Guelph/Industry-funded research program focusing on horse health and welfare. Then, the latest research information is streamed into a variety of educational programming for all age groups. This information can then be utilized by owners and caretakers who put the knowledge into practice for the benefit of their horses.

This year, over \$340,000 was directly allocated to research programs based on industry priorities and through a scientific peer-review process. Progress continues to be made in the areas of cardiac and respiratory studies, biomechanics, stem cell applications, diagnostic procedures and disease prevention. Once again, there were several worthy proposals that received favourable scientific and industry interest but could not be funded. The need for investment into equine research continues to be greater than the availability of current funding. The industry continues to view this as an important pillar for the future growth of the industry and to support the performance, health care and well-being of horses.

As a leader in the development of equine education programming based on scientific research, Equine Guelph is building a legacy of support for health and welfare through research programs that build the knowledge base, through new, innovative and flexible industry education and training programs. This is complimented by a broad-based communications program that has gained international respect and ongoing coverage in many countries. Over 370 articles were written about the Equine Guelph programs. Industry acclaim was garnered with the Canadian Sportsman article on Equine Guelph which highlighted the many and ongoing achievements including: the research program, online education and training and the innovative growth of the youth program called EquiMania! The article also profiled Equine Guelph's "unique and vital role in the horse industry". The outreach continues to be strong with dozens of media coverage events and over 30 presentations made to a variety of industry groups over the year.

An important new partnership with the Campbell Centre for Animal Welfare saw the creation of the Equine Welfare Certificate and the development of new programming in the welfare area that is being rolled out and expanded with our partner, OpenEd (formerly Office of Open Learning). This in turn, was made possible by the partnership with Mirvish Productions and the "War Horse" special fundraising event the previous year followed by the OEF-Equine Guelph "War Horse" fund. Highlights of our education program this year included: the development of new short courses on Colic and Horse Behaviour and Safety, and also the attendance of Canadian Olympian, Jessica Phoenix as a guest speaker in the Equine Exercise Physiology course, and the return of internationally acclaimed equine

archeologist and Curator of the Carnegie Museum, Dr. Sandra Olsen, in the Equine Industry course!

Equine Guelph thanks its Council partners for their continuing support and guidance through challenging times for our industry as we work together to build a sustainable and successful industry - E.P. Taylor Equine Research Fund (now transferred to the University of Guelph to fund research on racehorses in perpetuity), Equine Canada, the Horsemen's Benevolent and Protective Association of Ontario, the Ontario Equestrian Federation, the Ontario Harness Horse Association, the Ontario Racing Commission, Ontario Ministry of Agriculture and Food, Standardbred Canada, the Quarter Racing Owners of Ontario, Inc. and the University of Guelph.

This annual report provides the details on the 2012-2013 activities of Equine Guelph and salutes the partnerships that make these achievements possible for the benefit of the equine industry and the horse. This partnership continues to provide important support to the horse industry during these challenging times.







Dear Partners and Supporters of Equine Guelph,

"Created by the industry, and serving industry needs with a unique blend of skill sets and funding from the equine world, the University of Guelph and governmental bodies, Equine Guelph clearly exists in a class of its own". Canadian Sportman feature article

It is always rewarding to receive praise from the equine industry, and when a prominent Canadian magazine takes notice, it is even more rewarding. The industry has been dealing with unprecedented challenges but the solid foundation built with industry partners has enabled Equine Guelph to continue to develop their programs in service to the industry with new programming in response to identified industry needs and priorities.

The health and welfare of horses are supported through an internationally recognized research program at the University of Guelph, made possible by the unique partnerships that created and sustain Equine Guelph. This report details many of the important advances that we have achieved together. Responding to the priorities of the industry, new and innovative education programs, such as the 2-week online courses have been developed.

The ongoing support from our partners allows Equine Guelph to make great strides forward in serving the research and education needs of the industry. Support from the E.P. Taylor Equine Research Fund, Equine Canada, the Horsemen's Benevolent and Protective Association of Ontario, the Ontario Equestrian Federation, the Ontario Harness Horse Association, the ORC Horse Improvement Program, OMAFRA, Standardbred Canada, the QROOI Racing Industry Development program and the University of Guelph, continue to play an integral role in this success.

As Co-Chairs of Equine Guelph, we take this special opportunity to sincerely thank all of the associations and individuals for their on-going support of and commitment to Equine Guelph. This investment in our future, as partners for long term sustainability, continues to be one of many important priorities for our industry as we support the health and welfare of horses in Ontario and beyond. Equine Guelph will continue to assist the equine industry through our partnership with the industry and the University of Guelph as we develop plans for the future to enhance and maintain important services and programs.

Yours sincerely,

Dr. Elizabeth Stone

Co-Chair, Equine Guelph

Dean, Ontario Veterinary College

Elizabeth Stone

Mr. Al Patterson

Co-Chair, Equine Guelph

### Introduction

Equine Guelph is the "Centre for the horse owner at the University of Guelph" and was created in 2003 by the horse industry for the horse industry. Now, celebrating 10 years on July 1, 2013, it is a unique success story of a partnership between the equine industry and the University of Guelph and the legacy of growth continues.

Dedicated members of the University and the industry worked together to develop a centre for the horse owner at the University of Guelph to serve the horse industry and support the welfare of horses by providing funding for much-needed research and to assist in providing educational and training opportunities to all levels of industry participants.

The 2012 – 2013 fiscal year continues to showcase the progress that has created Equine Guelph as a respected centre for the horse industry today. Despite significant funding challenges, progress in program development continues with the strong partnerships that created an epicentre for the horse owner and caretaker at the University of Guelph.

The vision and continuing dedication of the Equine Guelph Advisory Council members reflect the partnerships that have worked together to create Equine Guelph — Equine Canada, The Horsemen's Benevolent and Protective Association of Ontario, Ontario Equestrian Federation, Ontario Harness Horse Association, Ontario Ministry of Agriculture and Food, Ontario Racing Commission, Standardbred Canada, Quarter Racing Owners of Ontario, Inc. and the University of Guelph. Funding for research is also contributed by the E.P. Taylor Equine Research Fund (now managed by the UofG).

The Co-Chairs of the Equine Guelph Council are Mr. Al Patterson, representing the equine industry, and Dr. Elizabeth Stone, Dean of the Ontario Veterinary College, representing the University of Guelph. The Co-Chairs oversee the programs and funding initiatives of the Council and the Committees (Research, Education, Communications and Marketing, Development and Finance). Equine Guelph staff members include Gayle Ecker, Managing Director, and Susan Raymond, David Finlay, Jackie Bellamy, Diane Gibbard, Henrietta Coole and summer student Jolene Purdue.

## **Programs of Equine Guelph**

### Research

Equine Guelph's research program supports work by prominent equine researchers in Ontario. Their research addresses a variety of current issues in equine health and the industry, and aims to improve equine welfare in the near and distant future. Seven new projects were funded in the 2012-2013 fiscal year: Equine induced pluripotent stem cells for treating cartilage defects and disease modeling; Molecular epidemiology of organisms potentially causing diarrhea in foals; The effects of antibiotics on the intestinal microbiome; Cardiac Troponin in the standardbred racehorse; Ex-vivo pulmonary arterial perfusion system to model biomechanical and hemodynamic phenomena in equine pulmonary arteries; Prospective evaluation of MSC isolation from umbilical cord blood and jugular blood and; Mechanisms of embryonic loss in mares. Six projects continuing from the previous year were also funded. (Summaries of each new project are found in Appendix 5, and a list of publications and research presentations in Appendices 6 and 7.)

Media coverage of the research funded by Equine Guelph grew this year, in part due to the continued success of "Report on Research". This program was popular with not only the media, but with horse owners as well. Ten "Report on Research" YouTube videos were created highlight the work of equine researchers. The videos were lav accompanied bv summaries. biographies, published papers and a



news story. 34 "Help for Horse Owner" videos were also released distributing shorter clips of research information to the public via YouTube. Additionally, the researchers who participated came together to present their findings at a one day seminar on April 6, 2013. This seminar received high praise from attendees: "Excellent topics and presentations in a format that lay people can understand! Thank you. I will definitely pursue additional workshops online by Equine Guelph at the University of Guelph," says one attendee at the seminar. More attendees registered for an Anatomy wet lab at the OVC after having their interest piqued at the Report on Research seminar. Funding for "Report on Research" has been provided by the Knowledge and Transfer Program under the OMAFRA-U of G partnership.

Equine Guelph's research also received extensive coverage in the 2013 Canadian Horse Health Annual magazine. A six page spread on equine stem cell research featured the work of Dr. Koch, an assistant professor at the University of Guelph and founding committee member of the North American Veterinary Regenerative Medicine Association. Researchers Dr. Betteridge and Dr. Chenier were also featured in the magazine for their work on embryonic loss and embryo transfer. Another article discussed Dr. Weese and his extensive

research in the field of equine bacterial populations. Finally, a feature on *C. difficile* examined Dr. Arroyo's findings on antibiotic resistant strains of the bacterium.

We are pleased to have Dr. Marc Desjardins of Milton Equine Hospital and Dr. Jeff Thomason of the Ontario Veterinary College as co-Chairs of the Research Committee. The Committee evaluates research proposals for funding and monitors the outcomes of research projects. Both Dr. Desjardin and Dr. Thomason are well respected within the industry and will continue to provide a wealth of academic and veterinary expertise.

### **Education and Training**

Few would disagree that education and training play an important role for the future sustainability of the industry. Equine Guelph is proud of its 10 year record in providing industry-directed programs that fulfill the needs and priorities in the ongoing development of its programs. The industry survey completed by Equine Guelph showed that 99% of the participants believe that education is very important to the industry, but "time" and "available money" were identified as the greatest challenges faced by many potential students.

In order to address this, Equine Guelph has been busy building a new educational pathway for the "time and money" challenged industry participants. Building on the "e-Workshop" online model that started last year with the Equine Biosecurity course, Equine Guelph designed two new short courses; Equine Behaviour and Safety and Equine Colic Prevention. These are 2-week focused courses at an affordable price with practical application of the knowledge. Both of these new courses were very popular with sell-out crowds on many of the offerings. Stable managers and other educational groups are now using these courses for staff training. Over 200 students enrolled in the Behaviour and Safety course, 115 signed up for the Biosecurity course and 119 engaged in the Colic Prevention course as part of our "Year of Colic Prevention" campaign. A new corporate sponsorship from Alltech enabled the presentation of the Colic Prevention seminar held at the UofG for veterinarians featuring speakers from OVC and Alltech.

## Diploma and Certificate Programs continue to be strong

Two new courses were offered this year in our "Advanced" series, giving industry participants the opportunity to delve deeper into the research behind these areas of interest, which now includes Advanced Anatomy, Advanced Nutrition and Advanced Behaviour. The successful partnership with the Campbell Centre for the Study of Animal Welfare and the OpenEd division (formerly the Office of Open Learning) is overseeing the development of the last course needed for The Equine Welfare Certificate, called Global Perspectives in Equine Welfare. This certificate will be of great interest to horse associations/organizations and professionals who are looking to develop in-depth expertise on research-based welfare studies on equines. Press releases on this program resulted in international media coverage and we look forward to growth of this program during times when equine welfare is gaining a much more prominent role in the public

forum. A portion of the funding for this program came from the OEF-Equine Guelph War Horse Welfare Education and the partnership with Mirvish Productions last year.

Our students (now 987) continue to represent a truly international drawing, with every province in Canada, over 20 U.S. states and over 11 countries represented in our student population. We have been working to develop stronger relationships with each provincial equestrian federation and we are confident that this will continue to increase awareness of our programs across Canada and we have been able to increase the number of courses offered to 24 over the year, with tuition revenue reaching almost \$140,000.

### EquiMania!

The popularity of EquiMania!, the interactive, youth education program that combines a fun website with the travelling display continues. EquiMania! was invited to 10 different events, including once again the Royal Agricultural Winter Fair, the Erin Agricultural Fair and Grand River Raceway. Thanks to the support of the Grand River Agricultural Society, the work on the online EquiMania! youth program continues and good progress has been made in developing modules with interactive learning objects which will serve as part of a youth learning community. Modules will include learning activities on safety, welfare, health and career development when completed as well as lesson plans that can be used in the classroom, using horses as a vehicle to learn about curriculum topics.

Strategic partnerships continued to grow with our sponsors: Farm Safety, Kubota, OEF, SSG gloves, System Fence and Standardbred Canada. New educational displays were developed and enhanced with sponsorship from ShurGain, Pfizer (now Zoetis) and the Grand River Agricultural Society including career pathways into the horse industry. The EquiMania! program would not be possible without the support of our important sponsors and the many dedicated and loyal volunteers who take time out of their busy schedules to give back to the horse industry by helping to keep the EquiMania! booth fully staffed and interacting with youth and parents alike.

### **Communications and Marketing**

During Equine Guelph's tenth anniversary year, the Communications and Marketing Program has once again received tremendous response from the horse industry and its publications in its published print and web articles. By staying on the pulse of horse industry needs and introducing programs that are in demand, our e-database continues to show healthy growth with 27% more members than last year (see 8 year graph on page 57).

#### **NEWSLETTER**





### Surface Study Covers More Ground

Peterson and others to look at the effects of footing surfaces on show jumping horses. Perception Results are intended to assist footing designers in reducing the chances of will also injuries to horses as they create their next generation of products.

"Riding surfaces need to provi be able to bring the foot to a

this project and will help es and riders for studies both

By - Jackie Bella

GING LIVES Eye Opener for Electrolyte Use.

Two issues of the colour printed newsletter were distributed in Fall/11 and Spring/12. The fall newsletter was 8-pages; with a research focus and was partially supported by the research program. The spring newsletter was 6-pages with a special 2 page research feature, again partially supported by the research program. Both newsletters were distributed to over 30,000 members of the horse industry and are available in printable PDF format on the website. Distribution of the newsletter has been supported by the Ontario Equestrian Federation (Whoa!). The newsletter has also been distributed to members of the Harness Horse Industry by inclusion with The Canadian Sportsman and to members of the Thoroughbred industry by inclusion with Canadian Thoroughbred.

### E-news & HEALTHflash

Last year's decision to increase circulation of E-news to a monthly occurrence proved a wise decision. Equine Guelph E-news has proven to be a powerful vehicle used to highlight upcoming events, sponsors and new program developments. One example includes our announcement of the new Equine Guelph Behaviour & Safety online eWorkshop in the December 2012 E-news. This course was full to capacity within three hours of sending out the Equine Guelph E-news as the initial means of promotion.

Equine Guelph has seen unprecedented growth in subscription in the past year with over 2000 new members resulting in a database of over 7,500 people. The introduction of HEALTH flash in January 2013 generated interest garnering over 1,000 new subscribers! The features have been used for publication both in print and electronic form by equine industry associations and media.

### Website

Equine Guelph's website continues to grow at a steady rate with the goal of providing resources to the horse industry including; research advances, diagnosis capabilities, educational investments and giving opportunities in a fresh way. New website initiatives included the continued release of "Report on Research" videos on Equine Guelph's You Tube channel. In the past year, Equine Guelph's website received over 112,354 unique visits (an increase of 11% compared to last year) with the most popular pages, not including the home page, being Job Track, Education, the new Colic *e*Workshop and Lameness Lab. Page views are calculated at 757,744; an increase of 7% from 2011. Visitors are now spending time exploring the whole site rather than coming for one specific thing and then leaving. For a complete website report, please see Appendix 13.

### Media, Seminars and Presentations, Association Targeted Communication

For a complete list of seminars and presentations given by Equine Guelph staff, please see Appendix 8. Releases are communicated on a regular basis to both equine industry media and associations to facilitate publication in print or electronic form. At least 378 articles have been written about the programs of Equine Guelph in the industry media (see Appendix 12), demonstrating the interest of the industry media in the programs of Equine Guelph and the efforts of the staff and Communication and Marketing Committee members.

The positive response to Equine Guelph articles continues with a broad range of the industry publications providing enhanced coverage of the programs. Regular monitoring of industry magazines, newsletters and websites continues for Equine Guelph presence and these are included in a media scrapbook. Over the past year, the programs of Equine Guelph have received coverage in the general press including; The American Association of Equine Practitioners, Agriculture and Agri-Food Canada, Agricultural Adaption Council, The Wellington Advertiser, Canadian Vet Magazine, At Guelph and OVC's News Bulletin. Equine Guelph continues to receive coverage from many Ontario-based horse industry publications such as; Trot, The Rider, Harness Edge and Whoa! Features were also printed in Canadian horse industry publications such as; the 2013 Horse Health Annual, Racing Quarterly, Canadian Thoroughbred, Horse-Canada, The Canadian Sportsman and Gaitpost Magazine. American coverage examples include: Holistic Horse Magazine, TheHorse.com, Horses-riding.com, and EquiNews (Kentucky Equine Research). In addition, Equine Guelph received coverage from international horse industry websites such as; HarnessLink.com, TheHorse.com, StandardbredCanada.com, HorseTalk.co.nz, Horse-Canada.com, TheRider.com, StableManagement.com, HorseJournals.com, EquiMed.com, HBPA.com, WesternHorseReview.com, Olds College.ca, EquineChronicle.com and HorseOwnerToday.com. Links to Equine Guelph resources continue to be created from sites including: Equine Canada, Provincial Equestrian Federation websites, Veterinarian web sites, and blogs from social media sites (i.e. Barn Mice, Equine Management Group, Facebook and Twitter). Information and service sites are also actively posting links to Equine Guelph resources i.e.: Intercityinsurance.com, AAEP, HorseJobs.ca, McBride Trailers, SystemsFence.com, ... directing the public to Equine Guelph's online courses, horse owner tools and research.

The Ontario Equestrian Federation (OEF) continues their support of Equine Guelph with their ebroadcast program to OEF members highlighting new educational opportunities and special events.

This helps build the student enrollment numbers and these efforts have increased OEF member awareness of Equine Guelph's education programs. OEF also supports the programs of Equine Guelph by providing several links from their pages including news, equine welfare and a special Equine Guelph page is featured in OEF's education tab. Several other sponsors such as Equine Canada, Ontario Harness Horse Association, Central Ontario Standardbred Association, and provincial equine organizations have been posting buttons on their sites to the aforementioned plus new initiatives such as the launch of HEALTH flash and new eWorkshops including Colic Prevention and Behaviour & Safety.

### **Information Inquiries**

During 2012/13, Equine Guelph continued to address the needs of the horse industry on an individual basis through experiencing a significant number of emails, phone calls, information packages, walk-ins and letters. An information service for the equine industry is an important part of industry development and there are several models of this for other livestock groups. Equine Guelph is uniquely positioned to act as the "bridge" or information broker to the equine industry to assist with building a sustainable future. Questions from predominantly new horse owners point to the need to provide this unique "portal" for the industry to help fill that on-going and increasing need for a respected information source for the industry. In the absence of any other extension program for the horse industry, Equine Guelph is seen as the "go to" place for information.

### **Development**

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

In addition to Equine Guelph's industry granting partners and corporate sponsorship, the following information reflects fundraising initiatives and private donations over the past fiscal year:

	FY11-12	FY12-13	FY12-13	FY12-13
	\$	\$	#	Median
	Raised	Raised	Donations	Gift
Area of Greatest Need	\$18,635	\$11,596	118	\$25
Education	\$2,570	\$20,815	4	\$1,000
Research	\$34,938	\$31,655	14	\$50
OEF- War Horse Equine Welfare Education Fund	\$4,353	\$10,820	109	\$50
TOTAL	\$60,496	\$87,086	245	\$50

TABLE I - Funds raised from private donations to EG accounts during FY11-12 and FY12-13 including # donations (not unique donors) and the median size of gift for each account.

**1. Annual Appeal:** Over the past three years, Equine Guelph has included donation cards with its biannual newsletters as a more cost-effective alternative to a special annual appeal mailing (i.e. the newsletter is being mailed regardless). This strategy is proving to be prudent as a cost-savings measure. Donations received this year are approximately the same as last year, which is fairly encouraging given the recent challenges within the industry in Ontario.

	Total	Total	Avg Cost	Total	Avg Value	Total #
	Mailed	Cost	per Piece	Value Gifts	Returned	Gifts
				Returned	per Piece	Returned
2009 Mailed Appeal (1 mailing)	1,386	\$5,827	\$4.20	\$3,082	\$2.22	35
2010-11 Newsletter Donation Card (2 mailings)	1,800	\$1,183	\$0.65	\$4,915	\$2.73	39
2011-12 Newsletter Donation Card (2 mailings)	2,075	\$2,841	\$1.37	\$6,763	\$3.26	67
2012-13 Newsletter Donation Card (2 mailings)	2,392	\$2,560	\$1.07	\$6,442	\$3.30	67

TABLE II – Comparison of select metrics for the 2009 direct mail appeal versus the FY10-1, FY11-12 and FY12-13 newsletter donation card insert. Note that costs for the newsletter production and mailing (approximately \$5,250) have not been included because they would have been incurred regardless of the insert.

The 2013 Spring newsletter mailing launched our 2013 10<sup>th</sup> Anniversary campaign, "Equine Guelph celebrates 10 years of supporting equine welfare through educational programs and research." A cover letter, newsletter (with content reflecting theme of campaign) and donation card were included in the mailing.

The 2012 Fall newsletter mailing included a newsletter (focus on research), biosecurity poster and a donation card. In addition to the mailing, three publications generously inserted 23,000 donation cards in their publications in Fall, 2012: Canadian Thoroughbred, WHOA! and Canadian Sportsman.

- **2. Ontario Equestrian Federation Annual Membership Mailing Fundraising Program:** Each year the Ontario Equestrian Federation (OEF), through its annual membership renewal form, gives members an opportunity to donate to a cause (Equine Guelph is one on a list of choices). FY2012-13 donations have not been received yet by Equine Guelph.
- **3. Pet Trust Program:** In this past fiscal year, **\$23,059** was raised for Equine Guelph through OVC's Pet Trust fundraising initiatives. This reflects the situation in which a prospect responds to a Pet Trust appeal but specifies that they prefer their donation to be directed to Equine Guelph. Given the overlap in prospects between Pet Trust and Equine Guelph, this is not unusual.

### **B.** Equine Guelph Grants:

In F2011-12, based on the shortfall of industry funding, Equine Guelph had to place a temporary, intensive effort into grant writing. As a result, five out of six grant applications were successful in delivering **\$282,269** in funding.

In this past year, a great deal of time and effort was dedicated to execution and delivery of these projects. However, Equine Guelph was successful in securing three out of four grant applications totaling \$117,515, including:

- 1. Canadian Agricultural Adaptation Program "HEALTH*flash* Pilot Program Vet/Horse Owner Research Surveys & Seasonal Alerts for Horse Owners": **\$73,440**
- 2. Canadian Agricultural Safety and Health Program "Horse Behaviour & Safety Training Program: Online Workshop and 'Train the Trainer' Kit": **\$28,950**
- 3. Grand River Agricultural Society youth educational materials: \$15,125

Equine Guelph invested a great deal of time in writing a major Trillium grant, "EquiMania! Goes to the Fair: A grassroots kick-start in the re-development of the horse sector in rural Ontario," in collaboration with the Ontario Association of Agricultural Societies. Unfortunately, the application seeking \$250,000 in funding was unsuccessful.

### C. Equine Guelph Corporate Sponsorship Program:

As a result of focusing efforts on writing grants, the sponsorship program has experienced little growth over the past two years, with an emphasis placed on sponsor maintenance only. On a positive note, all sponsors have re-committed this year as well as adding Alltech as a new sponsor.

The F2012-2013 sponsorship program raised **\$87,275**:

- 1. Alltech Colic Prevention eWorkshop and equine practitioner workshop: **\$4,500**
- 2. Intercity Insurance Hoofprints memorial/tribute program + Education Patron initiative: \$5,000
- 3. Merck Vaccination Equi-Planner online tool + HEALTHflash program: \$10,000

- 4. Greenhawk HEALTHflash program: in-kind
- 5. Kubota EquiMania! safety initiative: \$5,000
- 6. Ontario Equestrian Federation EquiMania! safety initiative + educational posters: in-kind + \$3,000
- 7. SSG Gloves EquiMania! safety initiative: **\$15,000**
- 8. Shur-Gain EquiMania! nutrition station: \$5,000
- 9. Standardbred Canada EquiMania! Standardbred display + Colic Prevention program: \$1,500
- 10. System Fencing & Tack EquiMania! safety initiative + HEALTH flash program: in-kind
- 11. Vétoquinol Biosecurity Calculator online tool + HEALTH*flash* program: **\$15,000**
- *12.* Workplace Safety & Prevention Services (formerly Farm Safety) EquiMania! safety initiative: **\$13,275**
- 13. Zoetis (formerly Pfizer) Journey through the Joints and Lameness Lab online tools + EquiMania! parasite display: \$10,000

## **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.

Total Equine Guelph revenue totaled \$812,355 (previous year: \$1,093,665) for the fiscal year with funding provided by our funding partners, donations, tuition, University contributions and increased sponsorships and successful grant proposals. Program expenditures totaled \$922,809 (\$803,624 last fiscal year) using planned carry forwards from the previous year to buffer the decrease in revenue. The research program allocated \$340,150 (\$367,000 last fiscal year) for research projects. Expenditures for the education program were \$404, 818 (which included program development and exhibits from grant money). Expenditures for the Communications and Marketing program were \$164,702 and \$2921 for Development and \$10,218 was spent on sponsorship projects.

The online education program returned \$139,717 (\$114,000 previous year) due to increased course offerings per year and new courses.

The ongoing priority of providing stable funding to continue the Equine Guelph programs has again been identified as a significant challenge, and remains so in the current climate due to policy changes that have profoundly affected the racing sector of the industry. Unique sponsorship packages and a focus on securing grants has enabled Equine Guelph to maintain and build current programs, however, the research budget has declined.

While the industry is working together to develop a plan for future sustainability, the stable funding of Equine Guelph must be part of that plan to ensure that Equine Guelph continues its role to provide programs and benefits that will help the industry develop a sustainable future.

## **Highlights and Special Events**

### 'Report on Research' Engages Inquiring Minds

Equine Guelph's innovative and highly informative "Report on Research", which began in 2012, came to a crescendo on April 6th, 2013, with a day full of seminars. Researchers from the Ontario Veterinary College were able to share their findings with eager attendees, who left the presentations bursting with knowledge on the latest in equine research.



Topics that were discussed included:

- New developments in treating heaves (Dr. Bienzle)
- Using shockwave therapy to heal wounds (Dr. Koenig)
- New understandings about the equine heart (Dr. Physick-Sheard)
- How the hoof functions (Dr. Thomason)
- Breakthroughs in stem cell research (Dr. Koch)
- Embryo Transfer and Embryo Cryopreservation (Dr. Chenier)
- Rhodococus Equi (Dr. Prescott)
- Combating Infertility in Mares (Dr. Betteridge and Dr. Hayes)
- Results of Equine Guelph's Colic Survey (Diane Gibbard)

In addition to this special presentation, "Report on Research" resulted in 10 highly informative YouTube videos. It was also well received in Equine Guelph's travelling display.

'Report on Research' and the special presentation on April 6th were made possible with the help of Knowledge Translation and Transfer Program under the OMAFRA –U of G Partnership. Equine Guelph would like to thank the researchers for their hard work, dedication and time.

### **Equine Guelph's Second Offering of Colic Prevention eWorkshop!**



Equine Guelph's Colic Prevention eWorkshop has been wildly successful. Over 80 students, from local and international backgrounds, participated in the March workshop, prompting Equine Guelph to offer a second workshop from April 15 – 28, 2013. This affordable, two week course helps horse owners understand colic and take preventative measures through stable management.

Investment in the colic prevention program has been provided by Agriculture and Agri-Food Canada through Canadian Agricultural Adaption Council. Partners include: Central Ontario Standardbred Association, Horsemen's Benevolent and Protective Society of Ontario, Ontario Association of Equine Practitioners, Ontario Harness Horse Association and the Ontario Veterinary College. Funding was also provided by Alltech and Standardbred Canada.

### **Equine Guelph Presents Colic Workshop for Veterinarians**

On March 9th, 2013, veterinarians gathered at the University of Guelph to discuss current colic research and findings. The seminar kicked off with a presentation by Equine Guelph's Diane Gibbard, outlining the results of the colic industry survey. These results demonstrated gaps in colic knowledge, which will be addressed by Equine Guelph's current and future programming.

Presentations were also given by Dr. Belinda Black on the latest equipment and surgical techniques used in veterinary practices today and by Dr. Steve Elliott, Global Product Director at Alltech, on using nutritional biotechnologies to advance gut health. All three speakers stressed the importance of a good parasite prevention program, providing regular dental care and making feed changes slowly.



Funding for the workshop was generously provided by Alltech.

### **Intercity Insurance – Equine Guelph's First 'Education Patron'**

Equine Guelph welcomes Intercity Insurance as its first 'Education Patron'. Mike King of Intercity Insurance, an experienced and dedicated horseman, has supported Equine Guelph as both and instructor and donor for many years. Now, King has made the commitment to support Equine Guelph's education programs at a higher level.



"Intercity Insurance is proud to be an Education Patron of Equine Guelph," says King. "As part of our partnership, for every equine insurance policy sold, Intercity provides a contribution to Equine Guelph's education program."

Equine Guelph thanks Intercity Insurance for becoming an 'Education Patron' and for continuing to support the Hoofprints Tribute Program.

### **Learning Safe Horsemanship through Understanding Behaviour**

Equine Guelph offered its second Horse Behaviour and Safety eWorkshop on April 1 – 14, 2013. This two week online course teaches horse people the best practices for safely handling horses. Education is key in preventing injuries, as it has been shown that injuries due to horses are one of the leading causes of animal-related hospitalizations and fatalities (Source: Canadian Agricultural Injury Reporting).

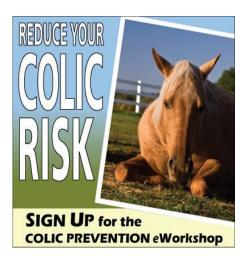
Ten sections are covered in the course: the horse in the wild – a herd and flight animal, the modern day horse, how horses see, how horses hear, horse herd behavior – how horses interact with each other, horse handling/approaching a horse, rider/helmet safety, trailer loading safety basics, safety around the barn and paddocks, and fire safety. Upon completion of the course, students are eligible to receive a certificate from Equine Guelph.

The course has been extremely well received; the first offering sold out within two hours. Gayle Ecker, Equine Guelph's director says, "We are pleased by the interest that horse people are showing in educating themselves 'why' horses behave they way they do, in order to become safe handlers'.

Funding for this course has been provided by Canadian Agricultural Safety Association through the Growing Forward Program and partners: Equine Hippique Canada, Kubota Canada, SSG Riding Gloves, Saddle Up SAFELY, System Fencing, UK Ag Equine University of Kentucky, UK Healthcare, Workplace Safety and Prevention Services, as well as all equestrian federations across Canada.



### **Equine Guelph declares 2013 the Year of Colic Prevention**



Equine Guelph is combating the number one killer of horses (other than old age) in 2013. At the heart of its preventive campaign, Equine Guelph is offering a two week eWorkshop on March 11 to 24. This affordable online short course is designed to help horse owners understand colic and take preventative measures by following good stable management practices. At a cost of only \$75 plus HST, this eWorkshop could translate into thousands of dollars of savings by helping horse owners avoid the nightmare of colic. Equine Guelph will also be providing a practical colic prevention tip in its monthly e-news, which will be capped off with the release of a Colic Prevention Tips poster in January.

#### Free HEALTHflash

Equine Guelph is pleased to announce HEALTHflash – a program of four seasonal reminders to help keep horse owners informed about the changes that impact their horses throughout the year. It even comes complete with games to test your seasonal knowledge. HEALTHflash will also notify horse owners of disease outbreaks.

Dr. Kim McGurrin, a University of Guelph researcher, praises the program: "HEALTHflash will be a valuable tool to any horse owner, as it provides very concise information to help keep on top of seasonal issues."

In addition to funding from Vétoquinol Canada and Merck Canada, investment in this project has been provided by

Agriculture and Agri-Food Canada through the Canadian Agricultural Adaptation Program. In Ontario, this program is delivered by the Canadian Animal Health Institute, Greenhawk, System Fencing Stalls & Equipment, and the Ontario Veterinary College.



### **Proper Nutrition can Make a Difference in the Life of Your Horse**



Nutrition is an important part of a horse life. It plays a key role in ensuring your horse is at the top of it's game, whether it's in the ring, in the breeding shed, or just in the field. For this reason, Equine Guelph was proud to offer Advanced Equine Health through Nutrition, a 12 week online course which incorporated the latest equine research and management practices. The course is not only beneficial to equine professionals and hobbyists, but to veterinarians and equine health care specialists as well.

Advanced Equine Health through Nutrition began in January 2013. It was offered along side other Equine Guelph courses such as Equine Functional Anatomy, Equine Behaviour, Management of the Equine Environment, The Equine Industry, and Marketing and Communications in the Equine Industry.

### **Distance Learning Program Offers Ease of Equine Education**

Equine Guelph added a new course to its successful online education program in Fall 2012. Advanced Equine Behaviour was added to the roster, as part of the newly introduced Equine Welfare Certificate program. The 12 week course teaches students a higher level of understanding regarding equine behaviour, including abnormal



behaviour and the management practices which contribute to them. Students were also provided an in-depth look at the behaviour research process and apply this evidence-based learning to current practices in order to build upon their knowledge of horses both as individuals and as a species.

### **How Can Horse Owners Practice Good Biosecurity?**

Dr. Scott Weese, a researcher at the University of Guelph, was interviewed as part of the popular 'Report on Research' YouTube video series. In this video, Weese discusses the topic of biosecurity and infection control, giving helpful tips to horse owners along the way. Weese stresses that it is important to reduce the risk diseases whether you have one horse or a hundred.



Weese also spoke at Equine Guelph's Biosecurity Prevention eWorkshop. Returning for a second time, Equine Guelph was proud to offer the Biosecurity Prevention eWorkshop from Oct 22- November 4, 2013. The two week eWorkshop introduces practical steps that are easy to make into daily habits.

Weese says, "Equine Guelph's biosecurity programs are great for getting people thinking in a broader context when it comes to infection control and putting into practice the easy day-to-day steps which can reduce outbreaks of disease."

The course is part of "Beat the Bugs", an awareness program developed by Equine Guelph.

### **Equine Guelph Combats Colic with your Help**



Equine Guelph launched a comprehensive colic survey across Canada to better understand colic management practices in the industry, as well as how people deal with colic. This survey marks a starting point for a Colic Prevention Program which Equine Guelph is developing in response to a strong industry demand. It will include a Colic Risk Rater, as well as a eWorkshop.

The survey was completed by over 1200 respondents, 85% of which had personal experience with colic. The number one request from those polled was for more education on the signs and symptoms of colic. The survey revealed gaps in colic knowledge, and Equine Guelph will be responding to this need in current and future programs.

### **Infection Control Workshops and eWorkshops are Back**

Back by popular demand, Equine Guelph announced its second offering of the Biosecurity Prevention eWorkshop. This online, two week course is an affordable way for students – both local and international – to learn how to prevent and control disease and infection in the stable. Students learned to identify risks of infectious disease in the barn, apply practical ways to reduce risk of disease and reduce the chance of sickness.

In addition to the eWorkshop, Equine Guelph also offered free two hour colic biosecurity workshops at Grand River Raceway, the University of Guelph, Woodbine Racetrack, and the Best Western Inn in Orangeville.

This program is funded through the Agricultural Biosecurity Program (ABP), part of the Best Practices Suite of programs under Growing Forward, a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of several Growing Forward programs in Ontario.



### **Olympic Athlete is Guest Speaker**



Equine Guelph welcomed Canadian Olympic eventer, Jessica Phoenix as a guest speaker in its Online Exercise Physiology course, which took place over the summer of 2012. The course was taught by Dr. Amanda Waller, of Michigan, and Gayle Ecker, Director of Equine Guelph. Waller explains the importance of understanding exercise physiology: "I believe if we ask our horses to do physically demanding tasks then it is our responsibility to make sure we knowledgeably train and prepare them for this task. By continually working to increase our knowledge of training, conditioning and monitoring our horses, we will be better equipped to enhance the horse's athletic performance and

to prevent health problems and injuries from developing." Students will be able to apply the knowledge they have gained to enhance the welfare of their own equine partners.

### Canadian Sportsman Equine Guelph Article: The Evolution of Equine Guelph

Equine Guelph had the honour of being featured in the popular racing industry magazine The Canadian Sportsman. The article chronicled Equine Guelph's achievements and history over the last ten years, as well as discussed the plans for the future. Equine Guelph's online education courses were highlighted, as well as the innovative youth program, EquiMania! The article also boasted of Equine Guelph's



research contributions and invited readers to engage in the "Report on Research" YouTube videos. "Created by the industry, and serving industry needs with a unique blend of skill sets and funding from the equine world, the University of Guelph and governmental bodies, Equine Guelph clearly exists in a class of its own" says author Sandra Snyder, praising Equine Guelph's unique and vital role in the horse industry.

## **Summary**

Celebrating its 10th year milestone, Equine Guelph has continued to develop and improve the services offered to the industry. Combining education and research, Equine Guelph provides the industry with valuable information that is accessible to all levels of the industry. Equine professionals, hobbyists, veterinarians and equine specialists all benefited from Equine Guelph's contributions. Participation and media coverage has grown over the last year, furthering Equine Guelph's reach and impact. Equine Guelph has continued to distribute knowledge across both traditional and new media platforms – the online presence has increased significantly and popular industry publications have continued their support. This increase in media coverage is a testament to the value of Equine Guelph's contributions to the industry.

Equine Guelph once again confirmed its position as a leader in equine education. The online education program has expanded, offering a unique opportunity for students to grow their knowledge without leaving home. New eWorkshops and offerings have been very well received and returning courses continued to be popular with horse people.

The 'Report on Research' video series, which began in 2012, resulted in 10 YouTube videos and a day long educational seminar. The series promotes the latest in equine research, making it accessible to both scholars and the general public. The contributions made by Equine Guelph researchers will have a lasting impact on how we manage horses.

In the quest to promote equine health and welfare, Equine Guelph declared 2013 the Year of Colic Prevention, established the HEALTHflash program and launched new course offerings in the new Equine Welfare Certificate. The 'Beat the Bugs' biosecurity program also had great success, reaching both local and international equine enthusiasts.

Equine Guelph's programs are a fundamental part of the rapidly changing equine industry. The need for equine research, education and welfare becomes greater everyday.

As the industry evolves, Equine Guelph and its partners will continue to meet the challenges and promote the industry. Equine Guelph, along with the partnerships of the Quarter Racing Owners of Ontario INC., Equine Hippique Canada, the Horsemen's Benevolent and Protective Association of Ontario, the E.P. Taylor Equine Research Fund, the Standardbred Canada, the Ontario Equestrian Federation, the Ontario Ministry of Agriculture and Food, the Ontario Harness Horse Association, the Ontario Racing Commission, the Ontario Veterinary College, and the University of Guelph, will strengthen the industry through its programs and services. Equine Guelph also acknowledges the important contributions its partners, sponsors and passionate individuals have made alongside Equine Guelph. The level of dedication and support shown is a key component to the current and future success of Equine Guelph.

In summary, it has been a year of increased recognition, developing and improving equine education, and above all, promoting the well-being of the horse.

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## Appendix 4: Research Projects for 2012-2013

New Projects: (\$ 225, 835)

Investigator	Title
Koch T	Equine induced pluripotent stem cells for treating cartilage defects and disease modeling
Stampfli H	Molecular epidemiology of organisms potentially causing diarrhea in foals: a longitudinal study to identify pathogenic genotypes with emphasis on clostridial organisms
Weese JS	The effects of antibiotics on the intestinal microbiome
Physick-Sheard P	Cardiac Troponin in the Standardbred Racehorse
Arroyo L	Ex-vivo pulmonary arterial perfusion system to model biomechanical and hemodynamic phenomena in equine pulmonary arteries
Koch T	Prospective evaluation of MSC isolation from umbilical cord blood and jugular blood
Betteridge K	Mechanisms of embryonic loss in mares

## **Continuing Projects**: (\$ 96,865)

Investigator	Title
Weese JS	Metagenomic characterization of the equine intestinal microflora
Chenier T	An investigation of alternative methods of dehydration and cryoprotectant addition for equine embryos
Bienzle D	Etiologic agents and their interaction with macrophages in heaves
Prescott J	Genome-based vaccination against Rhodococcus equi
Chalmers H	Assessing post-operative outcomes in horses treated for dorsal displacement of the soft palate
Koenig J	Evaluation of techniques to improve stem cell homing in the horse

## TOTAL FUNDED PROJECTS: = \$322,700

### **Appendix 5 Lay Summaries of New Research Projects for 2012 - 2013**

#### **Weese JS** The effect of antimicrobials on the intestinal microbiome

The intestinal tract of the horse is compromised of an incredibly complex and diverse population of bacteria; the bacterial microbiome. The intestinal microbiome is critical for health of the horse, and disruptions of this microbiome can result in various types of disease, including colitis (severe diarrhea). One of the main recognized risk factors for colitis in horses is antibiotic use, as antibiotics are thought to be able to disrupt the normal balanced microbiome and result in proliferation of bacteria that can cause disease. Colitis is often fatal and survivors can have serious consequences such as laminitis. Despite the importance of the intestinal microbiome and disease that is thought to occur because of its disruption, we are only now able to understand its composition and how it changes. Recently, we identified profound changes in the microbiome in horses with colitis, and further study of what drives those changes is required. While antibiotics are known to be a major risk factor for colitis in horses, the actual reasons for this (beyond a vague assumption that 'good' bacteria get displaced) are not understood. With recent advances in technology, it is now possible to closely evaluate the intestinal microbiome and its response to stressors like antibiotics. This study will evaluate changes in the composition of the intestinal microbiome in horses treated with different antibiotics. This will also us to better understand what antibiotics do to the intestinal microbiome, information that is critical for designing methods to reduce or prevent those changes, and corresponding disease.

### **Betteridge K** Mechanisms of embryonic loss in mares

We study how the horse embryo attaches to the endometrium (lining of the uterus) during the critical third week of pregnancy. At this stage the embryo is still enclosed in a 'capsule' and is known as a conceptus. We collect conceptuses of defined ages and small pieces of the uterine lining (endometrium) through the cervix from normal pregnancies, and also from pregnancies that have been 'compromised' by injection of the mare with a hormone to induce pregnancy failure. We then characterize important changes in proteins, steroid hormones and other molecules that change in the conceptus and uterus to identify those that best explain success and failure of pregnancy. We have already found several molecules that help us understand how the embryo exchanges signals with the mare and becomes attached. Recent availability of the horse genome and various new discovery tools such as gene expression arrays mean that we can now examine these events in a more comprehensive manner. Having developed methods for sampling tissues and fluids in both the conceptus and its uterine environment, we can now analyze them for the presence and absence of our target molecules in normal and failing pregnancies and assess the significance of differences that are recognized. The work will help explain interactions between the conceptus and endometrium that are essential to pregnancy maintenance and which, when disrupted, result in pregnancy failure. This will be key to the development of diagnostic tests of reproductive health and, possibly, to new treatments for infertility.

# **Koch T** Prospective evaluation of MSC isolation from umbilical cord blood and jugular blood

Studies have shown that peripheral and cord blood stem cells are difficult to isolate. However cord blood-derived cells may be advantageous for a number of reasons. These cells may elicit minimal, if any, immune response if injected or transplanted into an unrelated individual. These cells may also be capable of giving raise to a wider array of cell types than stem cells from fat and bone marrow. We have

recently isolated stem cells from umbilical cord blood of foals and have demonstrated their potential to form bone, cartilage and fat in petri dishes. So far MSCs have only been attempted isolated from the peripheral blood of mature horses and with poor results. The studies outlined in this application aim to evaluate equine cord blood and peripheral blood-derived mesenchymal stromal cells for the purpose of developing advanced cell-based therapies in the horse.

**Koch T** Equine induced pluripotent stem cells for treating cartilage defects and disease modelling

The long-term goal of the studies in this proposal is to initiate a research stream on equine induced pluripotent stem cells (eiPSCs) that will compliment our ongoing research efforts to solve the unmet clinical need for treating cartilage defects in horses. The recent report on the production of eiPSCs by researchers in Montreal and Toronto has received widespread attention in the veterinary research community. These cells hold the promise of developing patient specific cells that can be used for both cell and tissue replacement strategies of that patient with reduced risk of immune rejection, or for evaluating efficacy and safety of new drugs at reduced costs through pharmacological screening platforms, or to treat inflammatory diseases. A greater understanding of cellular reprogramming events may in the future also be utilized to help the body heal itself by directing resident cells of damaged tissue towards reparative processes. Our research group is part of newly formed international research consortium with the aim to advance our understanding of these cells biology and clinical potential much more rapidly than would be the case by individual research lab efforts. Exchange of graduate students between labs will also enhance the training of highly qualified personal. We have just been awarded significant funds for a PhD student to explore canine iPS cells for the same purpose of cartilage repair and support of this grant application for another PhD student working on equine iPSCs would provide significant synergy in the lab for the rapid development of a robust research program in domestic animal iPS cells.

Staempfli H

Molecular epidemiology of organisms potentially causing diarrhea in foals: A longitudinal study *to* identify pathogenic genotypes with emphasis on clostridial organisms.

Most foals experience an episode of diarrhea before 6 months of age. This past foaling season (2010/2012) at the Ontario Veterinary College we saw over 55 foals with severe diarrhea requiring hospital admission and intensive care. The cause was only established in a very few cases. The most recognized and understood infectious causes are rotavirus, Salmonella spp, and Clostridium perfringens. More recently Clostridium difficile (C.difficile) has been identified as an additional bacterium associated with acute diarrhea in horses. Experimental infectious studies (sponsored by Equine Guelph) have shown that C.difficile causes infection and diarrhea in foals. In Sweden, C.difficile can be present in a third of normal young foals (<2wks old) but not in older foals. To date, in Ontario, there are no studies longitudinally addressing the dynamics of potential pathogens in foals at the farm level over time. Fecal samples from normal foals, from foals with diarrhea, their dams and from soil of the farms will be collected biweekly (for a total of 4 times) over the first 12 weeks of the foals' life. Samples will be tested for presence of C.difficile and C. perfringens spores, as well as for Salmonella, Rotavirus and Cryptosporidia. We will use standard laboratory culture and molecular protocols to determine the virulence characteristics of isolated pathogens. Results from this study will allow the identification of predominant pathogenic strains and would allow proposing intervention strategies (therapeutic and prophylactic) to reduce the risk of animal infection and disease development in foals.

### **Physick-Sheard P** Cardiac Troponin in the Standardbred Racehorse

Cardiovascular problems, particularly rhythm disturbances and heart muscle damage, have been suggested as a cause of a range of exercise-associated conditions in racehorses, such as post-exercise pulmonary bleeding, poor performance and sudden death. Confirming this and identifying individual animals at risk has been problematic, as most tests that screen for cardiac problems are either expensive, time consuming or both. Tests are now available, however, that can efficiently and inexpensively detect markers of heart muscle damage, and in some cases are in frequent use. The problem is that these tests were designed for human patients and little is known about their ability to consistently detect cardiac damage in horses. This study aims to determine how well selected tests perform when exposed to markers in equine cardiac tissue. The optimum time for blood sampling after presumed damage and the effect of racing on the level of the markers in normal horses will also be explored by carefully timed sampling of Standardbred horses before and after normally scheduled racing. The ultimate goal is to develop a procedure for screening racehorses for cardiac problems that is quick, inexpensive, accurate and humane. Such a test would improve the welfare and safety of racehorses and those who handle them.

**Arroyo L** Ex-vivo Pulmonary Arterial Perfusion System to model

biomechanical and hemodynamic phenomena in equine

pulmonary arteries

Exercise-Induced Pulmonary Haemorrhage (EIPH) is a condition affecting virtually all horses during intensive exercise worldwide. The management and treatment of EIPH have 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.

Vascular diseases in domestic animals and particularly in horses are clinically poorly defined and have previously been thought to be uncommon. Interestingly, the most accepted cause for EIPH is exercise-induced pulmonary hypertension, resulting in pulmonary vascular failure (capillary rupture).

The output from the heart into the pulmonary artery occurs as a brief but intense wave of flow and pressure. The elastic nature of the pulmonary arterial system allows it to expand during heart contraction, which reduces arterial pressure and provides a reservoir to store blood. In between contractions, the elastic recoil of the stretched pulmonary artery allows it to gently squeeze blood into the capillaries.

Recently we observed the presence of calcification and fibrosis of the pulmonary arterial walls in a large proportion of racehorses. These lesions stiffen the arteries and have been shown to result in hypertension in humans, and it is suspected to occur in horses also.

The aim of the study is to design and develop an ex-vivo model that could accurately reproduce pulmonary artery dynamic flow and pressure characteristics prior to testing in live animals. Further, a high fidelity ex-vivo model may also significantly reduce the number of live horses required for future studies in this area.

#### **Appendix 6: Research Publications**

#### Dr Keith Betteridge

Betteridge KJ, Waelchli RO, Christie HL, Raeside JI, Quinn BA, Hayes MA (2011) Relationship between the timing of prostaglandin-induced luteolysis and effects on the conceptus during early pregnancy in mares. *Reprod Fert Dev* (accepted July 2011; "online early" on Journal's website)

Raeside JI, Christie HL, Waelchli RO, Betteridge KJ (2009) Estrogen metabolism by the equine embryo proper during the fourth week of pregnancy. Reproduction 138(6):953-60.

Betteridge KJ (2010) editorial assistance for the textbook "Essentials of Domestic Animal Embryology", Hyttel P, Sinowatz F, Vejlsted M. Saunders Elsevier, ISBN 978-0-7020-2899-1.

Betteridge KJ (2010) Chapter 225 "Embryo morphology, growth and development" in "Equine Reproduction" Second edition edited by McKinnon AO, Squires EL, Vaala WE and Varner DD, pp. 2167-2186.

Betteridge, KJ (2010) "So what has research done for the horse breeder recently?" Equine Guelph Update, Spring 2010, pp 2-3.

Lillie BN, Traficante E, Walker ME, Quinn BA, Arroyo L, Waelchli RO, Betteridge KJ, Hayes MA (2010) Endometrial expression of capsule-associated proteins and cytokines during the third week of pregnancy in mares. Anim Reprod Sci 121S:S254-S256.

#### Dr. Dean H. Betts

Ryan Figueroa, Robert Cruz, Thomas G. Koch, Dean H. Betts (2011). Osteogenic differentiation of equine cord blood MSCs within coralline hydroxyapatite scaffolds in vitro. Submitted to *Veterinary and Comparative Orthopaedics and Traumatology* (currently being revised to address the peer-reviewed comments).

Figueroa RJ, Koch, TG and Betts DH (2010). Stem Cells and Animal Therapies, "Comprehensive Biotechnologies, Vol 4: Agricultural and Related Biotechnologies, Section 2: Animal Systems", Ed by WA King, Elsevier, Accepted Sept 2010 for publication.

#### Dr. Dorothee Bienzle

Sparks, Carley. "Stem Cell Reality Check: The Science and Science Fiction of Stem Cell Therapy." *The Corinthian Horse Sport* 01 2013: 28.

Odemuyiwa S, Bienzle D. Immunophenotype of blood monocytes and alveolar macrophages in horses. Am Assoc Vet Lab Diagnost Ann Meet, Buffalo, October 2011

Odemuyiwa S, Bienzle D. Immunophenotypic characteristics of equine blood monocytes and alveolar macrophages. Ann Meet Am Coll Vet Pathol, Nashville, Dec. 2011

SPARK: Trip to the Ontario Racing Commission Headquarters – May 2010

In Step With Industry Issues - The race is on for an adequate drug test – Equine Guelph Fall 2010

#### Dr. Heather Chalmers

A New Dimension to Research, Trot, Standardbred Canada's national publication. Feb 2011 http://ww/standardbredcanada.ca/news/2-18-11/new-dimension-research.html

#### Dr. Tracey Chenier

Horse Health Annual, February/March 2013. Dr. Chenier's work was highlighted in the report on research section.

Foster, B., Leibo, S., Gartley, C., Chenier, T. Osmotic response of day-8 equine embryos exposed to various concentrations of galactose or sucrose at three temperatures. Proceeding of the 8<sup>th</sup> International Equine Embryo Transfer Symposium, July 26, 2012, Vancouver, B.C. Journal of Equine Veterinary Science 32(7); 401-402.

Foster, B., Leibo, S., Gartley, C., Chenier, T. Osmotic response of day-8 equine embryos. 8<sup>th</sup> Annual Gulf Coast Conservation Biology Symposium, New Orleans, LA, June 1, 2012 pg 13.

#### Dr. Robert Cruz

Labelling of Equine Umbilical Cord Blood-Derived MSCs with SPIO Contrast Medium and In Vivo Detection with MRI. R. Cruz – Arambulo, P. Foster, D.H Betts, T.G. Koch, ACVR Scientific Meeting (August 15-19 2010, North Carolina, US).

#### Dr, Thomas Koch

Sparks, Carley. "Stem Cell Reality Check: The Science and Science Fiction of Stem Cell Therapy." *The Corinthian Horse Sport* 01 2013: 28.

#### Dr. Judith Koenig

Shock Wave of the Future, Canadian Thoroughbred Magazine, March 2011

### Dr. Peter Physick-Sheard

This research has been featured in an article to be published in the Globe and Mail Newspaper (2011), Sports Section.

The study has also been featured on The Score's "Bet Night Live" TV Show, and several websites including The Horse.com and the CTHS's website.

Physick-Sheard PW, McGurrin MK. Ventricular arrhythmias during race recovery in Standardbred Racehorses and associations with autonomic activity. J Vet InternMed. 2010 Sep-Oct; 24(5):1158-66.

Clues about Cardiac Arrest in Horses. The Horse.com, July 26, 2010

#### Dr. John Prescott

Mehdizadeh Gohari, I., Arroyo, L., MacInnes, J. I., Timoney, J. F., Parreira, V. R., Prescott, J. F. 2013. Characterization of *Clostridium perfringens* in the feces of adult horses and foals with acute diarrhea. Can. J. Vet. Res. (in press).

Hazlett, M.J., J. Kircanski, D. Slavic, J. F. Prescott. 2011. Beta-2 toxigenic *Clostridium perfringens* type A colitis in a 3-day-old foal. J. Vet. Diag. Invest. 23:373-376.

2010 Equine Guelph Fall 2010: Researchers look to discover unknown forms of bacteria causing colitis.

#### Dr. Jeff Thomason

Dr. Thomason's track related work was featured in the research issue of the EG newsletter in Fall 2009 & 2011.

Thomason, JJ. Review of Some Past, Present and Possible Future Directions in Biomechanics of the Equine Hoof. Proceedings of the AAEP (available online through IVIS).

Salo, Z; Runciman, RJ; Thomason, JJ. A dynamic model of a horse hoof at first contact. Biosystems Engineering 103:364-373.

#### Dr. Laurent Viel

Diaz-Mendez A, Viel L, Hewson J, Doig P, Carman S, Chambers T, Tiwari A and Dewey C. Surveillance of equine respiratory viruses in Ontario. CJVR 2010; 74 (4):271-27.

#### Dr. Scott Weese

Costa, H Steampfli, LG Arroyo, RG Gomes, JS Weese. Effects of parenteral antimicrobial is on the equine fecal microbiome investigated by next generation sequencing. Proceedings of the 2013 ACVIM Forum

JS Weese. Microbiomes, and their role in health and disease. International Society for Companion Animal Infectious Diseases Conference. San Francisco, CA, Nov 17, 2012

JS Weese. The equine intestinal microbiome in health and disease. International Conference on Equine Infectious Diseases IX. Lexington, Ky, Oct 23, 2012

A Schoster, LG Arroyo, HR Staempfli, P Shewen, LM Sigismondo, RJ Reid-Smith, N Janecko, JS Weese. Longitudinal study of Clostridium difficile, Clostridium perfringens, Salmonella and Escherichia coli in healthy horses. Annual Forum of the American College of Veterinary Internal Medicine, Denver, Colorado, June 18, 2011. Published in J Vet Int Med.

A Schoster, LG Arroyo, HR Staempfli, P Shewen, JS Weese. Detection and characterization of Clostridium difficile and Clostridium perfringens in gastrointestinal compartments of healthy horses. Annual Forum of the American College of Veterinary Internal Medicine, Denver, Colorado, June 18, 2011. Published in J Vet Int Med.

G Munroe and JS Weese (Eds.). Equine medicine, surgery and reproduction. Manson Publications, UK, 2011

JS Weese, L Boure, S Pearce, N Cote. Lower gastrointestinal tract. In: G Munroe and JS Weese (Eds.). Equine medicine, surgery and reproduction. Manson Publications, UK. 2011, pp. 516-597.

#### **Appendix 7: Research Presentations**

#### Dr. Keith Betteridge

2013 Betteridge K. Combating infertility in mares. Equine Guelph Report on Research Day, Guelph, Ontario, Saturday, April 6th, 2013.

2011 Betteridge, Quarter Horse Industry Breeding Seminar ("Breeding the Fastest Horse") in Ajax, Ontario, November 26 2011.

2011 Ontario Association of Equine Practitioners' Research Day in February 2011

2010 Betteridge, Hayes and Raeside presented papers at the Xth International Symposium on Equine Reproduction which was held in Lexington, Kentucky in July 2010.

#### Dr. Dean H. Betts

2010 Figueroa RJ, Koch TG, Betts DH (2010). Bone constructs of equine cord blood MSCs and coralline scaffolds for bone-gap repair. Nordic Orthopaedic Federation (NOF) 55th Congress, 5-7 May, Aarhus, Denmark, 2010. Poster presentation by Ryan J. Figueroa.

#### Dr. Dorothee Bienzle

2013 Bienzle D, What do we know about asthma in horses?. Equine Guelph Report on Research Day, Guelph, Ontario, Saturday, April 6th, 2013.

2012 A Better EPO Test? Standardbred Canada, podcast Jan. 4, 2012

2011 "What have we learned about asthma in horses?", Department of Pathobiology, March 2011

2011 Presentation to the Ontario Equine Practitioner's Association, "Asthma in horses", Feb. 15, 2011

2010 - Opening of Pathobiology/AHL building "Veterinary Pathology – past, present, future", Oct. 7, 2010

2010 Presentation to the veterinary contingent of the King of Malaysia visiting the University of Guelph, Sept 22, 2010

#### Dr. Tracey Chenier

2013 Dr. Chenier. Embryo Transfer. Equine Guelph Report on Research Day, Guelph, Ontario, Saturday, April 6th, 2013.

2012 Foster, B., Leibo, S., Gartley, C., Chenier, T. Osmotic response of day-8 equine embryos exposed to various concentrations of galactose or sucrose at three temperatures. Proceeding of the 8<sup>th</sup> International Equine Embryo Transfer Symposium, July 26, 2012, Vancouver, B.C. Journal of Equine Veterinary Science 32(7); 401-402.

2012 Foster, B., Leibo, S., Gartley, C., Chenier, T. Osmotic response of day-8 equine embryos. 8<sup>th</sup> Annual Gulf Coast Conservation Biology Symposium, New Orleans, LA, June 1, 2012 pg 13.

2012 Dr. Chenier . Update on Embryo Transfer. CCVA February 2012

2011 Dr. Chenier. Equine Guelph's Research Update – Freezing Embryos. Summer 2011.

2010 Gonzalez, L. Kingma, S., Schlaf, M., Chenier, T. Diffusion of the Common Cryoprotectants Glycerol and Ethylene Glycol into day 9-11 Equine Embryos. Annual Graduate Students Research Symposium, Ontario Veterinary College, University of Guelph, November 17, 2010.

#### Dr. Nicola Crib

2011 Black B, Cribb NC, Nykamp S, Trout DR, Thomason JJ. Effect of Local Anesthetic Deposition into Structures of the Equine Foot on Subsequent Magnetic Resonance Images. 57th Annual American Association of Equine Practitioners Convention, San Antonio, Texas, November 2011. Abstract presentation

2011 Black B, Cribb NC, Nykamp S, Trout DR, Thomason JJ. Effect of Local Anesthetic Deposition into Structures of the Equine Foot on Subsequent Magnetic Resonance Images. Graduate Student Research Symposium, Guelph, Ontario, November 2011. Abstract presentation.

2011 Black B, Cribb NC, Nykamp S, Trout DR, Thomason JJ. Effect of Local Anesthetic Deposition into Structures of the Equine Foot on Subsequent Magnetic Resonance Images. Annual American College of Veterinary Surgeons Veterinary Symposium Residents Forum, Chicago, Illinois, November 2011. Abstract presentation

#### Dr. Judith Koenig

2013 Koenig J. Extracorporeal shock wave therapy in horses. Equine Guelph Report on Research Day, Guelph, Ontario, Saturday, April 6th, 2013.

2013 Poster presented at the OAEP Annual Meeting in March 2013

2012 Poster was presented at the opening of the Equine Sports Medicine Center

#### Dr. John Prescott

2013 Prescott J,25 Years of research on Rhodococus equi pneumonia in foals. Equine Guelph Report on Research Day, Guelph, Ontario, Saturday, April 6th, 2013.

2013 Mehdizadeh Gohari, I., Arroyo, L., MacInnes, J. I., Parreira, V. R., Prescott, J. F. 2013. Characterization of *Clostridium perfringens* in the feces of adult horses and foals with acute diarrhea. Poster, Ontario Association of Equine practitioners, Guelph, Feb 2013.

#### Dr. Peter Physick-Sheard

2013 P. W. Physick-Sheard, Skipped Beats, Sudden Death, And Why We Shouldn't Worry - Too Much, Alberta Horse Breeders and Owners Conference, Red Deer, Alberta, January 11-13, 2013.

2013 P. W. Physick-Sheard, Arrhythmias, Exercise & Sudden Death, Western Fair All Equine Show, London Fairgrounds, London, Ontario, Saturday March 16th, 2013.

2013 P. W. Physick-Sheard, Arrhythmias, Exercise & Sudden Death, Equine Guelph Report on Research Day, Guelph, Ontario, Saturday, April 6th, 2013.

2010 Heart rate and rhythm in the racehorse – Analysis of heart rate variability and stability in performance horses. Canada's Outdoor Equine Expo, June 7, 2010.

2010 Cardiac Rhythm Responses to Maximal Effort in the Horse. Trainer's Meeting Veterinary Seminar, Woodbine Sales Pavilion, October 4, 2010.

#### Dr. Melissa Sinclair

2012 Sinclair M. Anesthetic Adjuncts for Equine Anesthesia. NAVC, Orlando, Florida, January 2012.

2011 Training Modules Student Seminar – Equine Field Anesthesia. New and Old Techniques – Jan 25, 2011.

#### Dr Jeff Thomason

2013 Thomason JJ, Equine Stem Cells. Equine Guelph Report on Research Day, Guelph, Ontario, Saturday, April 6th, 2013.

2012 February, Video interview on the influence of track surfaces on injury, Equine Guelph Communications Released on You Tube "Report on Research"

2011 Thomason JJ, Invited presentation, North American Track Superintendents meeting. Baltimore, June

2010 Thomason JJ, Biomechanics of the equine foot, Invited presentation at the AAEP focus meeting at the World Equestrian Games, Lexington, Kentucky.

2010 Thomason JJ. Four sessions (3 lectures, 1 workshop) presented at the International Hoof Care summit organized by the American Farriers Journal, Cincinnati

2010 Thomason JJ. Anatomy, function and biomechanics of the hoof and leg: why they are important to every clinician. Invited presentation at Annual AAEP meeting, Baltimore, Dec 2010.

2010. Feb 24th. Invited Seminar in the Integrated Biology Seminar Series, U of G, on adaptations in the horse's leg.

2010 Thomason, J.J., and Back W. The role of shoes in performance and injury prevention. Conference on Equine Sports Medicine and Science (CESMAS), Sigtuna, Sweden, June 2010.

#### Dr. Viel

2011 Dr. Viel. Preliminary results including (data from 80 horses). Veterinary Comparative Respiratory Society. Nov 2011.

#### Dr. Scott Weese

2013 JS Weese, Testing Show Jumping Surfaces. Equine Guelph Report on Research Day, Guelph, Ontario, Saturday, April 6th, 2013.

2012 JS Weese. Beat the bugs: equine farm biosecurity. Equine Guelph. Guelph, Ont, Sept 13, 2012.

2012 JS Weese. Therapeutic manipulation of microbiomes. Research Rounds. Western College of Veterinary Medicine, Saskatoon, SK, Dec 4, 2012.

2012 JS Weese. Microbiomes, and their role in health and disease. International Society for Companion Animal Infectious Diseases Conference. San Francisco, CA, Nov 17, 2012

2012 JS Weese. The equine intestinal microbiome in health and disease. International Conference on Equine Infectious Diseases IX. Lexington, Ky, Oct 23, 2012.

2012 JS Weese. Probiotics; manipulating the immune system naturally? Annual Forum of the American College of Veterinary Internal Medicine. New Orleans, LA, May 31, 2012.5.

2011 JS Weese. The wonderful world of the gut: the equine microbiome in health and disease. CanWest Veterinary Conference. Banff, Alberta, Oct 16, 2011.

2011 M Costa, A Sturgeon, L Arroyo, HR Staempfli, JS Weese. The horse's 2nd genome; metagenomic investigation of the equine intestinal microbiome. Annual Forum of the American College of Veterinary Internal Medicine, Denver, Colorado, June 18, 2011

2011 M Costa, A Sturgeon, LG Arroyo, HR Staempfli, JS Weese. Metagenomic investigation of the intestinal microbiome in healthy and diarrheic horses. Canadian Animal Health Laboratorians Network Annual Conference, Guelph, Ontario, June 7, 2011.

# Appendix 8: Presentation and Talks Given by Equine Guelph

## **Presentations & Talks by Gayle Ecker**

May 12, 2012	President's Open House, EquiMania display at UofG, Guelph, Ontario
May 27, 2012	Grand River Raceway Open House, Comparative anatomy presentations
June 7, 2012	ESMRC Open House, EquiMania! display, UofG, Guelph, Ontario
June 7, 2012	Presentation to Equine Guelph funding partners on KTT program achievements and future plans for Report on Research
June 8-10, 2012	Several seminars given at Outdoor Equine Expo, Burlington, Ontario
June 12, 2012	Track Superintendents presentations on Equine Guelph
June 15, 2012	Presentation on Equine Biosecurity program, OLPC meeting, Guelph, Ontario
July 3, 2012	Pony Club tour and presentations, UofG, Guelph, Ontario
July 4, 2012	Presentation to OAEP executive on KTT program progress and plans
July 9, 2012	Presentation to Horseracing Panel, included KTT program progress and plans, Guelph, Ontario
August 6, 2012	Grand River Raceway Industry Day, Elora, Ontario
August 9, 2012	Presentation on Biosecurity program progress and plans, Elora, Ontario
September 8, 2012	Standardbred Extreme Camp, Elora, Ontario
September 27-29, 2012	Presentations and display at Southern Cross Stable, Paris, Ontario
October 5-8, 2012	Presentations including KTT at Erin Agricultural Fall Fair, Erin, Ontario
October 12, 2012	Presentation to Horse Management Course, including KTT program
October 20, 2012	Halton Equine Services Open House, EquiMania! display, Campbellville, Ontario
October 24, 2012	Career Pathways, Dufferin County, Orangeville, Ontario
November 7, 2012	Presentation on KTT program to Minnesota State Fair executive, Toronto, Ontario
November 15, 2012	Open Doors Guelph, Equine Guelph and EquiMania! displays and presentations on KTT Report on Research videos
November 30, 2012	Equine Guelph Council Meeting, update on KTT program progress and distribution of materials

January 11, 2013	Presentation on Equine Guelph and the KTT program to OMAFRA Animal Welfare Task Team Meeting, Guelph, Ontario
January 23, 2013	Presentation on Equine Guelph and the KTT program to RMG corporate directors and event staff, Orangeville, Ontario
January 29, 2013	Presentation on Equine Guelph and the KTT program to Western Fair special events coordination team for equine tradeshow, Guelph, Ontario
January 7, 2013	Meeting with Alltech media group to discuss KTT videos on iHigh channel, Stratford, Ontario
January 23, 2013	Presentation on Equine Guelph, Horse Health Check and KTT to horseowners, Erin, Ontario
January 24, 2013	Presentation on Equine Guelph, Horse Health Check and KTT to horseowners, Caledon, Ontario
February 7, 2013	Presentation on KTT and other educational programs to OEF Education Committee, Toronto, Ontario
February 9, 2013	Alltech Colic Prevention Seminar, Presentation on KTT videos, Guelph, Ontario
March 5, 2013	Agenda item for Animal Welfare Task Team meeting, update on KTT videos and presentations
March 15-17, 2013	Western Fair Equine tradeshow and presentations, KTT videos, London, Ontario
March 28-31, 2013	Can-Am All Breeds Equine Expo, Various seminar presentations made, including KTT video program to horse owners, Orangeville, Ontario
April 6, 2013	"Report on Research" Seminar Day, UofG, Guelph, Ontario

# **Presentations & Talks by Susan Raymond**

"Beat the Bugs, with Biosecurity", An overview of Equine Guelph's equine biosecurity program, Ontario Livestock and Poultry Council meeting, Guelph, Ontario, *June 12, 2012* 

repeated: - Equine Guelph workshop, University of Guelph, Guelph, Ontario, September 13, 2012

- Equine Guelph workshop, Woodbine Racetrack, Toronto, Ontario, September 25, 2012

#### **Appendix 9: Educational Offerings by Equine Guelph**

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

- 1. Advanced Equine Health through Nutrition Equine Behaviour (Instructor: *Dr. Kathleen Crandell, PhD*)
- 2. Advanced Equine Behaviour (Instructor: *Katherine Kelly Jimmerson*)
- 3. Advanced Functional Anatomy (Instructor *Dr. Jeff Thomason, PhD*)
- 4. Biosecurity online two-week eWorkshop (Instructor: Dr. Susan Raymond, PhD)
- 5. Equine Behaviour (Instructor: *Dr. Sid Gustafson, DVM*)
- 6. Equine Business Finance and Risk Management (Instructor: Nicole Velozo & Shirle Terran)
- 7. Equine Business Management (Instructor: *Heather Gentles, MBA & Christine Polhkamp*)
- 8. Equine Event Management (Instructor: *Marjory Gaouette, MA*)
- 9. Equine Genetics (Instructor: *Dr. Dianne Winkelman-Sim, PhD*)
- 10. Equine Journalism (Instructor: *Barbara Sheridan*)
- 11. Equine Nutrition (Instructor: *Dr. Kathleen Cavanagh, DVM*)
- 12. Equine Welfare (Instructor: *Janet Higginson Culter*)
- 13. Exercise Physiology (Instructor: Gayle Ecker, MSc & Amanda Waller, PhD)
- 14. Functional Anatomy (Instructor: *Dr. Wendy Brett, DVM*)
- 15. Growth & Development (Instructor: *Doug Nash*)
- 16. Health & Disease Prevention (Instructor: *Dr. Ev Post*)
- 17. Management of the Equine Environment (Instructor: *Kathy Fremes*)
- 18. Marketing & Communications (Instructor: Heather Gentles, MBA)
- 19. Stewardship of the Equine Environment (Instructor: Susan Raymond, PhD)
- *20.* The Equine Industry (Instructor: *Gayle Ecker*, *MSc*)

#### **Appendix 10: Summary of the Equine Studies program**

#### **Diploma in Equine Studies**

The diploma in equine studies requires 6 core courses and 4 electives. We are seeing an increase in students beginning the program with the intent to complete the Diploma in Equine Studies. In 2009 we awarded our first Diploma in Equine Studies. The total number of diplomas awarded has increased to 87.

#### **Program Requirements:**

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

#### Students can continue with electives from the Equine Science Specialty

Growth & Development	Elective
Exercise Physiology	Elective
Equine Genetics	Elective

#### and/or combine Equine Business Management courses

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

### **Equine Science Certificate**

Ther Equine Science Certificate requires requires 4 core courses and 2 electives. The first Equine Science Certificates were awarded in 2004/05 to 36 students. To date 266 Equine Science Certificates have been awarded.

#### **Program Requirements:**

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

#### Certificate in Equine Business Management

The Certificate in Equine Business Management requires 5 core courses and 1 elective. Development of the courses in this certificate were completed in January 2010. Allowing our first certificate to be awarded in April 2010. To date 15 Equine Business Management Certificates have been awarded.

#### **Program Requirements:**

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

#### **Equine Welfare Certificate**

The Equine Welfare Certificate requires 3 pre-requisite courses, 4 core courses and 2 electives. The Equine Welfare Certificate is a partnerships between Equine Guelph, Campbell Centre for the Study of Animal Welfare and Open Learning and Educational Support. The first course "Equine Welfare" was offered in Fall 2012 semester with an enrollment of 13 students.

#### **Program Requirements:**

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

#### **Equine Veterinary Technician Certificate**

The Equine Veterinary Technician Certificate requires 3 pre-requisite courses, 3 core courses and 3 practicum.

#### **Program Requirements:**

Equine Nutrition	Pre-requisite
Equine Behaviour	Pre-requisite
Functional Anatomy	Pre-requisite
Equine Health through Nutrition	Core
Advanced Equine Behaviour	Core
Advanced Equine Functional Anatomy	Core
Equine Reproduction	Practicum
Equine Critical Care	Practicum
Equine Dentistry	Practicum

#### **Groom One Certificates**

In 2012 we awarded 2 Groom One Certificates.

# 2012 - 2013 Student Registration Profile

#### Student Numbers 2012-2013

Number of individual students503Number of new students285Total number of registrations987

In 2012/13 there was an increase in Equine Studies Diplomas awarded with 29 diplomas awarded for an increase of 20% from the previous year.

# Registrations by Program

**Enrolment Registrations 2012 - 2013** 

Enrolment Registrations 2012 - 2013	
Summer 2012	
Equine Event Management	18
Functional Anatomy	54
Equine Genetics	51
Equine Behaviour	56
Management of the Equine Environment	63
Equine Business Finance & Risk Management	23
Advanced Equine Functional Anatomy	0
Fall 2012	
Equine Journalism	28
Equine Nutrition	54
Exercise Physiology	35
Equine Health & Disease Prevention	56
Equine Business Management	54
Stewardship of the Equine Environment	52
Management of the Equine Environment	57
Growth & Development	30
Advanced Equine Behaviour	7
Equine Welfare	8
Winter 2013	
Equine Behaviour	63
The Equine Industry	36
Functional Anatomy	66
Equine Nutrition	61
Marketing & Communications	38
Management of the Equine Environment	64
Advanced Equine Health through Nutrition	8
Total Enrollment	987

#### **Advanced Courses**

Course	Semester	Enrollment
Advanced Equine Functional Anatomy	S12	0
Advanced Behaviour	F12	7
Advanced Equine Health Through Nutrition	W13	6
Total		13

The new Advanced online Equine courses are not yet reaching the projected registration numbers.

#### **Groom One Online - Phase Three**

Course	Date	Enrollment
Groom One Online	2012	15
	Total	15

# **Anatomy Wet Lab**

Course	Date	Enrollment
A Guided Tour of Equine Anatomy	y April 20/13	12
Advanced Equine Anatomy	April 21/13	8
Total		

#### Behaviour & Safety 2-week online short course

Course	Session	Enrollment
Behaviour & Safety Online	Feb 2 – 16/13	91
Behaviour & Safety Online	Apr 1-14/13	119
	Total	210

# Biosecurity 2-week online short course

Course	Session	Enrollment		
Biosecurity Online	Oct 22 – Nov 4/12	34		
Biosecurity Online	Nov 5 – Nov 18/12	81		
	Total	115		

### **Colic Prevention 2-week online short course**

Course	Session	Enrollment
Colic Prevention Online	Mar 11-24/13	83
Colic Prevention Online	Apr 15-28/13	36
	Total	119

# 2012 - 2013 Statistical Profile Equine Studies

Where are our students coming from?

### **Canadian Students**

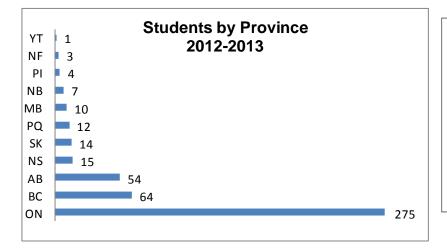
Student numbers		
AB	54	
BC	64	
MB	10	
NB	7	
NF	3	
NS	15	
NU	0	
NT	0	
ON	275	
PI	4	
PQ	12	
SK	14	
YT	1	
TOTAL	459	

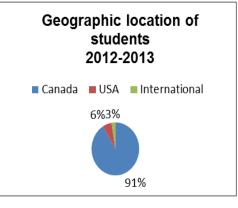
#### **US Students**

USA	
1	CA
1	СО
1	CT
3	FL
1 3 2	FL GA
1	IL
1	KY
1	MA
1	MI
1	MT
1	NC
1	NE
1	NJ
1 2 3 1	NY
3	OH
1	OK TN
1	
1	TX
2	VA
1	VT
4	WA
TOTAL	31

# International Students

International		
3	AUS	
1	BER	
2	CHINA	
1	INDIA	
1	ITALY	
1	KOREA	
1	S. AFRICA	
2	UAE	
1	N. ZEA	
13	TOTAL	





Year to Year Comparison by student geographic location

	2008	2009	2010	2011	2012
CAN	340	457	482	451	459
US	27	32	27	19	31
INT	13	14	15	17	13
	380	503	524	487	503

## Year by Year Comparison of the geographic location of Canadian Students

	2008/09	2009/10	2010/11	2011/12	2012/13
AB	37	47	39	49	54
ВС	33	38	47	48	64
MB	7	7	10	13	10
NB	2	5	4	8	7
NF	1	2	2	2	3
NS	6	5	11	10	15
NU	2	0	0	1	0
NT	0	1	0	0	0
ON	238	313	338	296	275
PI	0	2	0	0	4
PQ	10	27	19	18	12
SK	2	5	10	6	14
YT	2	5	2	0	1
	340	457	482	451	459

Number of courses offered each year

Humbor or oburoco offorou outil your		
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	

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

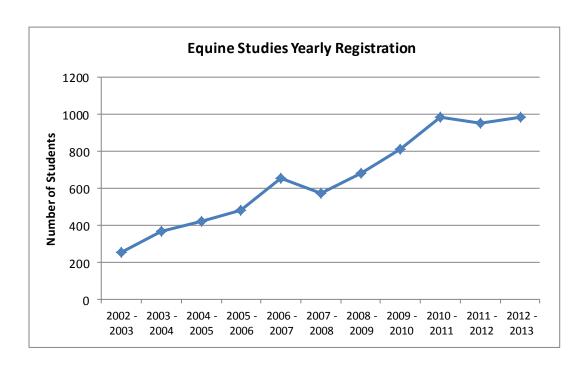
Two new courses were offered this year; Equine Welfare and Advanced Equine Behaviour.

### **Yearly Student Registration All Programs**

Year	# of reg	Projections	%
2002 - 2003	256	180	142.2
2003 - 2004	365	360	101.3
2004 - 2005	422	480	87.9
2005 - 2006	483	540	89.4
2006 - 2007	653	760	85.9
2007 - 2008	572	600	95.3
2008 - 2009	684	710	96.5
2009 - 2010	814	888	91.6
2010 - 2011	987	1009	97.8
2011 – 2012	954	949	100.5
2012 – 2013	987	1125	87.7

## **Equine Yearly Student Registration Summary**

The number of registrations has increased from last year by 33. Projections were higher due to the addition of new advanced courses.



#### **Appendix 11: Equine Guelph's Promotional Events**

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

#### **Displays for Equine Guelph programs**

War Horse - Equine Guelph Students Gala Fundraiser, Toronto, ON - May 05, 2012
Brooklin Spring Fair (EquiMania!) - May 31 - June 03, 2012
Toronto Horse Day (EquiMania! Safety Barn) - June 02, 2012
Canada's Outdoor Equine Expo (EquiMania! & U of G Guest Speakers) - June 08 - 10, 2012
Grand River Raceway (NEIGHbourhood - EquiMania!) - June 22 - August 10, 2012
Free Equine Biosecurity Workshop, University of Guelph, Guelph, ON - September 13, 2012
Heaven Can Wait, Beeton, ON (EquiMania!) - September 15, 2012
Brigden Fair, Brigden, ON (EquiMania!) - October 05 - 08, 2012
Erin Fair - Erin, ON (EquiMania!) - October 06 - 08, 2012
Royal Agricultural Winter Fair (EquiMania!) - November 02 - 11, 2012
All Equine Show, Western Fair, London, ON (EquiMania!) - March 15 - 17, 2013
Can-Am All Breeds Equine Emporium, Orangeville, ON (EquiMania!) - March 28 - 31, 2013
Report on Research Seminar, University of Guelph, Guelph, ON - April 06, 2013

### **Appendix 12: Media Coverage Summary**

Topic	Articles (May 1, 2012- April 31, 2013)
EquiMania!	19
Research	106
Education	146
General	107

#### **Coverage of Special Events**

Colic Programs	64
Report on Research Video Series & Presentation	48
Biosecurity Programs	35
HEALTH <i>flash</i>	29
Safety & Behaviour eWorkshop	17
Advanced Equine Health through Nutrition	9
Lameness Lab Online Tool	8
Danger Detective Online Games	7

### Special coverage featuring EquiMania! and Equine Guelph

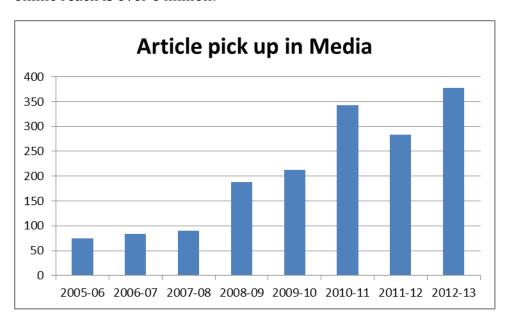
Canadian Sportsman Magazine	The Evolution of Equine Guelph
Trot Magazine	Avoid the Outbreak (5 pages on biosecurity)
2013 Horse Health Annual (Jan) & Canadian Thoroughbred Magazine (March)	The Aliens Inside (Dr. Scott Weese)
2013 Horse Health Annual	Stem Cell Reality Check (Dr. Thomas Koch)
Canadian Thoroughbred Magazine	The Slip (Dr Keith Betteridge)

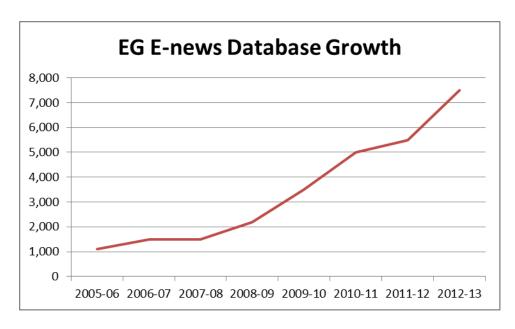
#### **Total Features: 378**

Media coverage is at an all time high, with an increase of 25% in the last year. See the bar chart following this text. The database of monthly E-News subscription has shown exceptional growth with 2,000 more members than the previous year (see line chart following this text). This is due in part to the addition of the new HEALTH *flash* enews communications program added in January 2013 which will be distributed four times a year. We continue to show an increase in the area of research article pick up by 10% over last year and articles pertaining to educational offerings are up by 35%. Equine Guelph has added many social media platforms to their communications strategy (Facebook,

Twitter, and You Tube) and continues to receive a substantial amount of mentions on Twitter, Facebook and various blogs. Since joining Facebook in 2011we have accumulated 391 loyal followers. Many of our posts have gone viral with over 500 forwards. The Colic Prevention eWorkshop postings have proven very successful, going viral with over 1,400 Facebook users viewing one of the posts in February 2013.

Links to the Equine Guelph webpage continue to be created by education websites, provincial equine associations, veterinary pages and sponsors. Our media profile continues to be high with our loyal supporters plus many new fans in the United States joining in distributing Equine Guelph information including many links to our tool pages and educational offerings. Equine Guelph's membership with American Horse Publications (AHP) continues to prove effective reaching a wider audience in the U.S. through mass distribution of 2 media articles per month to top U.S. equine publications. Equine Guelph's online reach is over 6 million!





By staying on the pulse of horse industry needs and introducing programs that are in demand, our e-database continues to show healthy growth with 27% more members than last year.

# **Media Coverage List**

Date	Magazine or Website	Article Title
12-May	Wellingtonadvertiser.com	Equine Guelph Has Vaccination Planner
12-May	TheHorse.com	Deworming Young Horses (Dr. Peregrine quoted)
12-May	Zallina.com	Shock Waves for Speedy Healing
12-May	Horse-Canada	May Newsletter- Horse Safety Website (Danger Detective Online)
12-May	Harnesslink.com	Dr. Judith Koenig - Shock Wave Treatment
12-May	Horse-Canada.com	Report on Research: Shock Waves for Speedy Healing
12-May	Horse-Canada	War Horse Production Support Equine Welfare
12-May	Horse-Canada	New Equine Veterinary Technician Certificate
12-May	Horse-Canada	Canada's Outdoor Equine Expo Ad (EquiMania! Mention)
12-May	Harnesslink.com	Horse Racing Open House At Grand River (Gayle Ecker speaking)
12-May	American Horse Publications.com	EquiMania! Outstanding in Omaha, Nebraska at Show Jumping International
12-May	The Rider	Report on Research - Biosecurity with Dr. Weese
12-May	The Rider	Yes You Can Learn to Make a Difference With Horses (Welfare Cert)
12-May	The Rider	More than Just Courses About Horses
12-May	The Rider	Report on Research - Dr. Koch Regenerative Therapy
12-May	HorseOwnerToday.com	Shock Waves for Speedy Healing
12-May	Standardbred Canada.ca	Hands on Horses at Grand River Raceway
12-May	WormsAndGermsBlog.com	Botulism Outbreak Kills 23 Horses (Dr. Weese)

12-May	WormsAndGermsBlog.com	Vesicular Stomatitis and Canadian Horse Import Restrictions (Dr. Weese)
12-May	WormsAndGermsBlog.com	Horse Flu Concerns at French Show (Dr. Weese)
12-May	WormsAndGermsBlog.com	Horse Smuggling (Dr. Weese)
12-Jun	atguelph.uoguelph.ca	Research Aims to Make Racetracks Safer for Horses (Dr. Thomason)
12-Jun	Horsetalk.co.nz	Dangerous Foal Bacteria Laid Bare, Vaccine on Way (Report on Research)
12-Jun	Horsetalk.co.nz	Major New Equine Health Centre for Canada
12-Jun	Standardbred Canada.ca	Removal of SAR Program 'Threatens Ontario Economy'
12-Jun	Wellington Advertiser	Audience Hears Facts on Equine Effect on Provincial Economy
12-Jun	Stablemanagement.com	Genomic Roadmap to Rhodococcus opens up new Expressway to Vaccine Development
12-Jun	Horse-Canada.com	Report on Research: Rhodococcus Vaccine Development
12-Jun	AtGuelph.uoguelph.ca	Research Aims to Make Racetracks Safer for Horses
12-Jun	Thehorse.com	University of Guelph Opens New Equine Health Care Facility
12-Jun	TheGuelphTribune.ca	New friend at high places at University of Guelph
12-Jun	Cosaonline.com	Equine Guelph's Unique and Highly Valued Industry Role Highlighted
12-Jun	NWHorseSource.com	Genomic Roadmap to Rhodococcus opens up new Expressway to Vaccine Development
12-Jun	HarnessLink.com	Vaccine to combat Rhodococcus bacterium!
12-Jun	HorseOwnerToday.com	Genomic Roadmap to Rhodococcus opens up new Expressway to Vaccine Development
12-Jun	HBPA.on.ca	Horse Groom Pre-Apprenticeship Program – April – October, 2013
10 1	I-l dII C	
12-Jun	IslandHorseCouncil.ca	Distance Learning Program Offers Ease of Equine Education
12-Jun 12-Jun	The Canadian Sportsman Magazine	The Evolution of Equine Guelph
12-Jun	The Canadian Sportsman Magazine	The Evolution of Equine Guelph
12-Jun 12-Jun	The Canadian Sportsman Magazine HCBC.ca	The Evolution of Equine Guelph  Distance Learning Program Offers Ease of Equine Education (Behaviour)
12-Jun 12-Jun 12-Jun	The Canadian Sportsman Magazine  HCBC.ca  WormsAndGermsBlog.com	The Evolution of Equine Guelph  Distance Learning Program Offers Ease of Equine Education (Behaviour)  More Queensland Hendra Virus Cases (Dr. Weese)
12-Jun 12-Jun 12-Jun 12-Jun	The Canadian Sportsman Magazine  HCBC.ca  WormsAndGermsBlog.com  WormsAndGermsBlog.com	The Evolution of Equine Guelph  Distance Learning Program Offers Ease of Equine Education (Behaviour)  More Queensland Hendra Virus Cases (Dr. Weese)  Eastern Equine Encephalitis in South Carolina (Dr. Weese)
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12-Jul	Racing Quarterly Magazine	Horse Safety Website
12-Jul	Horse Power Magazine	The Healthy Summer Barn
12-Jul	Harnesslink.com	Sister Act Sweeps Youth Camp Race (Gayle Ecker Special Guest)
12-Jul	Horse-Canada.com	Report on Research- Clara Cell Secretory Protein
12-Jul	HorseJournals.com	Jessica Phoenix to Speak at Equine Guelph's Upcoming Online Exercise Physiology Course
		Jessica Phoenix to be Guest Speaker in Equine Guelph's Exercise Physiology
12-Jul	EventingNews.com	Course
12-Jul	Horseownertoday.com	Distance Learning Program Offers Ease of Equine Education
12-Jul	Horseownertoday.com	Maximizing the Benefits of Genomic Research on Clara Cell Secretory Protein
12-Jul	Thehorse.com	Study- Horses More Relaxed Around Nervous Humans (Dr. Merkies)
12-Jul	Horse-Canada.com (&July Enews)	Beat the Bugs with Biosecurity
12-Jul	The Rider	Genomic Roadmap to Rhodococcus opens up new Expressway to Vaccine Development
12-Jul	The Rider	Distance Learning Program Offers Ease of Equine Education
12-Jul	The Rider	Scholarship Opportunity (QHRI) - Equine Guelph eligibility mentioned
12-Jul	The Rider	New Centre Will Advance Health and Welfare of Equine Athletes
12-Jul	Adaptcouncil.org	Equine Guelph Infection Control Workshops and eWorkshop
12_jul	bulletin.ovc.uoguelph.ca	Equine Guelph Offers More Biosecurity Workshops
12-Jul	Horsejournals.com	Planning For a Profitable Equine Business with Equine Guelph
12-Jul	Ontariotrails.on.ca	Equine Guelph -Beat the Bugs with Biosecurity -Protect your horse
12-Jul	WormsAndGermsBlog.com	Horse Shipping Infections are drugs the answer?
12-Aug	HorseCanada.com (Horse Beat news Aug)	Report on Research: Investigating Intestinal Microflora
12-Aug	EquiMed.com	Equine Guelph Combats Horse Colic with Your Help
12-Aug	AmericasHorseDaily.com	Itchy and Scratchy (Dr. Yu)
12-Aug	Horses-Riding.com	Distance learning program offers ease of equine education
12-Aug	EquineCanada.ca	Equine Guelph Combats Colic with your help
12-Aug	Horses-Riding.com	Equine Guelph Combats Colic with your help
12-Aug	OQHA	Beat the Bug with Biosecurity
12-Aug	OQHA	Equine Guelph Colic Survey (sent in their e-newsletter)
12-Aug	AAC -Aug Enewsletter	Link to Equine Guelph Biosecurity Program
12-Aug	StableManagement.com (& weekly enews)	Bacterial Population of the Gut (embedded Dr. Weese Report on Research)
12-Aug	HarnessLink.com	Who Lives in Your Horse's House
12-Aug	StableManagement.com (& weekly enews)	Biosecurity - How to use Quarantine to Protect Horses (embedded Dr. Weese Video)
12-Aug	Whoa! Magazine Summer 2012	Toronto Horse Day (EquiMania! mentioned)
12-Aug	Whoa! Magazine Summer 2012	New Equine Sports & Reproduction Centre Opens at U of G
12-Aug	Whoa! Magazine Summer 2012	Beat Heat Stress Before it Begins (Gayle Ecker interviewed)
12-Aug	Whoa! Magazine Summer 2012	Equine Guelph Courses & eWorkshops Ad
12-Aug	Whoa! Magazine Summer 2012	Equine Guelph's First Offering of Equine Welfare
12-Aug	AAEP.org (& enewsletter)	Equine Guelph Combats Colic With Your Help

12-Aug	AAEP.org (& enewsletter)	Beat the Bugs is Back with More Biosecurity
12-Aug	Canadian Thoroughbred Magazine	Deep Impact (Dr. Lindinger research on bleeders)
12-Aug	HarnessLink.com	Equine Journalism teaches the 'Write' stuff
12-Aug	Horsetalk.co.nz	University to Offer Equine Journalism Course
12-Aug	The Rider	Top Athlete Jessica Phoenix to be Guest Speaker in Equine Guelph'sCourse
12-Aug	The Rider	Equine Guelph Combats Colic With Your Help
12-Aug	The Rider	Planning for a Profitable Equine Business
12-Aug	The Rider	Infection Control Workshops and eWorkshop Are Back
12-Aug	The Rider	Who Lives in Your Horse's House
12-Aug	Horsejournals.com	Equine Journalism Teaches all the Write Stuff
12-Aug	StandardbredCanada.ca	Equine Journalism Teaches all the Write Stuff
12-Aug	HorseOwnerToday.com	Equine Guelph Combats Colic With Your Help
12-Aug	Thehorse.com	Equine Guelph Seeing Horse Owner Input in Colic Survey
12-Aug	EquineTourismCommunity.com	Equine Guelph Combats Colic With Your Help
12-Aug	Succeed-Equine.com	Help Combat Colic: Take the Equine Guelph Colic Survey
12-Aug	Harnesslink.com	Guelph Combats Colic with your Help
12-Aug	HorseTalk.co.nz	Comprehensive Colic Survey in Canada
12-Aug	MorganHorse.com	Equine Guelph Combats Colic With Your Help
12-Aug	WormsAndGermsBlog.com	Eastern Equine Encephalitis Alert: Ontario (Dr. Weese)
12-Aug	WormsAndGermsBlog.com	Equine Infectious Anemia: Outbreak Out West (Dr. Anderson)
12-Aug	WormsAndGermsBlog.com	Transfusion-Associated Equine Infectious Anemia (Dr. Weese)
12-Aug	WormsAndGermsBlog.com	Banner Year for West Nile Virus (Dr. Weese)
12-Aug	WormsAndGermsBlog.com	Vesicular Stomatitis in Colorado (Dr. Weese)
12-Aug	WormsAndGermsBlog.com	Equine West Nile Virus Advisory: Ontario (Dr. Weese)
12-Sep	HarnessLink.com	A new dimension in research into 'Roaring'
12-Sep	Horse-Canada.cm Magazine	Equine Business Management Course
12-Sep	Horse-Canada.cm Magazine	Colic Prevention Program
12-Sep	Racing Quarterly	Tuition Scholarship (Equine Guelph mention and photo)
12-Sep	Guelph Mercury.com & in Print	Equine Specialists at U of G Wonder if Jobs Will Still Exist?
12-Sep	Horse-Canada.com	Report on Research : 3D Adds New Dimension to Research into Roaring
12-Sep	Gaitpost Magazine	Equine Guelph Combats Colic With Your Help
12-Sep	Trot Magazine	Avoid the Outbreak (5page spread on Biosecurity)
12-Sep	HolisticHorse.com	Equine Guelph Combats Colic With Your Help
12-Sep	Horse Council British Columbia	Equine Guelph Colic Survey (sent in their e-newsletter)
12_Sep	EquiNews.com	Equine Guelph Seeking Input on Colic
12-Sep	ColicCrusade.com	Help Combat Colic: Take the Equine Guelph Colic Survey
12-Sep	Horsejournals.com	How can horse owners practice good biosecurity
12-Sep	Horses-Riding.com	How can horse owners practice good biosecurity

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12-0ct	HorseJournals.com	EquiMania! Returns to the Royal
12-0ct	AlbertaHorseIndustry.ca	Peter W. Physick-Sheard (talking on Cardiac rhythm disturbances in Alberta Conference)
12-0ct	AAEP.org/events	Beat the Bugs is Back with More Biosecurity - eWorkshop (in Calendar of Events)
12-0ct	Inside Wellington - Equine Edition	Ultrasound Adds Dimension to Research on Roaring
12-0ct	Inside Wellington - Equine Edition	Expand Equine Joint Knowledge with online tool
12-0ct	Inside Wellington - Equine Edition	Proper Nutrition Can Improve Quality of Life for Horses
12-0ct	Inside Wellington - Equine Edition	EquiMania! Exhibit returns to the Royal Winter Fair
12-0ct	Inside Wellington - Equine Edition	Tips to Help Horse owners Prevent Fall and Winter Colic Episodes in Horses
12-Oct	WellingtonAdvertiser.com	EquiMania! Exhibit returns to the Royal Winter Fair
12-Oct	Nova Scotia Equestrian Federation	Proper Nutrition can make a difference in the life of your horse.
12-0ct	Equine Association of Yukon	Proper Nutrition Can Make a Difference in the Life of Your Horse
12-0ct	Horseownertoday.com	Survey of Current Biosecurity Procedures at Breeding Farms
12-0ct	Horseownertoday.com	EquiMania! Returns to the Royal
12-0ct	Horse Council British Columbia	Equine Guelph's eWorkshop Helps You Protect Your Horse from Infectious Diseases
12-Oct	Horses-Riding.com	Survey of current biosecurity practices at breeding farms
12-Oct	MyHorseDaily.com	Proper Nutrition Can Make a Difference in the Life of Your Horse
12-0ct	IslandHorseCouncil.ca	Survey of Current Biosecurity Procedures at Breeding Farms
12-0ct	kppusa.com Kentucky Performance Products	Link to Equine Guelph Online Healthcare tools
12-0ct	Horsetalk.co.nz	Online Tool Developed to teach about horse joints
12-0ct	Thehorse.com	Equine Guelph to Offer Online Equine Nutrition Course
12-0ct	WormsAndGermsBlog.com	Ontario Restrictions on Illinois Race Horses (Dr. Weese)
12-0ct	WormsAndGermsBlog.com	Canine Flu: Risk to Horses (Dr. Weese)
12-Oct	WormsAndGermsBlog.com	Equine Coronavirus A New Problem? (Dr. Weese)
12-0ct	WormsAndGermsBlog.com	Will Genomics Eradicate Strangles? (Dr. Weese)
12-Oct	WormsAndGermsBlog.com	Identifying the Right Parasite Control Program (Dr. Weese)
12-0ct	WormsAndGermsBlog.com	Streptococcus Zooepidemicus: Bar-coding the bad Guys (Dr. Weese)
12-Nov	WormsAndGermsBlog.com	Hendra Vaccination Now a Reality (Dr. Weese)
12-Nov	Harnesslink.com	Following the Hoofprints of Horse History (Equine Industry Course)
12-Nov	Regional County News	Wellington Farm Safety Day (Equine Guelph Hazard barn)
12-Nov	IslandHorseCouncil.ca	EG Nov Enews posted
12-Nov	Trot Magazine	EG Courses Full Page Ad
12-Nov	StandardbredCanada.ca	Trot For Kids going to EquiMania! at RAWF
12-Nov	The Rider	Expand Your Joint Knowledge
12-Nov	HorseJournals.com	Following the Hoof Prints of Horse History
12-Nov	The Rider	Survey of Current Biosecurity Procedures at Breeding Farms
12-Nov	The Rider	Proper Nutrition Can Make a Difference in the Life of Your Horse
12-Dec	Equinechronicle.com	Are you saddling up safely?

12-Dec	Equinechronicle.com	Preventing Fall and Winter Colic
12-Dec	kppusa.com Kentucky Performance Products	Preventing Fall and Winter Colic
12-Dec	IslandHorseCouncil.ca	Equine Guelph December Enews
12-Dec	Thehorse.com	Preventing Fall and Winter Colic
12-Dec	EquineYukon.weebly.com	Preventing Fall and Winter Colic
12-Dec	StandardbredCanada.ca	Have Fun Photos Of Your Horse
12-Dec	Thehorse.com	Equine Guelph Offers Equine Industry History
12-Dec	Thehorse.com	Equine Guelph to offer Anatomy Course
12-Dec	Horsetalk.co.na	Watch for Colic as Seasons Change, Experts Urge
12-Dec	Horsetalk.co.na	Online Equine Functional Anatomy Course Offered
12-Dec	allabouthorses.com	Equine Guelph Offers Equine Industry History
12-Dec	Harnesslink.com	A Horses Health - More than Just Skin Deep (Functional Anatomy Course)
12-Dec	The Rider.com	EquiMania! Facebook Photo Contest Returns!
12-Dec	Horse-Canada.com	Colic Prevention eWorkshop
12-Dec	TheHorse.com	12 Christmas Wishes From Vet Experts (Kim McGurrin on Heart Health)
12-Dec	The Rider	Can Am Equine Raise Monies for University of Guelph Equine
12-Dec	The Rider	Following the Hoof Prints of Horse History
12-Dec	Equinechronicle.com	Equine Functional Anatomy, 12 week online course
12-Dec	Stablemanagement.com	Project Preservation Embryo
12-Dec	TheHorse.com	Preventing Fall and Winter Colic (Dec 31 2012 Enews)
12-Dec	Racing Quarterly	Groom One Update (congratulating students)
12-Dec	WormsAndGermsBlog.com	More Equine Herpes virus, this time in Minnesota (Dr. Weese)
12-Dec	WormsAndGermsBlog.com	MRSA in an Alpaca (Dr. Weese)
13-Jan	WormsAndGermsBlog.com	Equine Herpes virus in Michigan (Dr. Weese)
13-Jan	WormsAndGermsBlog.com	Equine MRSA in Israel - Different Strain, Same Old Tracks (Dr. Anderson)
13-Jan	PleasureHorse.com	Learning Safe Horsemanship Through Understanding Behaviour
13-Jan	Equimed.com	Equine Guelph Introduces Health Flash - An Important Tool for Horse Owners
13-Jan	IslandHorseCouncil.ca	Equine Guelph Launches New Education Page
13-Jan	Thehorse.com	Equine Guelph to Host Healthy, Happy Horse Workshop
13-Jan	2013 Horse Health Annual	AD: Horse Behaviour & Safety
13-Jan	2013 Horse Health Annual	AD: Jan & May Courses COLES
13-Jan	2013 Horse Health Annual	Equine Nutrition Course Now Available
13-Jan	2013 Horse Health Annual	Journey Through the Joints
13-Jan	2013 Horse Health Annual	Stem Cell Reality Check (Thomas Koch) - 6 page spread
13-Jan	2013 Horse Health Annual	Champions of the Cause (Embryo story- Betteridge, Chenier)
13-Jan	2013 Horse Health Annual	The Aliens Inside (Scott Weese) - 5 page spread
13-Jan	2013 Horse Health Annual	C. difficile: A Fickle Foe (Dr. Arroyo)
13-Jan	2013 Horse Health Annual	Deconstructing Deworming (Dr. Peregrine)

13-Jan	The Rider	A Horses Health - More than Just Skin Deep (Functional Anatomy Course)
13-Jan	The Rider	1/2 page ad : Horse Behaviour & Colic Workshops
13-Jan	The Rider	Project Preservation Embryo
13_Jan	McbrideTrailers.com	Equine Guelph Horse Health link
13-Jan	Equimed.com	Equine Guelph Declares 2013 the Year of Colic Prevention
13-Jan	Horseownertoday.com	EquiMania! Facebook Photo Contest Returns
13-Jan	Horseownertoday.com	Sign up for your free Health Flash
13-Jan	HorseJournals.com	Equine Guelph Declares 2013 the Year of Colic Prevention!
13-Jan	StableManagement.com	Equine Guelph Declares 2013 the year of Colic Prevention
13-Jan	StableManagement.com	Sign up for your FREE Health Flash
13-Jan	EquineNiagaraNews.com	Equine Guelph launches new education page
13-Jan	Horses-Riding.com	Equine Guelph Declares 2013 the year of Colic Prevention
13-Jan	Horses-Riding.com	Sign up for your FREE Health Flash
13-Jan	Horse Council British Columbia	2013 COACHES PROFESSIONAL DEVELOPMENT DAY (Heather Gentles)
13-Jan	Horse Council British Columbia	Fantastic Speakers at the 2013 HCBC Equine Education Conference (Dr. Sid Gustafson)
13-Jan	Manitoba Horse Council	Equine Guelph Health Flash
13-Jan	Horseownertoday.com	Equine Guelph Declares 2013 the Year of Colic Prevention!
13-Jan	horse.on.ca	Equine Guelph Declares 2013 the Year of Colic Prevention
13-Jan	WesternHorseReview.com	Equine Guelph Reaffirms Colic Prevention
13-Jan	horse.on.ca	Sign up for your Free Health Flash
13-Jan	HorseJournals.com	Equine Guelph Launches New Education Page
13-Jan	Equinews.com	Information About Horse Health Offered by Equine Guelph
13-Jan	Equimed.com	Equine Functional Anatomy - Discover Your Horse from the Inside Out
13-Jan	Harnesslink.com	Equine Guelph - Introduction of Health Flash
13-Jan	The Rider	Can Am Equine Continues to Add Clinicians
13-Jan	The Rider	A Horse's Health - More than Just Skin Deep
13-Jan	The Rider	Project Preservation Embryo
13-Jan	The Rider	Preventing Fall and Winter Colic
13-Jan	Equinechronicle.com	Learning Safe Horsemanship Through Understanding Behaviour
13-Jan	IslandHorseCouncil.ca	Health Flash Link Winter 2013
13_Jan	Harnesslink.com	2013 declared the year of colic prevention
13-Jan	HorseJournals.com	Learning Safe Horsemanship Through Understanding Behaviour
13-Jan	Harnesslink.com	Horse Behaviour & Safety eWorkshop
13-Feb	Harnesslink.com	Lameness Lab - Not Just for Kicks
13-Feb	StableManagement.com	Lameness Lab - Not Just for Kicks
13-Feb	Harnesslink.com	Take Your Equine Business to the Next Level
13-Feb	thehorse.com	AD- Health Flash (Monthly in Nutrition Enews Feb 2012 - Feb 2013)
13-Feb	StandardbredCanada.ca	AD- (in kind) Colic eWorkshop

13-Feb	Equinechronicle.com	Take Your Equine Business to the Next Level
13-Feb	EquiMed.com	Equine Guelph Lameness - A Great Online Tool for Horse Owners
13-Feb	IslandHorseCouncil.ca	Lameness Lab - Not Just for Kicks
13-Feb	HorseNovaScotioa.ca	Behaviour Course EG (posted on website)
13-Feb	Horse-Canada.com	Report on Research Presentation
13-Feb	BarnMice.com	Two New eWorkshops (Behaviour & Colic)
13-Feb	American Horse Publications.com	Colic Prevention & Horse Behaviour & Safety eWorkshop
13-Feb	NCRHHA.ca	Equine Guelph Feb 2013 Enews posted
13-Feb	Equinechronicle.com	Colic Prevention & Horse Behaviour & Safety eWorkshop
13-Feb	IslandHorseCouncil.ca	Horse Behaviour & Safety Program (posted on home page & news story)
13-Feb	IslandHorseCouncil.ca	Take Your Equine Business to the Next Level
13-Feb	IslandHorseCouncil.ca	Report on Research Special Equine Research Presentation
13-Feb	Canadian Thoroughbred	The Slip (Dr. Betteridge on Early pregnancy loss)
13-Feb	Canadian Thoroughbred	An Ounce of Prevention (Dr. Weese interviewed, Bio workshop highlighted)
13-Feb	QR00I.com	Report on Research Free Seminar
13-Feb	Equinechronicle.com	Online Equine Lameness Lab: Fun Tool Helps Educate
13-Feb	The Rider	Equine Guelph Declares 2013 the Year of Colic Prevention
13-Feb	The Rider	Equine Guelph: Sign Up for Free Health Flash
13-Feb	The Rider	It's Almost All Equine
13-Feb	The Rider	Can-Am Equine Emporium shaping to be Ontario's Largest Equine Show
13-Feb	The Rider	Lameness Lab - Not Just for Kicks
13-Feb	The Rider	EquiMania Easter Ad
13-Feb	The Rider	Behaviour Course
13-Feb	HorseJournals.com	Lameness Lab – Not Just for Kicks
13-Feb	TheHorse.com	Equine Guelph Offers Online Colic Course
13-Feb	WormsAndGermsBlog.com	Antimicrobial Stewardship: Time for change (Dr. Weese)
13_Feb	EquiMed.com	Special Equine Research Report at University of Guelph
13-Feb	EquiMed.com	Equine Guelph Offers Two New eWorkshops
13-Mar	SaskHorse.ca	Equine Guelph Announces Second Offering of Colic Prevention eWorkshop!
13-Mar	AlbertaEquestrian.com	Intercity Insurance - Equine Guelph's First 'Education Patron'
13-Mar	EquineYukon.weebly.com	Learning Safe Horsemanship Through Understanding Behaviour
13-Mar	EquineYukon.weebly.com	Equine Guelph Presents Colic Workshop for Veterinarians
13-Mar	Horseownertoday.com	Intercity Insurance - Equine Guelph's First 'Education Patron'
13-Mar	Horseownertoday.com	Equine Guelph Presents Colic Workshop for Veterinarians
13-Mar	Farms.com	Equine Guelph to Host Horse Behaviour, Safety eWorkshop
13-Mar	TheHorse.com	Equine Guelph to Host Horse Behavior Safety eWorkshop
13-Mar	TheRider.com	Intercity Insurance - Equine Guelph's First Education Patron
13-Mar	EquineYukon.weebly.com	AG Safety Week is March 10 - 16

13-Mar	nwHorsesSource.com	Equine Guelph Presents Colic Workshop for Veterinarians
13-Mar	EquiMed.com	Equine Guelph Announces Second Colic Prevention eWorkshop
13-Mar	Equimed.com	Equine Guelph Colic eWorkshop Begins Today!
13-Mar	CTHSNational.com	Equine Guelph Announces Second Offering of Colic Prevention eWorkshop
13-Mar	HarnessLink.com	King - Equine Guelph's First Education Patron
13-Mar	Harnesslink.com	A Second eWorkshop on Colic Prevention
13-Mar	IslandHorseCouncil.ca	Results of Equine Guelph Presents Colic Workshop for Veterinarians
13_Mar	EquineYukon.weebly.com	Equine Guelph Announces Second Offering of Colic Prevention eWorkshop
13-Mar	BarnMice.com	Report on Research Update
13-Mar	EquiNews.com	Equine Guelph Offers Research Seminar
13-Mar	HorseJournals.com	Equine Guelph Announces Second Offering of Colic Prevention eWorkshop
13-Mar	The Rider	Take Your Equine Business to the Next Level
13-Mar	The Rider	"Report on Research" Special Equine Research Presentation at the University of Guelph
13-Mar	The Rider	World Famous EquiMania!
13-Mar	The Rider	Can-Am Celebrates & Supports Equine Guelph
13-Mar	The Rider	Youth and the Future of the Horse Industry at Can-Am (EquiMania! mention)
13-Mar	The Rider	Can-Am Equine Emporium 2013 Clinicians (Gayle Ecker)
13-Mar	EquiMed.com	Intercity Insurance Becomes Education Patron of Equine Guelph
13-Mar	bulletin.ovc.uoguelph.ca	Equine Guelph Hosts 'Report on Research' Presentation
13-Mar	HBPA.on.ca	"Report on Research" Special Equine Research Presentation at the University of Guelph
13-Mar	HBPA.on.ca	Equine Guelph "Report on Research"
13-Mar	Equine Canada Magazine	Protect Your Horse From Infectious Disease (poster)
13-Mar	Canadian Thoroughbred Mag	The Aliens Inside(Scott Weese) 5 page spread
13-Mar	EquineNiagaraNews.com	Report on Research - Special Equine Research Presentation at the University of Guelph
13-Mar	horse.on.ca	Equine Guelph offers second colic prevention eWorkshop
13-Apr	thehorse.com	Equine Guelph to Offer Second Colic Prevention eWorkshop
13-Apr	NCRHHA.ca	Equine Guelph March Enews (posted)
13-Apr	horsetalk.co.nz	Few horse owners undertake egg counts - parasite expert
13_Apr	Horse-Canada.com	Equine Guelph's Report on Research Seminar
13-Apr	HarnessLink.com	Guelph's EquiMania! - another record year
13-Apr	Holistic Horse Magazine	Biosecurity for Horse Farms
13-Apr	Harnesslink.com	Parasite Control with Researcher Dr. Peregrine
13-Apr	Harnesslink.com	Report on Research Engages Inquiring Minds
13-Apr	Horse.on.ca	Confirmed Case of Equine Herpes Myeloencephalopathy
13-Apr	Horse.on.ca	Equine Guelph Health Flash - Equine Herpes Virus - posted on OEF Biosecurity web page
13-Apr	Greenhawk Flyer	Equine Guelph Health Flash AD - as per sponsorship agreement
13-Apr	HBPA.on.ca	Health Flash

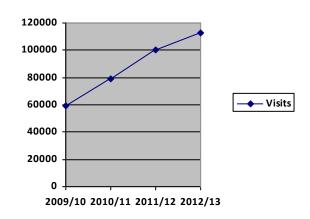
13-Apr	HBPA.on.ca	Confirmed Case of Equine Herpes Myeloencephalopathy in Wellington County
13-Apr	Inside Wellington - Equine Edition	15,000 Equine Enthusiasts attend Can-AM (EquiMania! mention)
13-Apr	Inside Wellington - Equine Edition	Report on Research seminars at University of Guelph engage inquiring minds
13-Apr	Inside Wellington - Equine Edition	Equine Guelph Lameness Lab not just for kicks
13-Apr	Inside Wellington - Equine Edition	EquiMania Facebook Photo Contest
13-Apr	Mid-Atlantic Thoroughbred Magazine	Equine Guelph Full Page Biosecurity Poster
13-Apr	EquiMed.com	Equine Stem Cell Research Advances at Guelph
13-Apr	EquiMed.com	Parasite Control with Dr. Peregrine
13-Apr	BarnMice.com	Parasite Control with Researcher Dr. Peregrine
13-Apr	Ferguson Equine Veterinary Services	Parasite Control with Dr. Peregrine
13_Apr	EquineNiagaraNews.com	Parasite Control with Researcher Dr. Peregrine
13-Apr	IslandHorseCouncil.ca	Equine Guelph Announces Second Offering of Colic Prevention eWorkshop!
13-Apr	IslandHorseCouncil.ca	Spring Health Flash Link
13-Apr	IslandHorseCouncil.ca	Horse Behaviour & Safety eWorkshop
13-Apr	TheHorse.com	EHV-! Confirmed in Ontario Horse
13-Apr	NCRHHA.ca	Health Flash Reprint Spring 2013
13-Apr	Thehorse.com	Canadian Researchers Battling Drug Resistant Bacteria (Dr, Clarke)
13-Apr	НСВС.са	Equine Guelph's Colic Prevention e-Workshop
13-Apr	StableManagement.com	Parasite Control with Dr. Peregrine
13-Apr	Equiman.com	Confirmed case of Equine Herpes (EG resources sited EquiPlanner)
13-Apr	NCRHHA.ca	Equine Guelph Health Flash Spring 2013 (posted)
13-Apr	EquiMed.com	Equine Guelph's Report on research a Great Success
13-Apr	HorseJournals.com	April 6 - Guelph - Equine Guelph "Report on Research" Seminar
13-Apr	EquiNews.com	Equine Guelph to Host E-Workshop on Colic in Horses

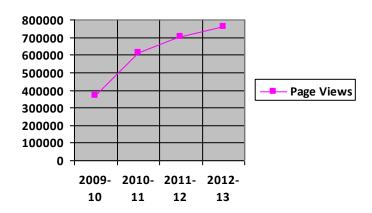
# **Appendix 13: Web Site Report**

 Visits
 May 1, 2012 - Apr 30, 2013
 112,354

 Page views
 May 1, 2012 - Apr 30, 2013
 757,744

Steady growth has been recorded in the past 4 years in Equine Guelph web traffic:





# **NEW VS. RETURNING**

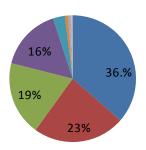
 1. Returning Visitor
 63,313
 56.35%

 2. New Visitor
 49,041
 43.65%



# **Browser - Operating System**

1.	Internet Explorer	40,745	36.26%
2.	Safari	26,280	23.39%
3.	Chrome	21,210	18.88%
4.	Firefox	17,947	15.97%
5.	Android Browser	3,380	3.01%
6.	Safari (in-app)	904	0.80%
7.	Mozilla Compatible Agent	596	0.53%
8.	BlackBerry9300	287	0.26%
9.	IE with Chrome Frame	248	0.22%
10.	Opera Mini	177	0.16%



# **TRAFFIC**

# 112,354 people visited this site

Search Traffic 61,391 Visits Direct Traffic 26,751 Visits Referal Traffic 18,263 Visits



# TOP TRAFFIC SOURCES BY SEARCH

1.	Google / organic	56,215	50.03%
2.	(direct) / (none)	26,751	23.81%
3.	Bing / organic	2,718	2.42%
4.	ovc.uoguelph.ca / referral	2,579	2.30%
5.	facebook.com / referral	1,860	1.66%
6.	yahoo / organic	1,406	1.25%
7.	courses.erc.open.uoguelph.ca / referral	1,277	1.14%
8.	enews - Nov_12 / email	1,023	0.91%
9.	uoguelph.ca / referral	913	0.81%
10.	horse.on.ca / referral	804	0.72%

# **TOP REFERAL SOURCES**

	Source	Visits	% Visits
1.	ovc.uoguelph.ca	2,579	14.12%
2.	facebook.com	1,860	10.18%
3.	courses.erc.open.uoguelph.ca	1,277	6.99%
4.	uoguelph.ca	913	5.00%
5.	horse.on.ca	804	4.40%
6.	surveymonkey.com	732	4.01%
7.	standardbredcanada.ca	679	3.72%
8.	thehorse.com	570	3.12%
9.	m.facebook.com	539	2.95%
10.	google.ca	443	2.43%

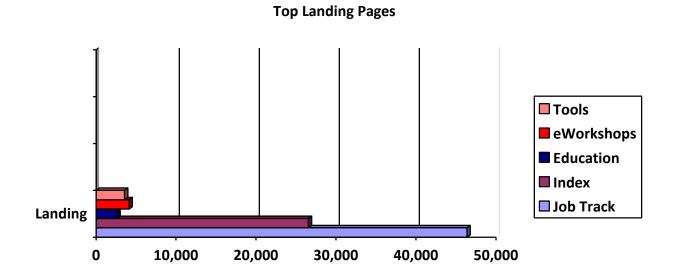
# TRAFFIC SOURCES – SOCIAL MEDIA

	Social Network	Visits	% Visits
1.	Facebook	2,400	92.84%
2.	YouTube	51	1.97%
3.	Twitter	42	1.62%
4.	Pinterest	38	1.47%
5.	LinkedIn	15	0.58%
6.	Blogger	12	0.46%
7.	tinyURL	7	0.27%
8.	Weebly	7	0.27%
9.	WordPress	6	0.23%
10.	Yuku	2	0.08%

# **CONTENT**

# **LANDING PAGES**

1.	/jobtrack/jobs.php	35,648	31.73%
2.	/index.php	26,565	23.64%
3.	/jobtrack/index.php	10,726	9.55%
4.	/education/index.php	2,631	2.34%
5.	/eworkshops/colic.php	1,642	1.46%
6.	/Tools/lameness_lab.php	1,520	1.35%
7.	/education/colic.php	1,370	1.22%
8.	/eworkshops/behaviour_safety.php	1,140	1.01%
9.	/education/equiplanner.php	1,051	0.94%
10.	/Tools/biosecurity 2011.php	1,003	0.89%



# **EXIT PAGES**

1.	/jobtrack/jobs.php	39,022	34.73%
2.	/index.php	12,567	11.19%
3.	/education/index.php	3,402	3.03%
4.	/jobtrack/index.php	2,148	1.91%
5.	/eworkshops/colic.php	1,643	1.46%
6.	/news/signup.php	1,329	1.18%
7.	/eworkshops/behaviour_safety.php	1,176	1.05%
8.	/about_us/equine.php	1,067	0.95%
9.	/Tools/biosecurity_calculator_2011.php	1,024	0.91%
10.	/education/colic.php	982	0.87%

### **Appendix 14: Sponsors**

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



COLIC Prevention Program



EquiMania! Exhibit



EquiMania! Youth Safety Initiative



EquiMania! Agricultural Careers Display



EquiMania! Youth Safety Initiative



EquiMania! Youth Safety Initiative



HEALTHflash!



EquiMania! Exhibit



Hoofprints Memorial Program Sponsored by Intercity Insurance



EquiMania! Nutrition Display



EquiMania! Youth Industry Display



EquiMania! Youth Safety Initiative



Website Equine Bio-Security Calculator



EquiMania! Youth Safety Initiative



Website Vaccination Equi-Planner



EquiMania! Youth Safety Initiative



Equine Guelph-OEF 'War Horse' Welfare Education Fund



Website Joint Anatomy Tool & EquiMania! Parasite Display

# Equine Guelph Financial Report 2012-2013 As at April 30th, 2013

	Holding Accounts					Overhead	Programs					Total Equine
	E. P. Taylor	ORC	SRA	НВРА	General Research	Overneau	Education	Communi- cations	Develop- ment	Research Support	Sponsorshi p	Guelph
BEVENUE	710655	045878	046069	046071	046960	046073	046077	046079	046851	048865	048864	
REVENUE Funds Received from Funding Agencies	73,580 1			90.000	_							163,580
HIP Funds	73,300	198,200 <sup>2</sup>	-	90,000	-	-	-	-	-	-	-	198,200
Quarter Horse Program	_	35,000	_	_	_		_	_	_	_	_	35,000
Donations	_	-	_	-	-	_	-	_	-	_	_	-
Tuition & Workshops (S12,F12, W13)	-	_	-	-	-	-	139,717	_	-	_	-	139,717
Other University Contributions	-	-	-	-	-	-	•	-	-	-	-	· -
External Contributions	-	-	-	-	-	-	197,513	25,465	5,606	-	47,274	275,858
TOTAL REVENUE	73,580	233,200	-	90,000	-	-	337,230	25,465	5,606	-	47,274	812,355
INTERNAL TRANSFERS between accounts:												
From Agency Fund to Overhead	_	(46,640)	_	(18,000)	_	64,640	_	_	_	_	_	_
From Agency Fund to Program	_	(10,010)	_	(10,000)			_	_	-	_	_	_
From Overhead to Program	-	_	-	-	-	(64,640)	-	43,309	-	21,331	-	-
Transfer between other Funds	-	-	-	-	-	` ′ ′	-	32,500	-	(32,500)	-	-
Transfer from Education to Communication	-	-	_	-	-	-	(5,000) 5	5,000 5	-	-	-	-
Transfer from Sponsorship	_	_	_	-	-	_	58,866	•	-	_	(58,866)	_
TOTAL TRANSFERS	-	(46,640)	-	(18,000)	-	-	53,866	80,809	-	(11,169)	(58,866)	-
PROGRAM EXPENDITURES												
	(74.04.4)	(450.700)		(00.450)	(10,000)							(040.450)
Research Projects Research Equipment (Equine Foundation Donation	(74,914)	(159,786)	-	(89,450)	(16,000)	-	-	-	-	-	-	(340,150)
Research Support	-	_	_	_	_	_	_	_	_	_	_	_
Education							(404,818) 4					(404,818)
Communications	_	_	-	-	_	-	(404,818)	(164,702)	_	_	_	(164,702)
Development	_	_	_	_	_	_	_	(104,702)	(2,921)	_	_	(2,921)
Sponsorship	_	_	_	-	_	_	_	_	(2,021)	_	(10,218)	(10,218)
TOTAL PROGRAM EXPENDITURES	(74,914)	(159,786)	-	(89,450)	(16,000)	-	(404,818)	(164,702)	(2,921)	-	(10,218)	(922,809)
TOTAL EXPENDITURES	(74,914)	(206,426)	-	(107,450)	(16,000)	-	(350,953)	(83,893)	(2,921)	(11,169)	(69,084)	(922,809)
NET CHANGE IN FUND BALANCE	(1,334)	26,774	-	(17,450)	(16,000)	-	(13,723)	(58,428)	2,685	(11,169)	(21,810)	(110,455)
FUND BALANCE, Previous Year-end	85,905	(11,477)	-	17,450	15,224	-	184,981	62,045	10,919	41,042	69,083	475,172
FUND BALANCE as at April 30th, 2013	84,571	15,297	-	-	(776) <sup>3</sup>	-	171,259	3,617	13,604	29,873	47,273	364,717