

WINTER 2012

Equine Science Center

UPDATE

“Better Horse Care Through Research and Education”

Upcoming Events

Horse Management Seminar

Saturday, February 4, 2012

Cook Campus Center

New Brunswick, NJ

Call 848-932-5529

Junior Breeder's Symposium

Saturday, March 31, 2012

G. H. Cook Campus

New Brunswick, NJ

debra.moscattello@ag.state.nj.us

Ag Field Day at Rutgers Day

Saturday, April 28, 2012

G.H. Cook Campus

New Brunswick, NJ

rutgersday.rutgers.edu

RUTGERS

New Jersey Agricultural
Experiment Station

Responsible Horse Ownership in a Tough Economic Climate

Concerned about keeping your horse as budgets get tighter? Wonder how you can reduce feed costs? Are your horse's veterinary service fees becoming increasingly difficult to manage? The Rutgers Equine Science Center has the answers to these questions and many more.

“Responsible Horse Ownership in a Tough Economic Climate” is the over-arching theme of the upcoming Horse Management Seminar hosted by the Equine Science Center and Rutgers Cooperative Extension. The seminar, scheduled from 8:00 am – 3:30 pm on Saturday, February 4, 2012, will feature presentations by several equine industry experts.

“These past few years have been extremely tough on everyone's wallet, but horse and equine business owners have been hit especially hard since horses are often considered a luxury,” says Carey Williams, extension equine specialist and Associate Director of Extension for the Equine Science Center. “Our goal in presenting this workshop is to provide tools and tips to keep our horses happy and healthy, and our equine businesses successful and profitable, without breaking the bank.”

Williams has assembled presenters who are recognized as experts in their field to offer perspectives, advice and one-on-one personal insight. Topics include: business planning for equestrians; marketing and promotion of horses and services; reducing feed costs by improving pastures; the cost of keeping a horse; economical veterinary care; and an open panel with the presenters will complete the day's conference and give attendees an opportunity to ask any questions they have regarding their horses and businesses.

In addition to the educational presentations, the seminar will feature informational displays, networking opportunities with industry companies and area organizations, and ample time for one-on-one discussions with the day's presenters.

For more information, see the [event brochure](#) or contact Laura Gladney at 848-932-3229, gladney@aesop.rutgers.edu, or Carey Williams at 848-932-5529, cwilliams@aesop.rutgers.edu.



From The Clubhouse

Karyn Malinowski, Ph.D., Director



Happy New Year, one and all! The Equine Science Center begins a new decade of excellence as we ring in 2012! We ended 2011 with a busy fall, culminating in a highly successful Equine Science Update. Over 160 people joined us at the Cook Campus Center on December 8, beginning with a meet and greet with the “**Horse Heroes**”, our own research mares.

If you weren't able to make it, or want to review what was discussed, please see the **event summary**. The Center continues to be cited as deals to privatize horse racing in New Jersey raced right down to the wire! Kudos to Jeff Gural and the SBOA-NJ team for successfully keeping the Meadowlands Racetrack open indefinitely.

We had some fun this fall, too, by going to Philadelphia's Union League to hear Ken McKeever talk about the role of horses in human medicine to the Philadelphia Society for Promoting Agriculture. I participated in my very first foxhunt (hill topping only for me!) during “Rutgers Week”, an event hosted by the Monmouth County Hunt. Thanks to Kathy Poppe and Sarah Ralston for making this happen.

Our annual Stakeholder Meeting was held in conjunction with the regular monthly NJDA Equine Advisory Board meeting on October 17 at Rick's Saddle Shop. Over 40 stakeholders from a variety of disciplines reaffirmed our mission of “Better Horse Care through Research and Education”. The **Key Identified Issues** from the Stakeholder Meeting is available on our website, as well as the full **Stakeholder Report**. Speaking of

education, Mary Nikola and I just completed the third round of our equine leadership course held on January 10 and 12.

We are planning for a busy spring with the upcoming Horse Management Seminar, scheduled for Saturday, February 4, 2012. Please check out our website for additional details and the **event brochure**. I also have been busy on the national level representing the equine industry for the land-grant system in the planning of the upcoming FAIR 2012 conference which will set the agenda for the next Farm Bill for Congress. Not only did we get horses added to the discussion but I also was successful in getting the acronym FAIR changed from Food Animal Integrated Research to Farm Animal Integrated Research. It's only taken me 30 years to accomplish this one!

Don't forget to stay connected with us on **Facebook**. See you all on Ag Field Day at Rutgers Day.

Best, karyn



Kelly VanDemark (Saxon), Carey Williams (Mickey), and Karyn Malinowski (Could Be Magic) at the Monmouth County Hunt



Partners



New Jersey Farm Bureau's primary purpose is to represent the overall interests and improve the financial well-being of farmers and our \$800 million industry. NJFB

activities are supported through voluntary membership and annual dues. Members have access to:

- Staff assistance on farming issues and regulatory problems.
- Educational workshops on topical issues such as farm labor, wildlife damage, and zoning.
- Weekly updates on legislation news and regulations affecting all aspects of farming.

It pays to be a NJ farm Bureau member! For a full list of membership levels and benefits, or to sign up, visit www.njfb.org.

Established in 1961, the Standardbred Breeders & Owners Association of New Jersey [SBOANJ] has a membership comprised of horse breeders, drivers, trainers, owners, and backstretch personnel, and its mission is to support and promote the standardbred industry in New Jersey. The Board of Directors authorizes stallion, mare and foal registrations, negotiates with track management, actively oversees and administers a benefits program, and advances legislation favorable to the horse racing industry. For more information, please visit www.sboanj.com.



The Role of Horses in Human Medicine

Kenneth H. McKeever, professor in the department of animal sciences and associate director for research at the Equine Science Center, provided a lecture on “The Role of Horses in Human Medicine” at the November meeting of the Philadelphia Society for Promoting Agriculture. The meeting was held at the historic Union League of Philadelphia.

During his lecture, McKeever acknowledged a host of scientists whose pioneering research and discovery into medicine was conducted with horses serving as an animal model similar for humans. He also discussed why horses are an excellent study for human conditions, and how the Equine Science Center established its treadmill laboratory.

Evidence of horses contributing to the development of human medicine dates back to the early 18th century. Reverend Stephen Hales used horses to measure both arterial and venous blood pressure in 1732. In 1844, Claude Bernard, the “father of experimental physiology” used horses to perform the first cardiac catheterization, a procedure that has saved countless lives of humans with heart disease. A vaccine for diphtheria was developed with the use of horses in 1898 by Emil Adolf Behring and Paul Ehrlich. Horses also played a role in the discovery of a vaccine for tetanus in 1933. Early researchers and scientists detected key characteristics of equine exercise physiology which are the same as humans. “It is really quite exciting to think that we follow in the footsteps of the forefathers of modern physiology and medicine by using the horse in experiments that benefit both our equine and human friends,” said McKeever.

Horses and humans share similar physiology; more so than other animals often considered for research, which is why the horse is an excellent model for human medicine. For example, pigs do not sweat and are sprayed with water in order to cool down; dogs do not sweat and although they like to run and exercise, it is difficult to obtain cooperation from a dog in a research environment. Unlike other animals, horses and

humans have comparable thermoregulation – they sweat in order to control body temperature. Another similarity is the autonomic control of cardiac function, which is a mix of the parasympathetic and sympathetic systems. Horses also age like humans. As horses and humans get older, they share many of the same problems such as arthritis and diabetes. These conditions and ailments, and a myriad of others, are studied and researched extensively at the Equine Science Center.

McKeever noted that the Center features the equine **exercise physiology laboratory** which he helped build. The lab became fully operational in 2005. A world-class facility, the laboratory includes a 21-foot long equine treadmill which is an essential piece of equipment utilized for studying exercise. Interestingly, it is one of only two such laboratories not associated with a veterinary college in the United States. Although it provides a unique and fascinating visual, the equine treadmill is used specifically for scientific research. In addition to facilitating research, the “Treadmill Laboratory” serves as an interactive teaching environment.

The lecture concluded with several thoughtful questions from PSPA members and their guests. For more information about the role of horses in human medicine, please contact Kenneth McKeever at 848-932-9390 or mckeever@aesop.rutgers.edu.



Kenneth McKeever and Karyn Malinowski at the Union League of Philadelphia



The New Jersey Department of Agriculture (NJDA) is an agency which oversees programs that serve virtually all New Jersey citizens. One of the Department's major

priorities is to promote, protect and serve the Garden State's diverse agriculture and agribusiness industries. In addition to the programs we offer to support production agriculture, NJDA also manages programs that feed schoolchildren, distribute surplus federal foods to soup kitchens and pantries that serve our needy citizens, conserve precious soil and water resources, protect farmland from development and preserve it for future agricultural use, expand export markets for fresh and processed agricultural products, and promote our commercial fishing industry, and administer the complete program of agriculture, food and natural resource education, which includes the State FFA Association. For more information about NJDA, please visit www.nj.gov/agriculture/index.shtml

Sandy Denarski – Chairwoman of the Rutgers University Board for Equine Advancement (RUBEA) RUBEA's mission is to assist the Rutgers Equine Science Center in its decisions regarding its equine teaching, research, and outreach; and to promote and support these activities through fund-raising and advocacy efforts. “Horses have empowered me to lead a happier, healthier and more enriched life. They are my passion and my inspiration. I can think of no better way to repay these magnificent animals than to invest in their health and well-being by becoming a donor to the Equine Science Center.”



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Equine Science Center

Better Horse Care Through
Research and Education



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Alumni Voices: Graduate Student Edition

Mary Beth Gordon, Purina Mills

The vigorous academic programs associated with the Rutgers Equine Science Center have a proven track record in producing high-caliber graduates who are in constant demand for careers within the equine industry. One such graduate shares her story and experiences.

Mary Beth Gordon, Ph.D. is the Director of Research and New Product Development for the horse business group at Purina Mills. She is involved with daily work at Purina's research farm in Gray Summit, Missouri, which carries out approximately 20 research protocols per year, focusing on digestive and exercise physiology, feed palatability, and breeding. Her role at the research farm is to oversee 8-10 of these projects per year, which lead to new product development or explore the role nutrition plays in the well-being of the horse.

Her Ph.D. research focused on the hormone ghrelin in horses and its effects on appetite and exercise. The goals were to link appetite with exercise physiology and determine why high-performing racehorses do not always eat well despite the high-quality feeds they are often offered.

"My academic experience at Rutgers was challenging; I had to come up with my own project ideas and decide which questions to answer, write my own grants and bring in outside funds for my projects; but challenges make you a better scientist," explained Mary Beth. "Rutgers pushed me to be a critical thinker and come up with new ways to solve problems and find answers. I also had plenty of help from some incredibly smart and talented people which benefited my education immensely."

The Equine Science Center had a profound impact on Mary Beth's life and career. Being a true horse person at heart, having access to the Center was pivotal for her. She affirms that the extensive research performed by Center faculty is hugely beneficial to students, who can become immersed in all aspects of a job in research & development. Because of the wide variety of research already underway at the

Center, she was able to study a broad range of horse types for her graduate work.

"I was well prepared for an equine-related career after my time at Rutgers," added Mary Beth.

She believes that it is important for graduate student alumni to give back to Rutgers and the Equine Science Center.

"Everyone can find a way to **give back**. One great thing about some of the larger companies and corporations is that they offer a donation matching program. A personal gift the Center can be doubled, and in some cases tripled, depending on the gift guidelines of the company's foundation. You can also do things like speak to a class, mentor a student, offer an internship or networking opportunities, or simply foster a relationship with Center staff and find ways to help. Whether it is a donation of money or your time, I encourage all alumni to give back to the Equine Science Center. The Center helped us to get where we are now in our careers, and continues to serve as an excellent resource for everything equine."



Mary Beth Gordon with her beloved horse Piz-Zaz

Mary Beth maintains her connection with Rutgers and the Equine Science Center by staying in contact with several faculty members. She gave a presentation for the "Horses: 2007" seminar, and frequently participates in events where she can catch up with Center faculty and staff. The Equine Science Center is very proud of this Rutgers graduate!