

Equine Science Center

UPDATE

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Rutgers Equine Science Center Our Middle Name is ‘Science’

The Equine Science Center was founded in 2001 on the principle of “Better Horse Care through Research and Education.” The mission of the Center focuses on the health and well-being of the equine athlete and the viability and vitality of the New Jersey horse industry. This means that our science is devoted to finding solutions to problems that afflict equine athletes in order to maximize performance and prevent injury or illness and to ensuring that the New Jersey horse industry remains sustainable.

The Center is an influential place, where cutting-edge discovery is carried out by scientists and students, which is translated into a language that real people, such as policy decision-makers and horse owners, can understand and utilize. The Center is the entity responsible for delivering useful, science-based information to people around the world through its robust website (esc.rutgers.edu). A regularly visited feature is the “Ask the Expert” page where answers to horse owners’ and equine enthusiasts’ questions are merely a “click” away.

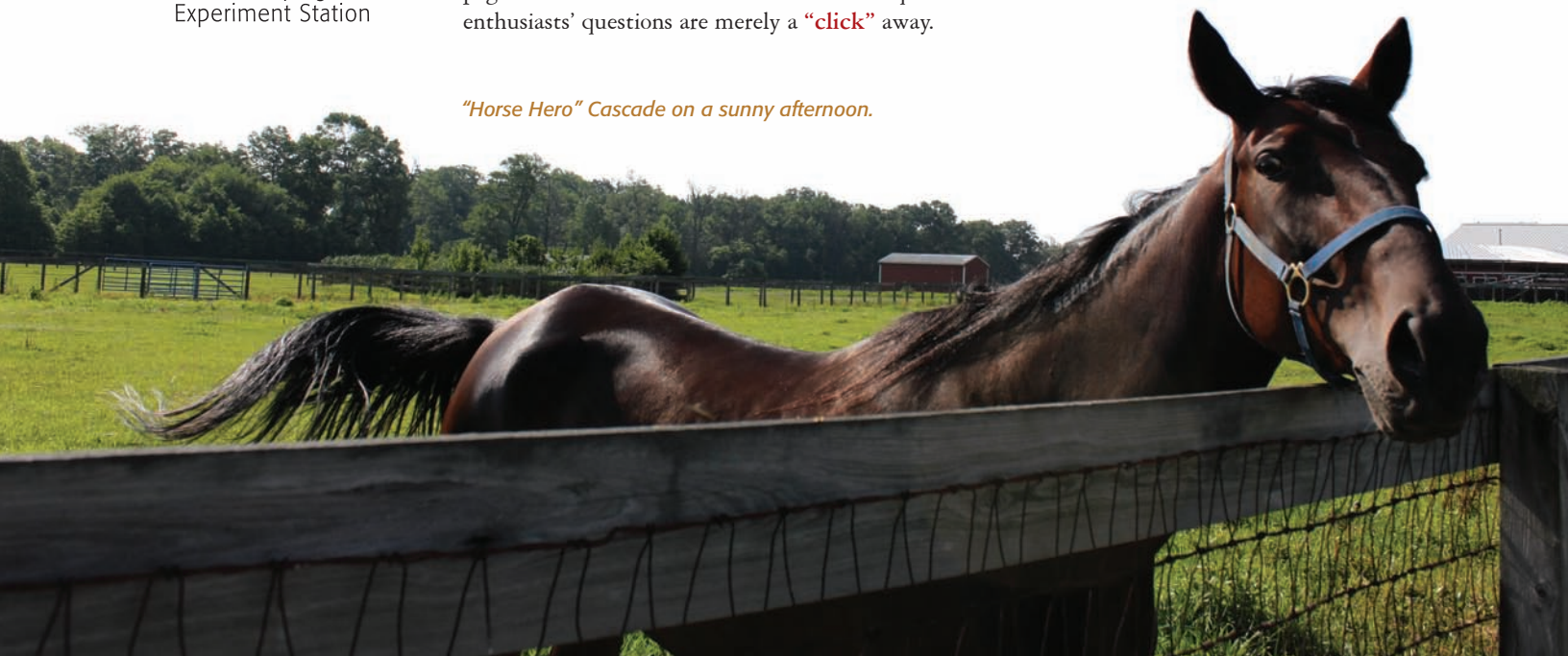
The Equine Science Center has the ability to reach across university affiliations and academic departments worldwide to bring together the best and brightest experts to examine almost any challenge facing the betterment of horses or the equine industry. The Center exists solely for the horse, the protection of its surroundings, and its mutually beneficial partnership with humans. The Center’s work is to ensure the welfare of the horse and the integrity of equestrian sports of all disciplines, including horse racing, and to make certain that the equine industry is recognized as a major socio-economic player in preserving agricultural land and open space in the most densely populated state in the nation.

To that end, the Equine Science Center, acknowledging the symbiotic relationship between the equine industry and agri-business in New Jersey for more than a decade, has educated the public

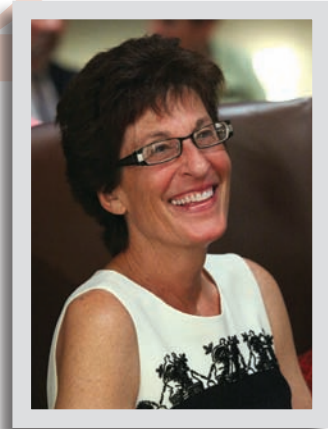
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RUTGERS
New Jersey Agricultural
Experiment Station

“Horse Hero” Cascade on a sunny afternoon.



From The Clubhouse



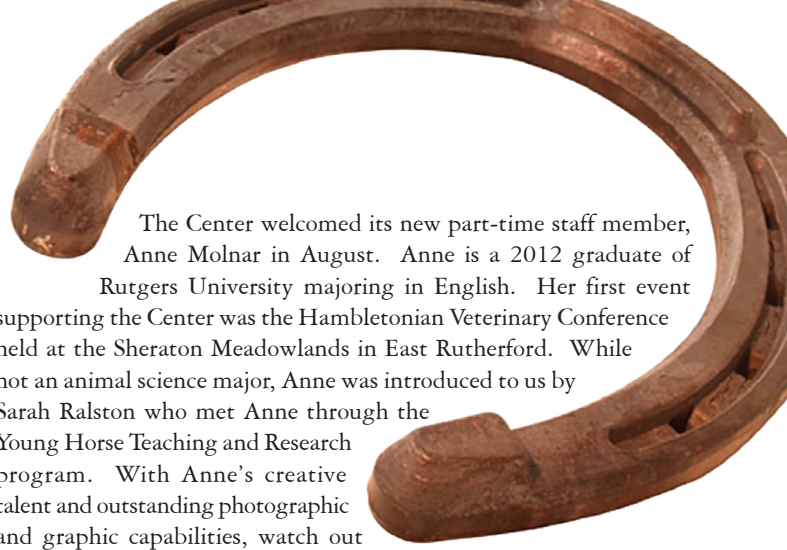
Friends,

Welcome back to the fall semester at the Equine Science Center! Phew, where did the summer go?! It seems like I was just bidding students farewell for the summer and now they're back! I hope that you all enjoyed a little quality time with family and friends (horses included) since we spoke last.

As you know, the Center staff is available to you twelve months of the year and we all certainly have been busy. In July, I was asked to record a podcast on the stress of competition for equine athletes. (This link can be found on the [Multi-Media](#) page of our website.) This was essential considering the equestrian Olympic sport competitions during the summer games from London, which I hope you all enjoyed viewing as much as I did!

We were busy connecting with a variety of audiences at the [Equine Exercise Treadmill Lab](#) this summer. In July, we hosted the Department of 4-H Youth Development's "Summer Science" group of urban youth, the Harness Horse Youth Foundation's Summer Camp, and members of the School of Environmental and Biological Sciences staff. Equine enthusiasts and aspiring scientists were treated to a [high-speed treadmill demo](#), a visit with [RU Wish Bone](#), and time to play around with Lord Nelson on ["Equine Science 4 Kids"](#). [Assemblyman Ruben Ramos](#), staff and family members also paid us a visit in mid-August. Check out the good time had by all on [Facebook](#).

A BIG thanks to Sarah Ralston and the Colts Neck Trail Riders who were responsible for a great day of riding at the [Young Horse Teaching and Research program](#) alumni event held on July 21 at Bucks Mill Park in Colts Neck. It was great to see how the "babies" have grown up and how well behaved they were. For the full story, see page six.



The Center welcomed its new part-time staff member, Anne Molnar in August. Anne is a 2012 graduate of Rutgers University majoring in English. Her first event supporting the Center was the Hambletonian Veterinary Conference held at the Sheraton Meadowlands in East Rutherford. While not an animal science major, Anne was introduced to us by Sarah Ralston who met Anne through the Young Horse Teaching and Research program. With Anne's creative talent and outstanding photographic and graphic capabilities, watch out for some new 'looks' for Center materials and our website. During the Hambletonian Veterinary Conference, our own Carey Williams presented an update of her research in the area of oxidative stress and the use of antioxidants for horses to an engaged group of equine practitioners.

I always enjoy my annual visit to the State 4-H Championship Horse Show and this year was no disappointment. The pride displayed on the faces of the young competitors is invaluable and reminds us of why horses and youth are "perfect together". Thanks to all of the parents and volunteers who make this annual event possible and to Helen Ferraro who runs the Equine Science Center classes as a benefit for the Center. Tiffany Cody and I were busy as members of the [Open Space Pace](#) Committee which held its inaugural event on September 29 at Freehold Raceway. Center faculty, staff, and students were out in full force for a day celebrating horses, agriculture, open space, and of course, harness racing. We danced into the evening to the star attraction, Southside Johnny and the Asbury Jukes!

Please don't forget to visit us on [Facebook](#), where we are busy posting facts, news, and information on a daily basis. Enjoy riding this fall and don't forget to visit us on campus on December 11 for the Equine Science Update.

Best, karyn



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](#).



Business Planning Course

Does your horse-related business have a written business plan? A recent New Jersey survey indicates that less than half of horse business owners do. If you do not, the Equine Science Center wants to change that!

It is easy to get wrapped up in the daily demands of running a horse business, but the process of writing a business plan can help a manager develop a clear vision and a better understanding of the market in which they compete, not to mention make the business more profitable. However, business planning resources can be hard to find for horse businesses. That is why **Carey Williams**, Equine Extension Specialist, **Robin Brumfield**, Farm Management Extension Specialist, **Laura Gladney**, Animal Science Program Associate, and April Lippet, Farm Management Program Assistant, are teaming up to develop a 7-session evening business planning course especially for horse business owners.

The course will walk participants through each section included in a business plan, what they mean, equine industry examples, and advice on how to complete them. Sessions include Business Description, Strategic Planning, Production and Operations Plan, Market Analysis, Management and Personnel Plans, and Financial Planning. Robin Brumfield has extensive experience in teaching farm managers about business planning, and she is recognized globally for her work in the greenhouse industry. Her expertise combined with knowledge of the equine industry from Carey Williams will produce a valuable resource that New Jersey horse business owners have been missing.

Keep an eye on the Equine Science Center website (esc.rutgers.edu) for more details about this new and exciting course. If you do not already receive emails about equine Extension programs, contact Laura Gladney at gladney@aesop.rutgers.edu to be added to the e-mail list.

Fall Webinar Series

We all know that horses should have forage in their rations, in the form of hay and pasture. However, this raises more complicated questions for the horse owner: What grasses do horses like most? What should I plant in my pasture? How much forage do they really eat when they are out on pasture? Luckily, researchers around the country have been studying these questions and have some interesting results to share!

This November, the Equine Science Center's annual webinar series will focus on "Demystifying Forage Feeding." On Thursday, November 1 at 7:00 pm, Krishona Martinson, Assistant Professor and Equine Extension Specialist in the Animal Science Department at the University of Minnesota, will present "**Optimizing Equine Forage Use.**" Pastures are an affordable way to feed horses, resulting in approximately one-third the cost of hay. Optimizing the use of pasture in the equine ration begins with careful selection of cool-season pasture grasses. On the other hand, hay is likely the most expensive dietary component for all classes of post-weaned horses, and few horse owners can escape the need to feed hay at some time during the year. Optimizing hay use starts with reducing harvest and feeding losses. This presentation will focus on ways horse owners can optimize both pasture and hay use when feeding horses.

The second webinar will be on Thursday, November 15 at 7:00 pm. Paul Siciliano is an Associate Professor in the Department of Animal Science at North Carolina State University where he teaches courses in equine management and conducts research in equine nutrition. Paul Siciliano will present "**Predicting Pasture Intake and Its Practical Application in Managing Grazing Horses.**" It is difficult for horse owners to estimate exactly how much forage horses eat while out on pasture. It turns out that horses eat forage at different rates depending on how long they have access to pasture. Horses graze various parts of the pastures and grasses differently depending on their turnout time as well. This informative webinar will give you a better idea of how much your horse is eating when grazing on pasture and how you can utilize this information to help manage your horse's weight, diet and other potential metabolic problems.

Remember, webinars are FREE and you can participate from your home computer! Webinars are designed to be interactive with the ability to give, receive, and discuss information. The webinar series is open to the public and registration is simple. Go to the Equine Science Center website (esc.rutgers.edu) for more information on this webinar series.



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."



4 Malinowski Receives ASAS-ESS Equine Science Award

After a 30-plus year career, Karyn Malinowski is still forging new paths in the equine industry with her efforts as director of the Equine Science Center and professor at the Rutgers School of Environmental and Biological Sciences. On July 17, 2012 she was recognized for her outstanding contributions through research and leadership. In Phoenix, Arizona, at its annual meeting, the American Society of Animal Science and Equine Science Society awarded Malinowski the 2012 Equine Science Award. This honor recognizes outstanding achievement in extension, research, teaching or agribusiness in the equine industry.



Karyn proudly displays the 2012 Equine Science Award. She is pictured with Erik Swenson from Zinpro Performance Minerals, sponsors of the award.

In addition to her involvement with the New Jersey 4-H Program and the American Youth Horse Council, which reaches out to the rising generations of equine industry leaders, Malinowski also established the Equine Science Center at Rutgers, a non-profit organization dedicated to better horse care through research and education. Malinowski's active role in the equine industry continues to yield funding for research and extension from various individual and corporate donors.

The late research and extension programs Malinowski has been working on concentrate on both the equine athlete and the equine industry in very individualized ways. Her focus is to improve the well-being and quality of life for horses through research and education, while promoting the essence and importance of the horse industry on local and large scales. Much of Malinowski's research has focused on the aged horse through which she has provided a plethora of published information.

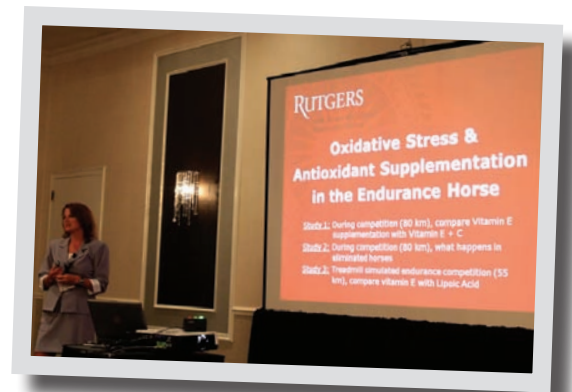
Malinowski's goals have grown with her accomplishments. Her dedication to the horse industry is apparent in her attitude and solidified through her actions. She has passed on her commitment to excellence and success to her students and colleagues, and hopes that the values she's acquired and instilled in her constituents will greatly impact the future of the equine industry.

Success at the Meadowlands for the Equine Science Center

Members of the Rutgers Equine Science Center faculty and staff attended the 2012 Continuing Education Veterinarian Conference to promote its mission of "Better Horse Care through Research and Education." The conference was held in conjunction with the annual harness horse race, the Hambletonian. The Center staff discussed many of its recent developments in outreach and community engagement, namely, its upcoming website renovation, the addition of an equine exercise physiology laboratory computer game to the website's youth component, "*Equine Science 4 Kids*", and the Equine Veterinarian Memorial donation program for veterinarians to honor the life of their client's past horses through a corresponding donation to the Equine Science Center.

Vendors and veterinarians from around the world gathered at the Sheraton Conference Center to promote their expertise and offer lectures on this year's ground breaking equine discoveries. Carey Williams' lecture titled "Antioxidant Research & its Applications for Use in Exercising Horses" covered findings in her latest study researching antioxidant activity in the equine athlete. One endurance study using Arabian horses supplemented with vitamin E, lipoic acid, or nothing showed that apoptosis occurs in white blood cells during exercise, but can be moderated when supplementing vitamin E or lipoic acid. She also found correlations with dietary vitamin and mineral intake and muscle inflammation in eventing horses (Williams and Burke, 2012). Evidence illustrates that supplementing antioxidants like vitamin E, vitamin C, and lipoic acid appear to be beneficial in reducing oxidative stress and muscle enzyme leakage by increasing the antioxidants that aid in reversing the negative effects of exercise byproducts.

Throughout the day, Malinowski, Williams, and members of the Equine Science Center staff were busy fielding questions from and conversing with attendees interested in learning more about the Center and equine science at Rutgers University. Overall, the Hambletonian Veterinarian Conference provides an excellent opportunity for the Center to continually connect with veterinarians and clinicians to further advance the study of equine science, veterinary medicine, education, and the viability of the equine industry.



Carey Williams presents lecture at the Hambletonian Veterinary Conference.

Our Middle Name is 'Science' (continued)

about the equine industry's benefits and significant impact for all residents in the state, even those not directly involved in agriculture.

On the research side, Center faculty, students and staff have capitalized on the role horses have played for decades as a model for human medicine. Human conditions and ailments, such as obesity, type II diabetes, inflammation, osteoarthritis, cardiovascular disease, immune function, nutritional deficiencies, and aging issues all occur in horses and are being studied via equine models. For example, Rutgers researchers have relied on the physiological similarities between horses and humans and the athletic nature of horses to demonstrate that food extracts can alleviate exercise-induced inflammation. This ongoing research, sponsored by the U.S. Army and Department of Defense, will ultimately benefit both humans and equine athletes by reducing the reliance on anti-inflammatory drugs to treat delayed-onset muscle soreness.

In 2012, the Center funded two exciting new research projects. One is part of the long-term efforts from Ken McKeever's and Karyn Malinowski's labs and is the doctoral thesis project of Ryan Avenatti entitled "Effects of Age and Acute Exercise on Heat Shock Protein 70 and Molecular Mediators of Inflammation and Insulin Sensitivity." Heat shock proteins (HSPs) are involved in repairing damaged proteins, insulin sensitivity, and the anti-inflammatory response. This research is investigating age-related differences of HSPs and how these differences contribute to insulin resistance and loss of tissue function, and what methods can be undertaken to restore HSP. The second is the work of Sarah Ralston and colleagues using metabolomics to study "Prevention of Osteochondrosis dissecans (OCD) in Metabolically Predisposed Horses." This ongoing study in partnership with Hanover Shoe Farms aims to reveal distinct metabolic and genome differences between Standardbred horses that do and do not develop OCD lesions, despite having similar genetic and environmental histories, and to predict whether or not foals will develop the problem and to suggest nutrients that might be beneficial in preventing the problem from occurring in genetically predisposed foals.

As the rural landscape of New Jersey changes, fewer young people with interest in animal and veterinary sciences have sufficient exposure to large animals. However, our graduates are consistently recognized by veterinary schools for the experience with large animals they receive at the Equine Science Center. As a result, a remarkably high percentage of our students are accepted by veterinary schools, and we are proud to note that many have gone on to become practicing large-animal veterinarians. Our students leave the university with an understanding of the need for solutions to real industry challenges and with the ability to translate laboratory science into deliverables that have direct, positive impact on horse owners and horse farm operators.

Yes our middle name is 'Science' and New Jersey needs the Equine Science Center because it provides credibility and addresses issues for the entire horse industry; it has no hidden agenda; it is the sole source for research and extension programming to ensure the industry's viability and vitality; and it is the place of education for the future leaders of the horse industry.

To learn more about the Equine Science Center, and to make a gift, visit us online at esc.rutgers.edu or call 848-932-9419.

NELSON'S CORNER



Blog Me Maybe

As you all know, I am a horse of many talents, but did you know that I happen to be a skilled blogger? That's right; I can blog with the best of them! My blog, "**Holy Hoofprints**" is the perfect place to horse around and have a little fun!

You're probably wondering, "What could a 39 year-old retired mounted patrol horse possibly have to blog about?" Well, my two-legged friends, the answer to that question is quite simple: I blog about everything! See for yourself at LordNelson.blogspot.com.

The best thing about my blog is that it's the perfect place for you and I to connect! Let's say I post a blog and you totally agree with what I wrote; you could drop me a line in the comment section like: "Right on Nelson! You're the equine equivalent to Einstein!" This is great for two reasons: 1) you're right; and 2) we get to exchange messages back & forth!

Not one for posting comments for everyone to see? If that's the case, you could always send a message to me via email at LordNelson@aesop.rutgers.edu. Don't forget to share my blog website and email info with your budding equine enthusiasts! They will definitely want to keep up with me online! And hey, if they have any horsey questions, they can email me directly and get a kid-friendly scientific answer straight from the horse's mouth!

Before signing off for now, I wanted to give you a little insider info about what's happening on "**Equine Science 4 Kids!**" My human friends at the Center told me that they are working on a new computer game based on the **equine exercise physiology** laboratory. Keep an eye out on my blog for future details. This is going to be BIG!

See you in cyberspace!

Lord Nelson

Young Horse Reunion

The reunion of the **Young Horse Teaching and Research Program (YHTRP)** at the Colts Neck Trail Rider Poker Pace event on Saturday, July 21 at Bucks Mill Park, in Colts Neck was a fabulous success. The event attracted 18 four-legged graduates of the YHTRP to the park; 16 of them actually went out on the trails. This number indicates that well over 10% of the 130 equine graduates still reside in New Jersey.



Bill Kaminski rides RU Sir Galahad ('01), Sheryl Senczakiewicz on RU Miss Kitty ('02), Elizabeth Schafer-Nagy on RU Turkleton ('08), Sarah Ralston on RU Prodigal Son (aka: Hank Jr)

The YHTRP had at least five other owners of equine grads who, for one reason or another, could not get their horses to the reunion venue, but still came anyway to show photos and share stories of their experiences and adventures with their Rutgers University horse. Equine Science Center director Karyn Malinowski and friends Wendy Hale (nee Gale) RU Cook College alum class of 1989, and Tom Mannos were also in attendance. Karyn and Wendy rode their Standardbred geldings, Could Be Magic and Burnt Toast. Also joining in the festivities were long-term supporters of the YHTRP, Susan and John Samtak, who chose to participate in the trail ride on their Paso Finos. A number of sponsors, RU graduates, and friends also turned out in support of the event.

Equine Science Center associate director **Sarah Ralston** led the Rutgers University contingent, and was extremely pleased with the turn-out.

"Thank you to my students, Kevin Brewer, Lexey Booth, and Rebekah Verdieck, who came to help out," said Ralston. "Other than a couple of our four-legged grads who liked the reunion so much they didn't want to get back in their trailers to leave, everyone seemed to be extremely well behaved. To my knowledge, there were no major mishaps, which, considering the majority of the equine grads present at the event were less than 6 years old, is a credit to their owners, base training they received at Rutgers and the Equine Science Center, and overall temperaments. I am so proud of them all!"

The YHTRP also used the event as an opportunity to raise money in support of the program. Sarah Ralston designed and made available for purchase elegant black saddlepads complete with both the Rutgers and Equine Science Center insignias.

"We collected \$520 in sales of the saddlepads and distributed free pads to graduates at the event," added Ralston. Saddlepads are still available for purchase through Ralston or the Equine Science Center.

As an added fundraising bonus, the winner of the Colts Neck Poker Pace "pot" generously donated \$100 of the prize money to the Young Horse Teaching and Research Program. Bev Torok also happens to be a Rutgers graduate.

Endless thanks to the Colts Neck Trail Riders for providing such a wonderful venue for the fun-filled reunion. Participants were asked: "Should we do this again next year?" Answers were a resounding "Yes!"

For more information on the Colts Neck Poker Pace, please contact Sarah Ralston at 848-932-9404 or ralston@aesop.rutgers.edu.

Sarah Ralston taking a ride on Hank Jr.



Save the Date!

Fall Webinar Series
Pasture Management
Thursday, November 1

Horse Farm BMP Research
Thursday, November 15

Equine Science Update
Tuesday, December 11
Cook Campus Center
New Brunswick, NJ
cody@njaes.rutgers.edu

Horse Management Seminar
Sunday, February 10
Cook Campus Center
New Brunswick, NJ
cwilliams@aesop.rutgers.edu

Thank You

The Equine Science Center would like to thank the following Horse Hero sponsors:

SUPER HERO

Pat Colbert & Kate Steenberg (JUNE)

HERO

Jeanine McKay (FRANKIE)
New Jersey Region Pony Club (JACKIE)
Autumn Ridge Pony Club (JACKIE)
Somerset Hills Pony Club (JACKIE)
Gloucester County 4-H Equine Science Club (WINNIE)

Student Voices

By Merrill Simpson, School of Environmental and Biological Sciences

Since the age of four years I had a determination to horseback ride that could not be stifled. My parent's many attempts to avert my interests to softball, karate, golf, field hockey, and tennis – anything other than horses – were futile. In their minds, such sports appeared to be less dangerous and more affordable options for

their young daughter to explore. After years of appeals, pleading, and soliciting, I was finally able to persuade them to let me ride. One year after achieving this milestone, we bought a horse. Four years of horse ownership passed in a blur and the time came for me to leave home for college. Although elated about this monumental stage in my life, I also had to endure what I saw as a great tragedy: selling my mare.

The period of my life between high school and college was bittersweet, although I had to sell my horse, I was excited at the

opportunity to attend Rutgers University and explore the academic options within the School of Environmental and Biological Sciences equine science program. On a personal note, my mother was battling cancer at this time and as a primary caregiver, I did not have the luxury of spending time at the barn. When my mother lost her battle with cancer, I was devastated. I did not let the grief of her death overcome my life because I realized that what was most important to her was for me to pursue my dreams and have fulfilling life experiences. In this time of great sadness and to honor the memory of my mother, I decided to reclaim my joy, rediscover happiness and pursue the positive activities that contributed to a healthy lifestyle. I was going to ride horses once again.

As a child, I recall being encouraged by my mother to discover my talents and find something that I truly loved to do, and try to forge a career path doing whatever that something happens to be. One of the many opportunities that attracted me to attend Rutgers University was the Mounted Patrol. Getting paid to ride horses was a dream I thought was only for the professionals and police officers. Fortunately, at Rutgers exists the only student-run Mounted Patrol in the nation and I could not be more excited at the idea of obtaining this on-campus job. Now, as a supervisor for the Rutgers University Mounted Patrol, I have

acquired marketable job skills, such as public speaking, and I have grown in my leadership capabilities.

Due to the fact that I am a person who becomes restless when I'm not busy, I sought out winter classes offered within my major. The "Developing Future Leaders for the Equine Industry" short course caught my attention and I quickly registered. This two-day intensive mixed lecture and discussion-based course brought to my attention all the vast employment opportunities available in the equine industry in New Jersey. Thanks to the Equine Science Center, I have a broader knowledge of potential career options within the equine industry. Another great benefit to this class was learning to build professional relationships and refining my networking skills to obtain a position within whichever field I choose to pursue.

I began my senior year at Rutgers in fall 2012. This is a pivotal time in my life and, due in part to my past challenges and triumphs, I know I have the conviction to push myself in the right career path. I continue to be involved in a variety of academic and extracurricular activities. Cultivating my own independent research project under the guidance of Dr. Sarah Ralston, associate professor in the Department of Animal Sciences and associate director – teaching with the Equine Science Center, is another enriching experience offered by the university. My hope is that as a George H. Cook scholar, my research project will help determine if becoming an equine science researcher would be a fulfilling career option.

As an animal science major and equine science minor, I am pursuing the aforementioned goal of "doing what I love," which is working with horses. Although I am still unsure of my ultimate career path, I will continue to pour my time and heart into the industry that brought me back to life.

I will continue to pour my time and heart into the industry that brought me back to life

Merrill Simpson enjoying an afternoon at the barn.



esc.rutgers.edu

Equine Science Center

Better Horse Care Through
Research and Education



**Forward to
a Friend!**



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esc.rutgers.edu/fb



You are invited...

The Equine Science Update, open to all horse enthusiasts, highlights the Equine Science Center's work in advancing equine health, horse management practices, and solutions to equine industry issues.

Equine Science Update

Tuesday, December 11, 2012, 6 – 9 p.m.

Schedule:

6 to 7 p.m. – **Light Supper**

7 to 9 p.m. – **Equine Science Update**

- Highlights of Center Activity
- Antioxidant Research & Exercising Horses
- Poop to Power: Making Methane from Manure
- Vitamin C & Stress: Was Linus Pauling right?
- "Game On" New Additions to Equine Science 4 Kids

Optional Tour:

- 5:00 p.m. - Meet the "Horse Heroes!" – Red Barn on College Farm Road

★ Location ★

Cook Campus Center, 59 Biel Road, New Brunswick, NJ 08901 • (732) 932-7617

(Information for directions is available on the Equine Science Center website.
Due to recent construction, please do not rely on GPS or navigation systems.)

To register for the event, print and mail the **registration form** or contact Tiffany Cody at cody@aesop.rutgers.edu or call **848-932-9419**.