

# RUTGERS UNIVERSITY EQUINE SCIENCE QUARTERLY



From Our Stable To Yours

Winter 2015

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Science and  
Celebration**



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## **“Grazing Rewards and Concerns”: Why You Should Be Thinking About Your Pastures**

“Grazing Rewards and Concerns: How and Why to Care for Your Pastures” is the over-arching theme of the upcoming Horse Management Seminar hosted by the Rutgers Equine Science Center and Rutgers Cooperative Extension.

The seminar, scheduled from 8:00 am – 3:30 pm on Sunday, February 8, 2015, will feature presentations by several equine industry experts.

“We all know that pasture can provide a substantial amount of a horse’s nutrition, but there is also increased concern about the metabolic problems that some horses experience when turned out on lush grass,” says Carey Williams, Extension Equine Specialist and Associate Director of Extension for the Equine Science Center. “Our goal in presenting this workshop is to explain when the risks and benefits are the greatest, and teach guests how to properly manage pastures and grazing.”

Williams has assembled presenters who are recognized as experts in their respective fields to offer perspectives and personal insight.

The morning will start with the following topics “Nutritional Benefits of Pasture and When Pasture Is Not Enough” by Steve Duren

from Performance Horse Nutrition, “Pasture Problems: Safe Grazing Tips for Managing Equine Metabolic Syndrome” by Bridgett McIntosh from Virginia Tech, “Equine Grazing Behavior” by Amy Burk from University of Maryland, and “Rotational and Continuous Grazing: New Research You Can Use” by a team of researchers from across the East Coast.

The afternoon will consist of the following presentations about pasture management; “The Fences Are Up – Now What Do I Do? Basic Pasture Management” by Bill Bamka from Rutgers Cooperative Extension of Burlington County, “Got Weeds? Understanding and Managing Weeds in Your Pastures”, and “Danger in the Grass – Plants that Are Toxic to Horses” by Donna Foulk from Penn State Cooperative Extension.

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

To see both the program flyer and registration information click here. Both are posted on the Equine Science Center website at [esc.rutgers.edu](http://esc.rutgers.edu).

For more information, contact: Laura Kenny: 848-932-3229, [kenny@aesop.rutgers.edu](mailto:kenny@aesop.rutgers.edu), or Dr. Carey Williams at 848-932-5529, [cwilliams@aesop.rutgers.edu](mailto:cwilliams@aesop.rutgers.edu).

# From The Clubhouse



**Big Events and Big  
Changes Mark The  
Beginning Of The  
Calendar Year, But  
We Still Have So  
Much More In Store  
For You!**

Happy New Year!

How did the fall semester zip by so quickly? I sure know the answer to that question! If you have been following any of the activities from the Equine Science Center you'll know why everything is a blur.

We held a very successful, nighttime stakeholder meeting on October 16 in collaboration with the New Jersey Equine Advisory Board (NJEAB). Not only did the attendees get to learn about the NJEAB, the Center received input about our programs and initiatives from new people. Check out the identified issues [HERE](#).

I accompanied Clint Burgher, the Director of Animal Care for NJAES, to the university president's house on Saturday, November 1. With an assortment of farm animals we were able to transform President Barchi's lawn into a petting zoo. Joined by two mounted patrol students and their trusty steeds, we joined in on the fun and were able to celebrate with alumni before the football game against Wisconsin.

On November 10, we hosted our annual "Evening of Science and Celebration" at the Cook Campus Center. David Horohov from the Gluck Center at the University of Kentucky was the featured speaker on the topic of "Inflammation in Equine Athletes." Dr. Horohov's lecture was sponsored by the Mid-Atlantic Equine Medical Center.

Center faculty and students presented their work from the past year and our new staff member Kyle Hartmann treated the audience to a 'sneak peek' at the new look of our website.

The Center presented the "Spirit of the Horse" award to Maggi Romano and Mike Westendorf presented the Gold Medal Horse Farm award to Wood Hollow Farm.

Everyone in attendance was treated to a copy of our new annual report which has a new look designed in magazine style by Kyle Hartmann. For the full story turn to page 4 where links to both the picture gallery of the evening and annual report can be found.

We truly are gluttons for punishment because the very next night we held an event at the State Theatre! On November 11, the Center in partnership with Special Strides, the Rutgers Office of Veterans and Military Programs and Services, and the State Theatre, hosted the highly acclaimed documentary "Riding My Way Back".

It was perfect timing for all because it just happened to be Veterans Day. What a night! The film's subject and producers were on hand to talk about how Equine Assisted Therapy can be used to help Post-Traumatic Stress Disorder survivors. Turn to page 8 to learn all about that night.

November 6 marked the release of a new report I published with Paul Gottlieb on the state of the New Jersey horse racing industry in 2014. This comes four years after the release of the "Hanson" report in July of 2010. It is amazing how quickly New Jersey became non-competitive with neighboring states (New York and Pennsylvania) which have support from slot machines and table games. This not only helps to boost purse monies, but breeders awards in those states as well. Take a glance for yourself [HERE](#).

Hope you like the new look of the newsletter, its a sneak peek of what to expect on our new website soon. Thanks to Kyle Hartmann for his efforts in redesigning the newsletter.

I'm looking forward to seeing you all at the upcoming Horse Management Seminar on Sunday, February 8, 2015 in the G.H. Cook Campus Center at Rutgers!

Best,  
*Karyn*

# PARTNERS



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](http://www.sboanj.com).



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](http://www.njfb.org).



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](http://www.nj.gov/agriculture)

## UPCOMING 2015 EVENTS

### New Jersey Bred Equine Breeder Awards Luncheon

*Sunday, January 25, 2015*

Charley's Other Brother  
1383 Monmouth Road,  
Mount Holly, NJ 08060

[state.nj.us/agriculture/news/events/](http://state.nj.us/agriculture/news/events/)

### Winter Feeding: Myth vs. Fact

*Wednesday, January 28, 2015*

Horses in the Morning Radio Show  
with guest Carey Williams  
Listen Live @ 9:30a.m. on  
their website:

[horsesinthemorning.com](http://horsesinthemorning.com)

### New Jersey State Agricultural Convention

*Tuesday, February 3, 2015*

From Tuesday 3<sup>rd</sup> to Thursday 5<sup>th</sup>  
Tropicana Casino and Resort  
2831 Boardwalk  
Atlantic City, New Jersey 08401

[state.nj.us/agriculture/news/events/](http://state.nj.us/agriculture/news/events/)

### Horse Management Seminar

*Sunday, February 8, 2015*

G.H. Cook Campus Center  
Rutgers, The State  
University of New Jersey  
New Brunswick, NJ 08901

[Kenny@aesop.rutgers.edu](mailto:Kenny@aesop.rutgers.edu)

### Preserving Turnout Areas: How to Keep Your Pastures From Becoming Mud Pits Over the Winter

*Wednesday, February 25, 2015*

Horses in the Morning Radio Show  
with guest Laura Kenny  
Listen Live @ 9:30a.m. on  
their website:

[horsesinthemorning.com](http://horsesinthemorning.com)

### Junior Breeders Symposium

*Saturday, March 28, 2015*

Red Barn - Cook Farm  
Rutgers, The State  
University of New Jersey  
New Brunswick, NJ 08901

[Kenny@aesop.rutgers.edu](mailto:Kenny@aesop.rutgers.edu)

### Rutgers University 2015 Ag. Field Day

*Saturday, April 25, 2015*

Red Barn - Cook Farm  
Rutgers, The State  
University of New Jersey  
New Brunswick, NJ 08901

[ESC@aesop.rutgers.edu](mailto:ESC@aesop.rutgers.edu)

### Equine Science Center's Summer Showcase

*Wednesday, July 8, 2015*

Red Barn - Cook Farm  
Rutgers, The State  
University of New Jersey  
New Brunswick, NJ

[ESC@aesop.rutgers.edu](mailto:ESC@aesop.rutgers.edu)

For more events, visit our website @ [esc.rutgers.edu](http://esc.rutgers.edu)



# “An Evening of Science & Celebration:

Presenting Our Work,  
While Honoring Others

Over 200 people attended our very special annual event, where the Equine Science Center showcased its past year of work.

The evening began with an overview and highlights of the Center’s highly productive year. Highlights included: two Ph.D. graduates: Ryan Avenatti and Danielle Smarsh, ten refereed journal articles, one new book, four book chapters, and over 20 invited talks. The Center truly is global in that we received 70 direct contacts from eight countries.

Center faculty and staff were also successful in procuring almost \$1,000,000 in grants and contracts, in-kind donations, cash donations, gifts and sponsorships in fiscal year 2014.

The audience was then treated to the presentation, “Preparing for Disaster” by Angela Howard, a 4-H member from Gloucester County who also is serving as the New Jersey Equestrian of the Year.

Angela cleverly used a television news reporter format to inform event attendees how to make a horse farm ready for a natural disaster.

Angela was followed by the evening’s keynote lecture from David Horohov from the Department of Veterinary Science and the Maxwell H. Gluck Equine Research Center at the University of Kentucky.

The keynote, which was sponsored by the Mid-Atlantic Equine Medical Center, was entitled “Equine Inflammation: Using What We Know to Improve Athletic Performance.” Horohov was followed by other presentations from faculty and students whose research was funded by the Center in the past year.

A special treat was provided by Kyle Hartmann who gave a “sneak peek” at what our new website will look like, along with some of the new promotional items available from the center. Look for





this new user friendly website, in early February!

The Center closed the evening with presentations of two annual awards. The recipient of the 2015 “Spirit of the Horse Award” was Margret (Maggi) Romano of Clarksburg. The award recognizes people whose lives have been impacted by horses, and who continue to give back to horses and the equine industry through dedicated time and service.

Maggi is a person who eats, breathes, and lives horses 24/7/365. She doesn’t take short cuts when the well being of a horse is involved. Romano was one of the founding members of the Standardbred Pleasure Horse Organization/NJ, where she served two years as president and one year as show manager. She is a board member of the New Jersey Horse Council, serving two years as president and as a delegate to the New Jersey Equine Advisory Board where she served two years as vice chair and two years as chair.

She currently serves as a delegate to the New Jersey Agricultural Convention, as the New Jersey delegate to the Coalition of State Horse Councils, and as delegate to the American Horse Council, where she serves on the Racing Advisory Committee.

Mike Westendorf presented the 2015 Gold Medal Horse Farm award to Wood Hollow Farm in Colt's Neck. Owned and operated by Kathy Poppe and Gary Pullen, this farm impressively manages 17 horses on three acres of land while remaining environmentally responsible.

The horses are turned out in small groups onto paddocks designed as heavy use pads, which encourage drainage and minimize mud and water runoff. The paddocks are kept meticulously free of manure and leftover hay. Since horses spend much of the day in their stalls, the barn is well-ventilated and the low dust bedding is cleaned daily.

Kathy and Gary also installed drainage pipes to collect rainwater running from the barn roof and deposit it over a grassy area to infiltrate rather than run through the barnyard and nearby paddocks.

Their manure management is also optimal, as all manure is removed from the farm regularly. Some manure is even composted so that it can be more valuable to gardeners and landscapers. Wood Hollow Farm joins D'Arrigo Racing Stable LLC and Showplace Farms as the state's only Gold Medal Horse Farms.



**For more information about  
the presentations, topics, or sponsors  
please visit our website @ [esc.rutgers.edu](http://esc.rutgers.edu)**

For more pictures from the event please visit our Facebook page:





Winter at the Red Barn

Lab Notes - McKeever

Even though it's winter time, we decided to take a look at some research from the McKeever lab that was recently reported on at the "Dorothy Russell Havemeyer Foundation: Workshop on Geriatric Horses" about thermoregulation in the old horse.

# From The Lab:

## PLASMA VOLUME:

Plasma volume is the volume of plasma in the blood, minus the red blood cells. Exercise conditioning has been shown to increase plasma volume in young horses, which in turn enhances cardiac output and the thermoregulatory response.



## TOP 5 TIPS FOR THE WINTER

# #1

It is NOT necessary to blanket your horse as long as it has a naturally thick hair coat and is adapted to the cold.

Remember: A wet horse that has been blanketed will be colder than un-blanketed horse.



# Thermoregulation:

## The Effects on Young vs. Old Horses

**T**he research tested the hypothesis that there is a difference in thermoregulation during exercise and plasma volume in young and old horses.

In the first study, 6 young and 5 old unfit Standardbred mares ran on a treadmill (6% grade, at a velocity calculated to generate a work rate of 1625 watts) until core temperature reached 40 °C. Core, skin, and rectal temperatures and heart rate were measured every minute until 10 minutes post exertion.

Packed cell volume or hematocrit, lactate concentration and plasma protein were measured in blood samples collected before, at 40 °C and every 5 minutes until 10 minutes post exercise. Sweat loss was estimated using bodyweight.

In the second study, plasma volume was measured in 26 young and 8 old Standardbred mares using Evans Blue dye. Pre-exercise blood and red cell volumes were calculated using plasma volume and hematocrit.

McKeever and his students found that old horses reached a core temperature of 40 °C faster and at a higher heart rate, with greater sweat losses than the young horses. Heart rate did not differ between the age groups post exercise. Age also did not affect core temperature, skin temperature, rectal temperature, lactate concentration, hematocrit or total protein.

Study two showed that plasma volume was greater in young horses when compared to old horses, as was resting blood and red cell volumes.

The group concluded that aging compromises the ability of old horses to handle the combined demand of exercise and thermoregulation in part due to decreased absolute pre-exercise plasma volume. The take home message is to not over tax the old horse by exercising it in hot, humid weather.

While McKeever and colleagues did not research cold temperatures in the research described above, we know that any environmental temperature changes get harder to tolerate as a horse ages, particularly cold weather.

Some of the increased sensitivity to cold may be resultant of the fact that old horses may have reduced fat cover on the body which normally acts as insulation. Since fiber digestion in the hindgut produces heat which will help horses stay warm in the winter, increase quality hay intake for the older horse if possible.

Other things to remember about taking care of the old horse in winter months, is to make sure that the horse is getting the opportunity to exercise, even if that means turnout as much as possible. Moving around is the best thing to prevent arthritic joints from stiffening.

### #2

Make sure your horse is hydrated.

It is important that horses are given access to unlimited water (usually 10 gallons or more).

### #3

Horses need more calories in the winter.

Usually this can be met by increasing their hay intake by up to 25%.

### #4

If your horse won't be ridden often, they can be left barefoot.

Horses have better traction in the snow and ice when left barefoot.

### #5

Horses don't need to be stabled in a barn.

As long as there is a shelter from the elements (a run in shed, etc.) your horse will be fine.





# Riding His Way Back to Life:

**Documentary Film  
Screening Shows the  
Importance of Equine  
Assisted Therapy**

**T**uesday November 11th the New Brunswick community was joined by Staff Sergeant Aaron Heliker, a veteran of multiple deployments in Afghanistan and Iraq, to tell his story of recovery and finding his way back after suffering from Post Traumatic Stress Disorder (PTSD) so damaging, that he contemplated taking his life.

Looking at how equine assisted therapy is shaping the way that we interact with people in need, film director and Oscar nominee Robin Fryday, along with co-director Peter Rosenbaum, screened their documentary "Riding My Way Back" for a special Veterans Day event.

Hosted by the State Theatre, and sponsored by the State Theatre, Special Strides Therapeutic Riding Center, Rutgers Equine Science Center, and the Office of Veterans and Military Programs and Services, attendance included both members of the Rutgers community as well as horse enthusiasts from across the state.

One woman, who was visiting from Alaska, changed her travel plans in order to watch the documentary that she said was a great way to show

the importance of equine assisted therapy. She stated that there are locations in Alaska that have started providing equine assisted therapy, showing the positive benefits that this type of therapy has had.

After the screening, Karyn Malinowski was joined by a panel including Staff Sergeant Aaron Heliker, co-director Peter Rosenbaum, Laurie Landy from Special Strides, and Col. Stephen Abel (ret.) from Rutgers Veterans Services, among others, to discuss not only the film but how Staff Sergeant Heliker got to this point in his life.

Malinowski was interested in particular about how Staff Sergeant Heliker and the horse interacted, and went on to comment that she was interested in doing research to see if, and how, the horse benefited from this type of therapy.

The night ended with a Staff Sergeant Heliker being presented with a Rutgers Equine Science Center Riding Pad (pictured below) as not only a thank you for his service, but as a personal thank you from the Rutgers Equine Science Center for coming to speak on the panel.

For more information about screenings near you please go to:  
<http://www.ridingmywayback.com/screenings/>



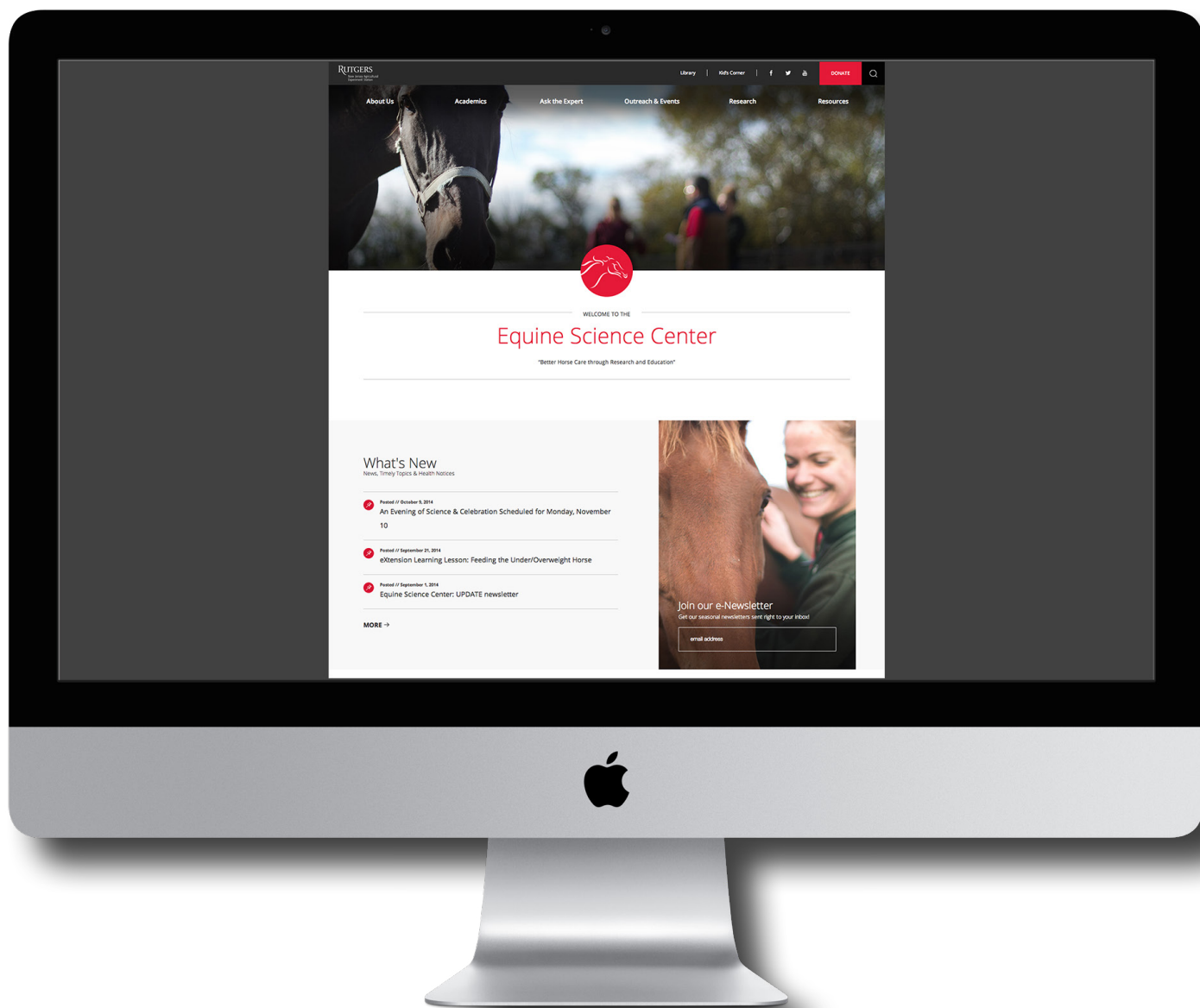


**Thank you to everyone who was able to attend the event and help us honor veterans on a very special Veterans Day.**

For more pictures from the event please visit our Facebook page:







# New Year, New Look

**T**his year we have some very exciting news. Not only have we designed a new annual report, given a new look to our newsletter, and created some fun new promotional items... we're also getting a brand new website.

The new website will feature a totally new look. It won't just be more attractive however, it will be more user-friendly as well. With a completely new search function, you will have a whole new way of interacting with our site.

If you want to look up something from our past "Ask the Expert", there will even be a dedicated search function for that section so you can find your information faster. In

this new "Ask the Expert" section, you will even be able to be submit questions right on the website! From there, our experts will receive your question and contact information and e-mail you back the answer.

These are just some of the things that we have in store for the new website, and the new year. So be sure to watch out for the website, new social media platforms, and other surprises along the way...

...We can't wait to show you what we have been working on, and all of the new, interactive, and informative fun that we have in store.





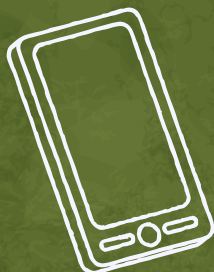
# NELSON'S CORNER

## MY BLOG IS MOVING!

... BUT DON'T WORRY, IT'S NOT THAT FAR

So the Rutgers Equine Science Center has decided to update their website... and they have invited me to move in with them (well my blog at least)! My blog will now be on their website, where you can find a ton of other information, including fun news and events.

On the new site you will be able to meet all of my equine pals! While you may have met Le Cheesecake (AKA "CC"), Snowdrift, and Frankie, there are a ton of other **Horse Hero mares** that help the Equine Science Center with its research.



You can meet them all, look through their pictures and videos, and read about the research that they are helping us with. More of them might even join CC and Snowdrift on my blog!

Be sure to check out my new blog, and the new website, **IN FEBRUARY!** Also, do you have any questions for me or any of the other horses at Rutgers? Send me an e-mail at: [LordNelson@aesop.rutgers.edu](mailto:LordNelson@aesop.rutgers.edu).

Your pal,  
Lord Nelson



Center Director Karyn Malinowski and Associate Director for Research, Ken McKeever participated in the Dorothy Russell Havemeyer Foundation Equine Geriatric Workshop II and third Equine Endocrine Summit on November 17-20 at the Salamander Resort in Middleburg, Virginia. Malinowski presented a portion of the Ph.D. dissertation of Ryan Avenatti on Heat Shock Proteins (HSPs) in whole blood and skeletal muscle in young and old horses. McKeever presented a lecture on how aging alters thermoregulation and cardiovascular function. A great time was had by all attendees featured in the photo.



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