

WINTER 2011

# Equine Science Center UPDATE

• • • • • *"Better Horse Care Through Research and Education"*

**RUTGERS  
EQUINE  
SCIENCE  
CENTER  
Celebrating**  
★ ★ ★ ★ ★  
**10**  
**Years**

**RUTGERS**

New Jersey Agricultural  
Experiment Station

## Helping Horses Grow Old Gracefully

Have you noticed gray hairs sprouting up on your horse? Does it have stiff joints or is it missing a few teeth? Do you know how to properly care for an aging horse?

"Care and Management of the Aging Horse" 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 13, 2011 at the Cook Campus Center in New Brunswick, NJ, will feature presentations by several equine industry experts.

"Similar to what we see with humans, as medicine and technology advances, horses are also living longer and experiencing an enhanced quality of life as they age," said Dr. Carey Williams, extension equine specialist and Associate Director of Outreach for the Equine Science Center. "I highly recommend all horse owners attend this seminar. Our goal is to provide unbiased scientific

information that will prepare owners for the specific care and management of older horses."

Seminar topics will include: an overview of the physiology of aging; nutrition; proper testing for various metabolic diseases associated with old age; orthopedic problems in old horses as well as a panel discussion with the presenters to conclude the day's conference and give attendees an opportunity to ask any personal questions they have regarding their horse.

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 discussion with the experts.

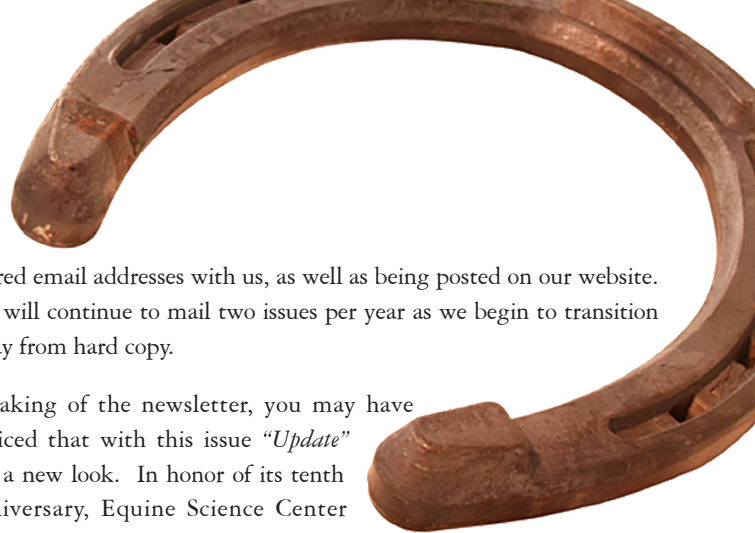
For more information, please visit the Equine Science Center website at [esc.rutgers.edu](http://esc.rutgers.edu) or contact Bakir Lawson at 732-932-9514, [blawson@aesop.rutgers.edu](mailto:blawson@aesop.rutgers.edu).





# From The Clubhouse

Karyn Malinowski, Ph.D., Director



Greetings Friends and Colleagues,

Well 2011 is here and I hope that you and your horses fared well during the blizzard that closed out 2010. Even Lord Nelson had something to say about taking care of horses in storms like that! Visit his blog, Holy Hoofprints, to view his comments and to see new photos of him celebrating his 38th birthday! Also, check out our new Fact Sheet on Winter Horse Care

[www.esc.rutgers.edu/downloads/fs1142\\_WinterCare.pdf](http://www.esc.rutgers.edu/downloads/fs1142_WinterCare.pdf).

This year the Rutgers Equine Science Center celebrates ten years of “Better Horse Care through Research and Education” marking a decade of accomplishments as the Center carries out its mission to ensure the health and well-being of horses and the horse industry. The celebration began at the Equine Science Update, when over 200 people braved one of the coldest nights of the year to hear the latest about the scientific foci of the Center. A full story of the evening’s highlights will be featured in the next newsletter.

I hope that you will embrace the new delivery format of the Equine Science Center’s “Update” newsletter. We are committed to using new technology to deliver our educational information while also reducing postage and production costs. Two additional issues of the newsletter will be available in electronic format sent directly to those who have

shared email addresses with us, as well as being posted on our website. We will continue to mail two issues per year as we begin to transition away from hard copy.

Speaking of the newsletter, you may have noticed that with this issue “Update” has a new look. In honor of its tenth anniversary, Equine Science Center public relations and marketing pieces, as well as the newsletter and website, will have a new look. I hope that you find the website, especially, easier to navigate and search for all of the information you may need. Don’t forget to visit us at [esc.rutgers.edu](http://esc.rutgers.edu).

Several Center faculty and students were honored in October when asked to participate in the inaugural Havemeyer Foundation Conference on Geriatric Horses. I still claim that we know more about the care and management of older horses than any other institution in the world, reflected by the respect colleagues have for our research and outreach programs. We practice what we preach - look at Lord Nelson! Be sure to mark Sunday, February 13, 2011 on your calendars when the Center and Rutgers Cooperative Extension present the annual Horse Management Seminar. This year’s theme is **Care and Management of Older Horses**.

In closing, I would ask that each and every one of you consider recognizing the accomplishments of YOUR Rutgers Equine Science Center by making a gift to the Center in celebration of its tenth anniversary. No donation is too small and every gift helps ensure that we can continue to deliver the research-based information that you need to keep your horses well. To learn more about giving visit us at [esc.rutgers.edu](http://esc.rutgers.edu) or call at 732-932-9419.

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



# 8th International Conference on Equine Exercise Physiology

In November, **Ken McKeever**, **Carey Williams**, and graduate student **Danielle Smarsh** extended the global reach of the Rutgers Equine Science Center with seven research presentations made at the 8th International Conference on Equine Exercise Physiology. The quadrennial meeting of equine exercise physiologists featured 124 oral and poster presentations of cutting edge research on all aspects of the athletic horse. The meeting, held in Cape Town South Africa, brought together more than 200 researchers from around the world. Presentations from Rutgers included a keynote review entitled "*Cardiovascular Physiology Past and Present*", presented by Dr. McKeever and Cardiovascular Physiology session co-chair Dr. Rikke Buhl, from the College of Veterinary Medicine at the University of Copenhagen. A presentation entitled "*Age Related Decreases in Thermoregulation and Cardiovascular Function in Horses*", was also delivered by McKeever with the take-home message regarding the need for more information on the care of the aging athletic horse.

Efforts of graduate students **Danielle Smarsh** and **Nettie Liburt** were highlighted in the presentation of two recent studies conducted at the Equine Science Center as part of the nutraceutical research funded by the Department of Defense. **Ms. Smarsh's** talk entitled "*Oxidative Stress and Antioxidant Status in Intensely Exercising Horses Administered Nutraceutical Extracts*" focused on the antioxidant effects of orange peel, tea, cranberries, and ginger. The paper by **Ms. Liburt** (presented by **McKeever**) "*Exercise-induced Increases in Inflammatory Cytokines in Muscle and Blood of Horses*" featured information from the multi-institutional



team that included Drs. Horohov, Adams, and Betancourt from the University of Kentucky.

Important information on the nutrition of the athletic horse was featured in two presentations made by **Dr. Williams**. The first entitled, "*Nutrient Intake During an Elite Level Three-Day Event Competition is Correlated to Inflammatory Markers and Antioxidant Status*" was based on work from her ongoing collaborations with Dr. Amy Burk from the University of Maryland. The second, "*Nutrition-Associated Problems Facing Elite Level Three-Day Eventing Horses*" was authored by GH Cook Scholar **Elizabeth Leahy, Williams** and collaborators Dr. Elizabeth Greene from the University of Vermont and Dr. Amy Burk from the University of Maryland. A poster presentation entitled "*Metabolic changes in four beat gaited horses after field marcha simulation*" featured a collaborative effort between Dr. Helio Manso, Filho (GSNB, 2005) and his team of researchers from the Universidade Federal Rural de Pernambuco, Recife, Brazil and **McKeever**. Papers from the conference, another highlight of the impact and global reach of the Equine Science Center, can be found in a special peer refereed supplement to the *Equine Veterinary Journal*.



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

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Equine Science Center

Better Horse Care Through  
Research and Education



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## Dorothy Russell Havemeyer Foundation Workshop: *Equine Geriatrics - The Older Horse at Tufts University*

In October, Karyn Malinowski, Ken McKeever, Sarah Ralston, and graduate student Nettie Liburt shared their wealth of knowledge about the care and management of the geriatric horse with peers from around the world at an inaugural workshop addressing the increasingly important topic to those interested in horse care and well-being. The workshop was by invitation only and the four representing the Equine Science Center made up a large percentage of the 23 in attendance and the eight papers and posters presented.

Oral presentations included: "Historic look at old horse nutrition" by Sarah Ralston; "Age related decreases in thermoregulation and cardiovascular function" by Kenneth McKeever; "Exercise and age-induced changes in immune response are not altered by equine somatotropin administration in horses" by Karyn Malinowski; "Plasma beta-endorphin, cortisol and immune responses to acute exercise are altered by age and exercise training in horses" by Karyn Malinowski; "Maximal aerobic capacity ( $VO_{2max}$ ) in horses: A retrospective study to identify the age-related decline" by Kenneth McKeever.

The workshop generated much interest in the topic, resulting in the theme of care and management of the aging horse for the upcoming Horse Management Seminar to be held at Rutgers on February 13, 2011. Details can be found at [esc.rutgers.edu](http://esc.rutgers.edu).

## Upcoming Events

### Horse Management Seminar

Sunday, February 13, 2011

Cook Campus Center

Rutgers, The State University of New Jersey

New Brunswick, NJ

Call 732-932-5529

### Ag Field Day at Rutgers Day

Saturday, April 30, 2011

G.H. Cook Campus

Rutgers, The State University of New Jersey

New Brunswick, NJ

### Young Horse Teaching and Research Program Yearling Auction

Sunday, May 1, 2011

G.H. Cook Campus

Rutgers, The State University of New Jersey

New Brunswick, NJ

Call 732-932-9404