

RUTGERS UNIVERSITY EQUINE SCIENCE QUARTERLY



From Our Stable To Yours
Summer 2022

Inside the Issue:



08

Dr. Williams
Receives Horse
Person Of The
Year Award



14

From The
Lab: Facial
Expressions



22

The New
Jersey Equine
Advisory Board



Science in Sweden: The 11th International Conference On Equine Exercise Physiology

At the end of June, several members of the Rutgers Equine Science Center traveled to Uppsala, Sweden for the 11th International Conference on Equine Exercise Physiology (ICEEP).

This conference is hosted every four years and draws researchers and students from across the world together to present and discuss the latest science related to equine exercise physiology.

From The Clubhouse



We hope that everyone
is able to join us at
our next event, the
“Evening of Science
& Celebration” on
November 10th!

Dear Friends,

Summer is finally in full swing so please take the time to enjoy some down time with all of your four-legged friends! The Equine Science Center has been busy this spring and we are very excited to be able to visit with all of you once again in person! Ag Field Day at Rutgers Day was a tremendous success.

The Rutgers University Teaching Herd (RUTH) horses were in fine form at the Ag Field Day Horse Show. The show was judged by our very own RUBEA member Dr. Amy Butewicz. Take a look at the story on [Page 12](#).

Make sure to check out the story, and some of the great photos, from Rutgers Day at Ag Field Day. We had a great time being back in-person, so be sure to look at [Page 16](#).

In May I attended the fundraiser for Assembly Speaker Craig Coughlin at Gaitway Farm in Manalapan, sponsored by the Standardbred Breeders and Owners Association of New Jersey. Many of the harness racing community were in attendance as well, including our past RUBEA chair, Dr. Amy Butewicz.

Congratulations go out to our very own Dr. Carey Williams, who was recognized by the New Jersey Equine Advisory Board on June 1 as Horseperson of the Year, graduating senior Katie Eick who received the Ernest Bell Memorial Scholarship, and Dr. Amy Butewicz who received the Horse Park of New Jersey Volunteer of the Year Award. See the story on [Page 8](#).

My colleagues, Ken McKeever, Carey Williams, and Ph.D. candidate Ellen Rankins just returned from the 2022 11th

International Conference on Equine Exercise Physiology which was held in Uppsala, Sweden. We were a little worried about them returning back to the United States with all of the troubles airlines are currently experiencing, but they are back home once again! See Ellen's story on the [Front Page](#).

Our Summer Showcase was held in person on July 13. It was nice to hold this event in person for the first time in several years. Not only did we have great attendance from our constituents and 4-H members who always support this event, but we were joined once again by Scarlet Kids, which is a Rutgers sponsored summer camp for youth. See the story on [Page 18](#).

We also have a great lineup of future events in the coming months. The first event is the return of the ever popular “An Evening of Wine & Equine” on August 4th. For more information look at the flyer on [Page 11](#).

We are also looking forward to hosting some alumni events this year. The Center reached out to alumna Dr. Cathy Ball, CC'79 and GSNB '82 and asked if she would lead an alumni initiative to offer some programs for alum. Fortunately for us, Cathy said “yes” and with the help of the RU Foundation we are sharing information about our events and programs with alumni who have an equine interest.

On Friday, August 5 beginning at 6:30 PM we are partnering with First Choice Marketing to attend a Casino Charity Night at the Meadowlands Racetrack to benefit the Standardbred Retirement Foundation and the Harness Racing Museum. This will be a fun-filled evening where you can enjoy good food and beverages; catch up with fellow alumni; and celebrate with me, as I will receive that evening the Service to Youth Award from the Harness Horse Youth Foundation! To register for the event, use the link on [Page 3](#).

Also, don't forget to save the date for our 2022 Evening of Science and Celebration which will be held on Thursday, November 3rd.

Finally, be sure to check out the phenomenal history of the New Jersey Equine Advisory Board which was chronicled by our very own Francesca Buchalski. Francesca started the project during the her time at home when the University went virtual due to Covid-19, and worked with archival materials provided by the New Jersey Department of Agriculture. For the full story visit [Page 22](#).

Enjoy the rest of your summer and stay safe. I hope to see you at one of our events real soon!

Best In Good Health,
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.



UMH Properties, Inc., is a real estate investment trust that owns and operates manufactured home communities in seven states throughout the northeast.

UMH has been in business since 1968, operating as a public company since 1985. Owning a portfolio of over 90 manufactured home communities, housing approximately 15,700 home sites.

In addition, owning over 810 acres of land for the development of new sites. It is our mission as a company to provide the best quality affordable home for the hard working residents of Pennsylvania.

UMH communities are perfect for residents of all ages, let us help up you find your dream home today.

For more information about UMH Properties, Inc., please visit: www.umh.com



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



Boehringer Ingelheim Animal Health is the second largest animal health business in the world, with presence in more than 150 countries, and a significant presence in the United States, with more than 3,100 employees in places that include Georgia, Missouri, Iowa, Minnesota, New Jersey and Puerto Rico.

The lives of animals and humans are interconnected in deep and complex ways. We know that when animals are healthy, humans are healthier too. Across the globe, our 9,700 employees are dedicated to delivering value through innovation, thus enhancing the well-being of both. Respect for animals, humans and the environment guides us every day. We develop solutions and provide services to protect animals from disease and pain. We support our customers in taking care of the health of their animals and protect our communities against life- and society-threatening diseases.

For more information about Boehringer Ingelheim Animal Health, please visit: www.boehringer-ingelheim.us

UPCOMING 2022 EVENTS

An Evening of Wine and Equine

Thursday, August 4, 2022

Cream Ridge Winery
145 County Rd 539
Cream Ridge, New Jersey

carey.williams@rutgers.edu

2022 Hambletonian Continuing Education Seminar

Friday, August 5, 2022

Hilton Meadowlands Hotel
2 Meadowlands Plaza
East Rutherford, NJ 07073

Gordon@firstchoicemarketing.us

Casino Charity Night at the Meadowlands Racetrack

Friday, August 5, 2022

Meadowlands Racetrack
1 Racetrack Drive
East Rutherford, NJ 07073

www.adoptahorse.org/2022-casino-night

Evening of Science & Celebration

Thursday, November 3, 2022

Cook Student Center
Rutgers, The State University of NJ
New Brunswick, NJ

kylehart@njaes.rutgers.edu

For more events, visit our website @ esc.rutgers.edu



Science in Sweden:

The 11th International Conference on Equine Exercise Physiology

Continued from pg. 1

The conference kicked off with a welcome reception and tour of the host facilities. This year the conference was hosted by a Swedish delegation at the Swedish University of Agricultural Science, located right outside of Uppsala, Sweden.

Uppsala has a rich history with two universities, a cathedral where coronations took place, a castle, and sprawling botanical gardens. This array of attractions offered plenty of opportunities for sightseeing when delegates had a few moments of free time.

The welcome reception also featured a tour of the veterinary school and animal sciences department at the university. As the only veterinary school and teaching hospital in the country, the facilities hold some of the latest technology.

Among the highlights, are three fully instrumented spaces which allow for 3-D motion capture for lameness diagnosis and an MRI machine allowing horses to stand upright while being scanned.

Driven by an interest in lameness detection, the university, in partnership with other groups, is working on using machine learning to be able to create three-dimensional models of horses and their movements from 2-D videos.

This laborious process involves the creation of 3-D models of horses in various poses which are being acquired using a 3-D scanner.

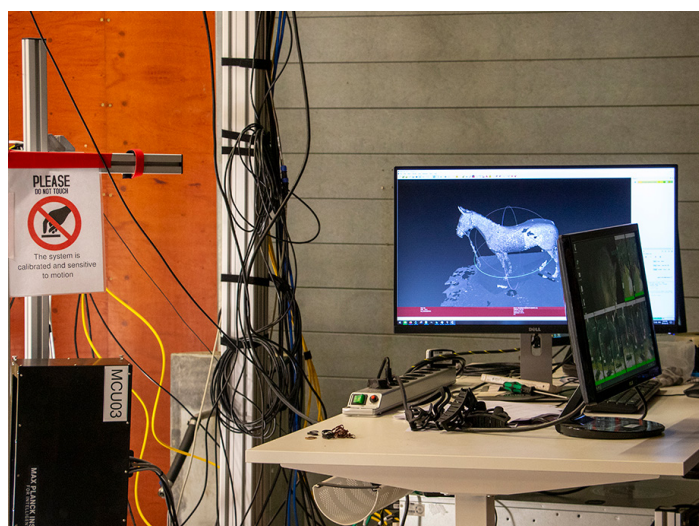
Four of the five days of the conference were filled with oral and poster presentations on topics ranging from movement asymmetries in horses to changes in electrical conductivity in the horse's heart following exercise training.

Interspersed among the busy presentation schedule were opportunities for delegates to visit and exchange ideas. Many of the delegates were returning attendees and took advantage of the opportunity to catch-up with colleagues they hadn't seen in a while. New members, especially students, were warmly welcomed and freely invited into conversations.

Each presentation day also featured at least one keynote presentation, in which experts were invited to share on topics of interest in more



Part of the locomotion laboratory at the Swedish University of Agricultural Sciences. This space is configured for three-dimensional data collection using an optical motion capture system and a 3D scanner. This data will ultimately be used to generate 3D video and data from two-dimensional videos.



The 3D image generated by the 3D scanner in the previous photo. This image is of the plastic horse placed within the capture space, but the equipment can also be used with live horses kept relatively still for several minutes.



Equine Science Center Alum exploring the original portion of Stockholm. Narrow, cobblestone streets running down to the water's edge is characteristic of this historic city. Traditional Swedish shops were a popular destination for conference attendees. Shops included a traditional wig shop, exotic-import tea shop, and the historic Dala Horse Museum & Gift Shop.

Pictured left to right: Danielle Smarsh; Helio C. Manso, Filho; and Ellen Rankins.

depth and breadth than allowed in the other presentations. Some of the presentations reviewed and summarized years of research to encapsulate our current understanding of subjects such as metabolism in muscles, fatigue, exercise induced pulmonary hemorrhage (EIPH), and cardiac arrhythmias.

Two of the presentations focused on emerging technologies such as artificial intelligence (AI) and their application across a variety of settings including the African Savanna.

The organizing committee made sure we all received a dose of Swedish culture and traditions.

Evening festivities began on the first day with a traditional Midsummer celebration complete with traditional attire and dances. Attendees were invited to join in and much hilarity ensued as we attempted to learn Midsummer dances.

Midsummer is a true cause for celebration in Sweden as it heralds a time of extended sunshine. Delegates experienced a scant three hours of dusk each day with the remainder of the day illuminated by bright sunshine.

The evening didn't end with dancing as three teams were chosen to compete in a series of games including a hobby horse race and sack race. Everyone's competitive side came out!

The third day of the conference was scheduled as a sightseeing day for the delegates. We were bussed into Stockholm, the capital of Sweden and turned loose for a day of sightseeing.

Many of the delegates chose to start their day in "Old Town" where the palace, cathedral, and original town are located. This section of the city is located on one of the islands. The mainland features the more modern section of the city and has plenty of options for those wanting to do a little shopping.

The other island is covered primarily in museums, which include one on Vikings, one on



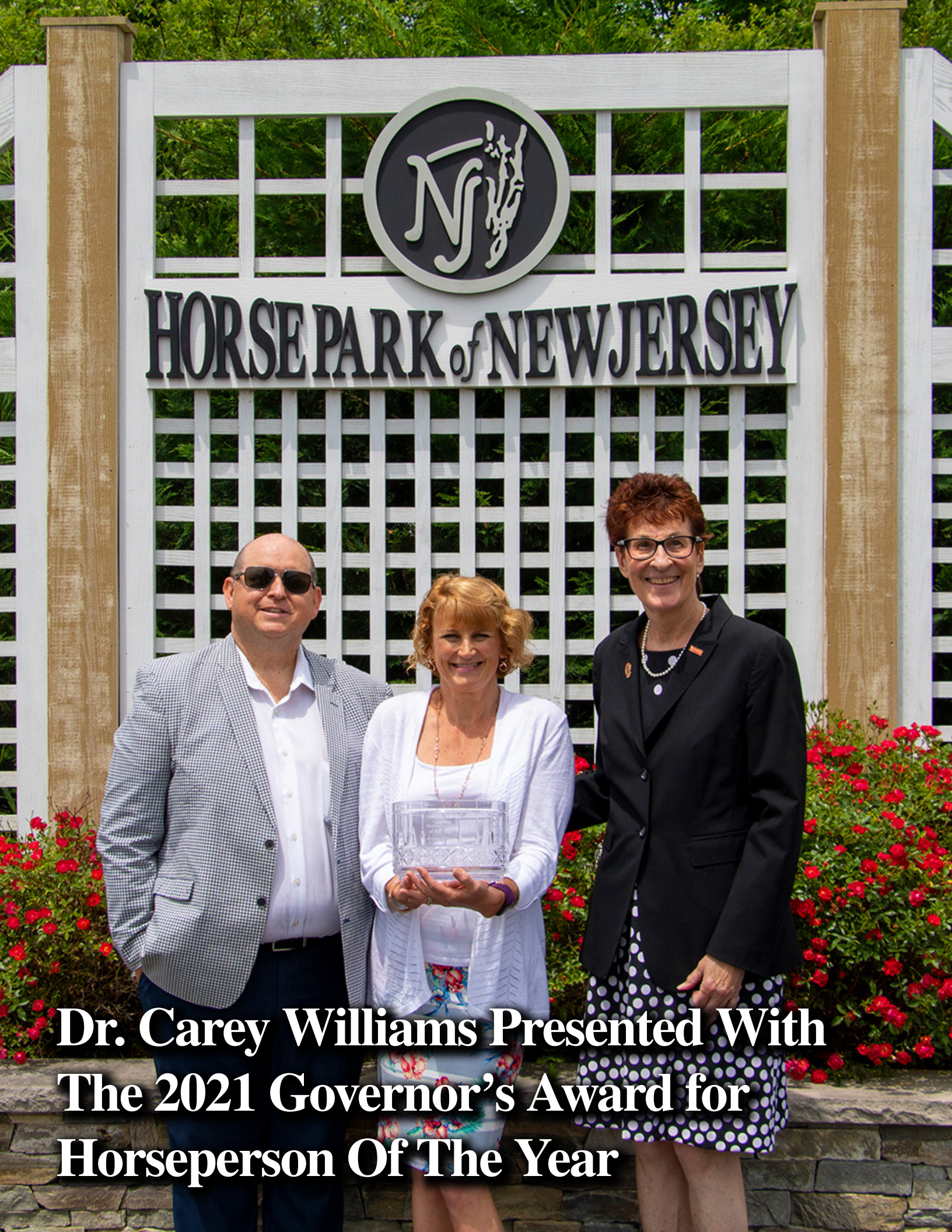
A Gotland Pony or Gotlandruss, the only breed of ponies native to Sweden, browsing on a tree limb at Skansa in Stockholm, Sweden. Skansa, the open-air museum, featured a small herd of these ponies as a part of its exhibits on the history and culture of Sweden.

the Vasa (a well-preserved battleship from the 1600s), and Skansa, an open-air museum.

Everyone converged on Skansa at the end of the day for dinner. Those who chose to arrive early could explore the gardens, reenactments, and zoo of Nordic animals.

The final social event of the conference was the gala dinner hosted at Uppsala castle, one of the coolest (literally!) places in the city because of its thick stone walls. Many of the buildings in Uppsala have no air conditioning, so this was a welcome respite from the heat.

Delegates had speculated and impatiently waited for the next conference location to be revealed. It turns out we'll be traveling to Tokyo, Japan in 2026 for the 12th ICEEP.



**Dr. Carey Williams Presented With
The 2021 Governor's Award for
Horseperson Of The Year**



In her role as Associate Director of Outreach at the Equine Science Center, Dr. Carey Williams has presented to young equine enthusiasts at numerous events over the years. This has included 4-H groups, as well as groups that don't necessarily have an equine background.

The 2021 Governor's Award for Horseperson of the Year was presented to Dr. Carey Williams, who has served Rutgers University as the Equine Extension Specialist since 2003.

Williams accepted the award at the 65th Annual New Jersey Breeders Awards Celebration at the Horse Park of New Jersey on June 1, 2022.

Dr. Williams' work has focused in the areas of equine nutrition and exercise physiology. She is a leader in the field of antioxidant supplementation and oxidative stress in horses, and her antioxidant work has been recognized nationally and internationally in the nutrition and veterinary fields.

"Dr. Williams has dedicated her career to advancing the New Jersey equine industry," New Jersey Department of Agriculture Secretary Douglas Fisher said. "She is very deserving of this honor for the knowledge, enthusiasm, and care she has provided during her years of service."

More recently, Dr. Williams has expanded her research into the area of forages, pastures, and helping horse farm owners create an environmentally impactful farm.

She was the team leader for the multi-disciplinary project that created a state-of-the-art equine Best Management Practice (BMP) showcase farm at Rutgers University.

At the Equine Science Center's Ryders Lane facility, the "Ryders Lane Environmental Best Management Practices Demonstration Horse Farm" has become the host site for many research studies and outreach programs.

Dr. Williams' expertise in equine nutrition has resulted in her being a sought-after equine nutrition speaker, becoming a leader in disseminating research-based equine nutrition information to youth, horse owners, and industry professionals focused on equine nutrition, pasture management, and horse management.



Dr. Carey Williams created An “Evening of Wine & Equine” in order to educate constituents on equine related topics at a more relaxed setting. Hosted at wineries, or equine venues with wineries providing wine, it has become one of her most popular events.

Her Extension programs have focused on three main areas: improving equine nutrition, pasture management, and horse husbandry.

“Dr. William’s extension work with programs such as the ‘Horse Management Seminar’ and the equine section of the ‘New Jersey Junior Breeder Livestock Symposium’ have allowed equine enthusiasts of all levels to learn about cutting-edge equine research,” said Dr. Karyn Malinowski, Director of the Equine Science Center.

“From those who join us at Rutgers University, to international audiences via our virtual gatherings, the research presentations provide attendees with takeaways that they can use in their everyday life.”

Dr. Williams is also active within the equine nutrition industry as a member of various scientific societies.

She is a member of the board of directors for the Equine Science Society, promoted as “one of the preeminent, internationally-recognized scientific equine organizations, advocating for and advancing the care of equines through extensive

contributions in the areas of equine research, teaching, and extension.”

Due to her work in the area of equine nutrition, she was recently appointed to the Coordinating Committee for the National Research Support Project (NRSP-9) of the National Animal Nutrition Program.

This group “serves as a forum to identify high-priority animal nutrition issues and provides an integrated and systemic approach to sharing, collecting, assembling, synthesizing, and disseminating science-based information, educational tools, and enabling technologies on animal nutrition that facilitate high-priority research among agricultural species.”

In her spare time, Dr. Williams is also involved with several riding and showing organizations including the Eastern States Dressage and Combined Training Association, and the Horse Park of New Jersey where she has been engaged as a key volunteer to help with the setup and organization at various shows.

An Evening of Wine and Equine RETURNS!

Pasture and Supplements for your Horse



**Thursday, August 4th
5:00 pm – 8:00 pm**

Cream Ridge Winery

145 County Rd 539

Cream Ridge, New Jersey

**Choosing Supplements
Keeping Pasture Productive
Forage-Based Diets**

The event is FREE!
*Wine glasses (discounted) and
bottles can be purchased separately.
PLEASE register below!*

**Speakers include:
Dr. Carey Williams &
Laura Kenny (PSU)**

Who:

New Jersey equine farmers and owners interested in nutrition and sustaining the environment.

What:

This free program will expose you to some of the latest in nutrition, supplementation and best practices for maintaining healthy pasture forages for horses.

Why:

We'd like to bring back the very popular program! Who doesn't want to enjoy two of New Jersey's Agricultural best? This program will provide information on how to manage horse pasture, choose the best forage and supplements for your horse. This will also give you a chance to network with other managers and owners of New Jersey equine farms while enjoying a taste of some New Jersey's finest wines from Cream Ridge Winery.

**For more information and to RSVP,
please contact:**

Dr. Carey Williams at

carey.williams@rutgers.edu

**Wine tasting (if interested) will start at
5:00.**

**There will be light food available.
Program talks will start at 6:00.**

RUTGERS

New Jersey Agricultural
Experiment Station



Equine Science Center
Better Horse Care Through
Research and Education

Reasonable accommodations available upon request.
Please make request upon registration.



The Rutgers University Teaching Herd (RUTH) horses were in fine form at the Horse Show on Ag Field Day.

Ten students worked with the five horses twice a week, for nine weeks, to prepare for the show. Each year the show serves as the culmination of the class, in which the students are judged on their horse handling skills.

The show kicked-off with the first class starting at 10 a.m. Dr. Carey Williams hosted the event, and Rutgers University Board for Equine Advancement (RUBEA) board member, Dr. Amy Butewicz, joined as this year's judge.

Madison Laverty was selected as the champion who was handling Standardbred mare, Marci; and Brian Kong as our reserve champion who handled Standardbred mare, Mazel.

The second class of the day was a more

complicated Showmanship pattern that all student and horse pairs also completed.

However, this time for the championship class the top four students drew new horses out of a hat so that meant the horses they were handling were new to them.

The class ended with Vanisha Patel as the champion handling Mazel; and Jolie Said with Thoroughbred gelding, Wiser, as the reserve champion.

Dr. Carey Williams, the faculty supervisor for the event, thanked coordinators Emma and Payton, along with student supervisors, and all of the other students who worked so hard to make this show run as smoothly as possible after a two year break from in-person showing.

The team was a phenomenal workhorse that helped the students to learn as much as they could





Photos of the horses were taken at different time points in order to rate the horses "grimace" on the Horse Grimace Scale.

Lab Notes - Malinowski

From The Lab:

"FACIAL EXPRESSIONS:

What Can A Horse Grimace Scale Tell Us? "



THE TOP 4 TAKE-A-WAYS

#1

Horses have 17 facial action units, which they use to generate a rich catalogue of facial movements. This is quite close to us- we have 27. Chimpanzees and rhesus macaques only have 13!

#2

Equine behavioral research has exploded in recent years as attention on equine welfare has increased. Because of this, we now have access to several ethograms, scales, and other metrics that allow us to categorize and analyze equine behaviors.

One of the most endearing qualities that our equine friends possess is their expressiveness. Sometimes goofy but always charming, horses can exhibit a strikingly large repertoire of facial behaviors while communicating with us.

Until recent years, the meaning of many of these behaviors has remained a mystery, but with the advent of new research, several metrics have been developed that can enable us to both identify and analyze equine facial behaviors.

One of these metrics is the Horse Grimace Scale. Developed through a 2014 study by Emanuela Dalla Costa and her team of researchers, the scale is designed to measure the amount of muscular tension held in six discrete facial action units (FAUs) visible on the equine side profile: stiffly backwards ears, orbital tightening, tension above the eye area, prominent strained chewing muscles, mouth strained and pronounced chin, strained nostrils and flattening of the profile.

Each FAU is scored using an integer between 0-2, with higher numbers correlating to higher levels of muscular tension. This means that a horse can score a maximum of 12/12 on the scale, indicating high levels of muscular tension across the face; this is in turn associated with the horse experiencing a higher degree of pain.

The idea of utilizing muscular tension as the physical manifestation of equine distress is a fairly novel concept; in 2019, Rutgers ESC researcher Ellen Rankins investigated the links between muscular tension and acute stress in equine subjects, concluding the potential of a strong connection between increased levels of muscular tension and stress. Interestingly, the masseter muscle- a facial muscle primarily responsible for elevating and protracting the lower jaw- showed significantly altered surface electromyography values when horses were exposed to stressful procedures.

When the results of Ellen's study are considered alongside other literature examining the link between muscular tension and equine distress, a compelling case emerges for using

equine facial behavior as a tool for effectively measuring their stress levels.

The HGS was used to evaluate the facial behaviors of eight mature geldings of varying breeds and ages during a study investigating the levels of stress experienced by horses involved in an Equine-Assisted Intervention (EAI) for veterans with PTSD.

While the positive impacts of EAIs on humans have been well-explored, there remains a good deal of uncertainty surrounding the impacts on equine welfare, particularly so for interventions involving patients with psychological disorders such as PTSD.

In the study, four of the horses participated in an eight-week EAI program, meeting with a veteran for one 30-minute session once a week. Concurrently, the other four horses served as controls, staying distanced from the EAI session in a square pen. During each session, photographs of the profiles of both the EAI and control horse were taken at three timepoints, selected to be representative of the beginning, middle, and end of the intervention.

The photographs were then organized to create a bank of data that was subsequently analyzed by five Rutgers undergraduates using the HGS.

Across the sessions, EAI had no significant impact on mean HGS score ($p = 0.4554$); across the timepoints within the sessions, there was also no significant impact of EAI observed on mean HGS score ($p = 0.7993$).

The interaction between EAI, timepoints, and sessions yielded no significant effect on mean HGS score as well ($p = 0.4344$).

The results of the study show that great potential lies in the use of the HGS for measuring levels of equine stress, and at the ESC work has already begun on adjusting scoring procedures to allow us to employ the HGS even more efficiently in the future.

#3

The impacts of Equine-Assisted Interventions (EAIs) on humans are well-studied (and overwhelmingly positive!), but the impacts on horses are not as well studied. Existing literature on the subject remains fairly inconclusive.

#4

The Horse Grimace Scale was created during a 2014 study evaluating the facial behaviors of 40 stallions undergoing castration with varying levels of analgesics. It allows users to assign a numerical score to the amount of muscular tension exhibited in the equine profile.



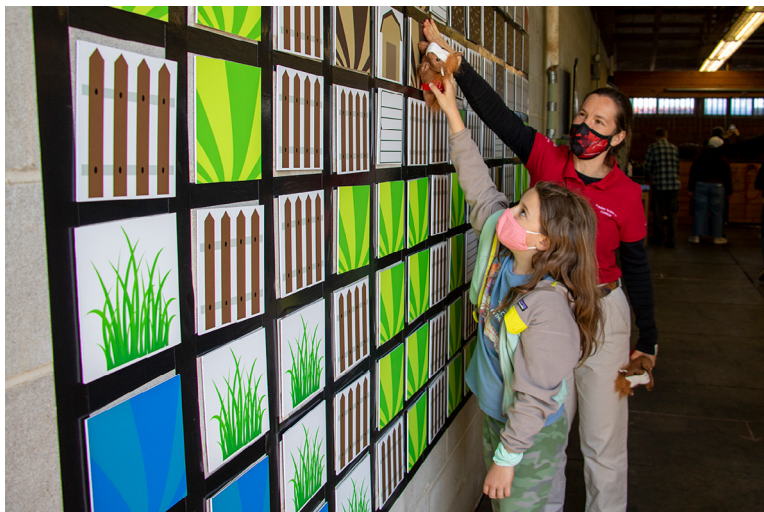
Ag Field Day AT RUTGERS DAY

With over 2000 “Equine Science 4 Kids” Sports Bags given away, we lost count of how many people stopped by to visit the Equine Exercise Physiology Lab throughout the day.

Equine Science Center staff and students were excited to greet attendees face to face again, after going virtual for 2 years due to Covid-19.

Lab tours took place in the morning, with horses Jolee and Randy posing for pictures with attendees.

RU Wishbone, the equine articulated skeleton, helped to give anatomy lessons focusing on the differences and similarities between horse and human skeletons, with the help of undergraduate students.



For more pictures from the event please visit: go.rutgers.edu/RutgersDay2022Pics

Kids were also treated to the new Equine Science 4 Kids! game, “Pasture Planning”! During the game attendees were tasked with trying to figure out the problems with a sample rotational grazing system, and find a way to fix them.

Everyone who tried their hand at the game received their very own “Equine Science 4 Kids! Activity Book” to take home.

The “High-Speed Treadmill Demo” that took place at 1 & 2pm filled the Lab to capacity, and was one of the favorite events for everyone that visited the Equine Science Center throughout the day.

The Center looks forward to introducing new games (and an updated facility) to attendees at the next Rutgers Day, so be on the lookout for next year’s date!

THE 2022 SUMMER SHOWCASE



The Equine Science Center hosted its annual “Summer Showcase” in June. Dr. Karyn Malinowski, Director of the Equine Science Center, welcomed guests and explained why horses are an excellent animal model to study and what type of research is conducted at the Center.

Guests were then wowed with the thrilling demonstration of a horse galloping at full speed on the 21-foot equine treadmill.

After the treadmill demonstration, guests were given an equine anatomy lesson with RU Wishbone, the life-sized horse skeleton.

This year a new interactive activity was added to test what attendees learned with “Horse Legs - RU A Skeletal Expert?”, a matching game with bone puzzle pieces, and corresponding names.

A short lesson on the benefits of rotational grazing, and how to successfully plan a pasture, was followed by the “Pasture Planning” interactive tile game.

This hands-on game allowed attendees to design their own pasture showcasing the importance of rotating horses on horse farms, and how this environmentally friendly method will keep pastures usable throughout the growing period.

Finally, a tour of the Equine Exercise Physiology Laboratory included an update on the recent research taking place in the lab.

Attendees were shown how sweat patches were being used in research, and how the analysis of sweat can provide ways for horses to better recover after exercise.





The 2022 Month Of the Horse Opening Ceremonies & NJ Awards Presentation

The New Jersey Equine Advisory Board, New Jersey Sire Stakes, and the Standardbred Breeders & Owners Association of New Jersey hosted the 2022 Month of the Horse Opening Ceremonies and NJ Awards Presentation in June.

Awards were presented by the New Jersey Department of Agriculture Assistant Secretary and Director of the Division of Marketing and Development, Joe Atchison III; as well as by members of the New Jersey Equine Advisory Board.

Assistant Secretary Atchison presented the Rutgers Equine Science Center and other equine organizations within New Jersey with a proclamation from the Governor celebrating the "Month of the Horse," and former Assemblyman Joe Malone presented the Center with a ceremonial resolution celebrating the inaugural "New Jersey Equestrian Safety Week," sponsored by Assemblyman Ron Dancer and on behalf of the New Jersey General Assembly.

Dr. Carey Williams was presented with the 2021 Governor's Award for Horseperson Of The Year for her years of dedication to equine outreach, education, and the equine industry in New Jersey.

Recent graduate Katie Eick, a graduate of the Rutgers University Department of Animal Sciences, received the Bell Scholarship which was named after Ernest C. Bell, a horse breeder and one of the founders of the New Jersey Equine Advisory Board.

Dr. Amy Butewicz was awarded the Horse Park of New Jersey Volunteer Award for her contributions to the Horse Park. Dr. Butewicz, a member of the Rutgers University Board for Equine Advancement (RUBEA) has been a stalwart volunteer for the Horse Park volunteering hundreds of hours to help with events and park activities.

Other awards were presented at the ceremony, and pictures from the event can be found on the Equine Science Center's Facebook.



Assistant Secretary Joe Atchison presents the Equine Science Center with a ceremonial resolution celebration "New Jersey Equestrian Safety Week"



Dr. Williams was presented with the 2021 Governor's Award for Horseperson Of The Year.



Rutgers University 2022 graduate Katie Eick, poses with her mother, and Dr. Karyn Malinowski and Dr. Carey Williams, after receiving the Bell Scholarship



Dr. Amy Butewicz poses with Horse Park of New Jersey Trustee Diane Sigafoos after receiving the Horse Park of New Jersey Volunteer of the Year Award.

For other pictures from the event, please visit: go.rutgers.edu/2022MonthOfTheHorse



Former New Jersey Horse Council President, and New Jersey Equine Advisory Board Representative, Marjorie Van Ness, the “First Lady of New Jersey Agriculture,” with her husband Eugene driving at the 1968 Lancaster Horse Show. Lt. Colonel James Marsh, the founder of the Middlesex County Horse Show, presents them with the Championship Trophy for Fine Harness Horse.

The New Jersey Equine Advisory Board: Over 60 Years Of Ensuring The Vitality Of The Equine Industry

By: Francesca Buchalski SEBS 22'

The equine industry is of vital importance to New Jersey's economy, and plays an essential role in the preservation of open space across the state.

From racetracks, to lesson barns, to horse breeding operations, to hay farms, to equine veterinary practices, to equine research facilities, the New Jersey equine industry provides thousands of jobs, secures thousands of acres of open space, and includes thousands of horses performing a variety of jobs.

One of the most important advocates for the New Jersey equine industry is the New Jersey Equine Advisory Board (NJEAB), which serves to advise and recommend action to the State Board of Agriculture and Secretary of Agriculture regarding equine affairs; the NJEAB is the effective “voice” of the New Jersey equine industry. From its establishment in 1961, the NJEAB played an integral role in shaping the equine landscape of New Jersey, and many of its early contributions are still apparent today.

Legislation: Supporting, Promoting, & Protecting the NJ Equine Industry

The NJEAB helped to support the passing of several important pieces of legislation that proved imperative to the state's equine industry.

1971 was a year of major equine legislation, including the establishment of a New Jersey Standardbred Sire Stakes program, and a permanent fund for the New Jersey Horse Breeding and Development program.

The Sire Stakes program provides harness races each year with substantial purses for winning, New Jersey sired Standardbreds—the establishment of the program encouraged many breeders to move and stand their Standardbred stallions in New Jersey, which in turn has encouraged the growth and success of the New Jersey Standardbred breeding and racing industries.

Additionally, the New Jersey Horse Breeding and Development Program fund allowed the NJEAB to allocate monies towards projects to benefit the horse industry.

In 1972, the board supported the formation of the first annual “Week of the Horse”, during which educational events, fairs, and other activities were held to celebrate the horse and its important role in New Jersey.

“Week of the Horse” would eventually grow into the present day's Month of the Horse, which continues to raise awareness about and celebrate the importance of horses and horse-people to New Jersey.

Soon after, in 1977, members of the NJEAB advocated for the passage of a bill designating the horse as the state animal of New Jersey.

The supporting groundwork for another important piece of legislation was laid in the 1970's, which would come to fruition in 1998: the Equine Activities Liability Act.

The Act protects the operators of equestrian facilities from legal action

resulting from the inherent risks of working with and around horses.

People who frequent horse farms will likely be familiar with the signage indicating that, “Under New Jersey law, an equestrian operator is not liable for an injury to or the death of a participant in equine animal activities resulting from the inherent risks of equine animal activities”.

In the early days of the NJEAB, before this Act was passed, the owners and operators of equestrian facilities were at a much larger risk of legal action should an accident occur on their property—for example, if a person were to fall off of or get stepped on by a horse.

As far back as the 1970's, the NJEAB advocated for the passage of the Equine Activities Liability Act, and in 1998, their efforts paid off: in recognition of the importance of horse farms to the NJ economy and open space, the legislature passed this act in order to protect and preserve equine facilities.



Dr. Carey Williams received the 2021 Governor's Award for Horseperson of the Year as a part of the 2022 New Jersey Awards Presentation. Hosted at the Horse Park of New Jersey, and serving as the official opening of New Jersey's 2022 “Month of the Horse,” Dr. Williams was joined by Equine Science Center staff, faculty, students, and guests to recognize her accomplishment.

Pictured from left to right: Dr. Kenneth McKeever, Katie Eick, Francesca Buchalski, Kyle Hartmann, Dr. Carey Williams, Dr. Karyn Malinowski, Ellen Rankins, and Dr. Alisa Herbst.

Health And Research: Protecting The Horse Population

The NJEAB also played a tremendous role in the promotion of horse health and research.

In the late 1960s and early 1970s, Equine Infectious Anemia (EIA) was reported to be widespread across New Jersey. EIA is a devastating disease with high mortality rates, for which there is currently no vaccine and no cure.

The disease is transmitted primarily by biting flies, and as such, can spread across a wide area in a short amount of time. As such, identifying EIA-positive horses within New Jersey and preventing EIA-positive horses from entering New Jersey was a major priority of the early NJEAB.

The NJEAB contributed funds, blood samples, and research horses to Cornell University, which was working to develop a fast, reliable blood test for EIA detection.

This research resulted in the Coggins test, the current gold-standard for EIA testing, which became a key factor in controlling EIA in New Jersey and across the entire United States.

Upon official approval of the Coggins test by the United States Department of Agriculture in 1972, the NJEAB made several proposals to the New Jersey Department of Agriculture that would dramatically decrease the incidence of EIA in New Jersey, and would eventually be signed into law.

The law made it mandatory that any seller of a horse must be able to provide proof of a negative Coggins test to the buyer; any horses competing, stabled in, or shipping into New Jersey must have an annual (or biannual) negative Coggins test; and any horses testing positive for EIA which are not euthanized must be branded and quarantined.

In 1971, approximately 4% of horses tested positive for EIA in New Jersey; after implementation of widespread, systematic Coggins testing, that percentage dropped to less than 0.5% in 1976, just five years later. Today, EIA has been virtually eradicated in New Jersey—thanks in large part to the early efforts of the NJEAB.

The NJEAB also promoted equine biosecurity by recommending mass vaccination against Venezuelan Equine Encephalitis during an outbreak in 1971, and argued against the import of horses originating from areas in which Contagious Equine Metritis was present in 1978.

In 1978, it conducted a study to determine the logistics of building a veterinary diagnostic laboratory in New Jersey, laying the groundwork for today's New Jersey Animal Health Diagnostic Laboratory.

Education: Ensuring The Future Of The Equine Industry

The NJEAB has also been dedicated to educating the public about horses in the state, and providing outreach and education programs in order to ensure the future of the equine industry.

It has supported the 4-H since its inception, through programs and events such as the Junior Breeders' Program, 4-H Standardbred Breeding Program, and the annual Horse Bowl.

Additionally, the NJEAB has supplied numerous scholarships and funding so that New Jersey 4-H winners could attend national 4-H conventions. These efforts encouraged the next generation to get involved in the New Jersey equine industry, and continue to do so today.

It pushed for the development of a four-year



Dr. Elena Rizzo presenting "RU A Dental Expert" at the 2018 Junior Breeders Livestock Symposium.

horse husbandry course at the former Cook College of Agriculture, which would evolve into the equine track of the Rutgers Animal Science program.

This course of study gives aspiring horse breeders, farm managers, and other equestrian professionals the tools and knowledge required to manage both the horse and business components of an equestrian operation, in turn leading to better managed, more resilient equine operations in the future.

Facility Development: Improving The New Jersey Equine Landscape

The development and maintenance of places for equestrians to enjoy their horses has also been a priority of the NJEAB for decades.

It advocated for equestrian use of state parks and state trails, and supported equestrian trail mapping and development across the state, including trails at Wharton State Park, Monmouth County Battlefield State Park, and High Point

State Park. The wide variety of well-marked, well-maintained, horse-friendly trails across the state are largely thanks to the NJEAB.

In 1976, the advice of the NJEAB was sought by the Mercer County Park Commission, which was hoping to add an equestrian facility to its expansive list of recreational facilities and looking for expertise on how best to proceed.

This exchange planted the seed which would eventually yield today's Mercer County Stables, a thriving 243-acre farm offering horseback riding lessons, equine assisted therapy and adaptive riding programs, and trail rides.

And last, but certainly not least, is perhaps the most widely known contribution of the NJEAB: the development of the 185-acre Horse Park of New Jersey.

Since opening to the public in 1988, the Horse Park has hosted equestrian events of almost every discipline, from dressage, to barrel racing, to eventing, to hunter-jumper competitions, to trail rides, to combined driving events.



The Horse Park of New Jersey is a 185 acre equestrian destination located in Allentown, NJ. The park offers numerous events throughout the year, and is a non-profit, charitable, educational organization. The park is funded by donations; and run by members and volunteers, with a small full-time staff.



Friends of Gwendolin E. Stableford, and representatives from the Horse Park of New Jersey, pose at the groundbreaking event for the Gwendolin E. Stableford Winner's Circle.

The Horse Park has even served as the venue to Olympic qualifying competitions, hosting local and international riders at the top of the sport.

The Horse Park was made a reality thanks to the vision, dedication, and tireless work of the NJEAB nearly fifty years ago (Picture of the HPNJ sign?)

Conclusion: Looking Back And Looking Ahead

From legislation to education, to biosecurity to developing facilities, the efforts of the early NJEAB have had a tremendous, positive impact on the success of the New Jersey equine industry.

Contributions from the board decades ago still have resounding effects today—and not just in the state of New Jersey.

Connecticut, Maryland, New Hampshire, and other states have looked to the NJEAB and its equine programs as models to develop effective equine programs in their own states. But the work of the NJEAB is not finished yet!

The NJEAB continues to advocate for the New Jersey equine industry in order to ensure its success and longevity for years to come.

**To learn more about the
New Jersey Equine Advisory
Board, please visit:**

www.nj.gov/agriculture/njequine

Cooperative Extension Bulletin E373

Carey Williams, Extension Specialist in Equine Management

Does this scenario sound familiar to anyone? “My friends say I need to add expensive hoof/joint/coat/vitamin/mineral/etc. supplements to make my horse look and perform better. But I feed good quality hay as the majority of the diet, and a commercial feed at recommended levels. My horse is also happy, healthy, and undergoes routine veterinary care. What do I do, or how do I know if I really need these supplements?”

If even part of this story sounds like something you have encountered, you are definitely not alone. The short answer given by many equine nutritionists usually is: “If your horse is on a balanced diet and does not have any specific problems, then it most likely does not need any additional supplements.”

As the Rutgers state extension horse specialist who has spent a career researching horse nutritional needs and supplement effectiveness, I have extensive experience in this area. Nutrition management questions come up frequently, and answers can vary depending on age, use, health status, weight, and other factors specific to each horse. But how do you make informed nutrition decisions? In this bulletin you will learn about what constitutes a "balanced" diet, and several different types of supplements that can be used in certain situations. Hopefully, what you learn here can make you a more educated buyer when it comes to purchasing supplements for your horse.

What Makes Up a Balanced Diet?

A balanced diet includes the nutrients your horse requires each day in specific amounts to maintain health and allow for work, breeding, lactation, or growth. The horse requires water, simple carbohydrates, fibrous carbohydrates, protein, fats, minerals, and vitamins each day.

A balanced diet starts with good quality forage at a minimum of about 1.5 % of the horse's body weight, free choice water, and white/plain salt. If your horse requires more energy (for exercise, pregnancy, lactation, etc.) than forage alone can provide, then concentrates such as commercial feeds can be introduced. Commercial feeds, when fed in the amount recommended on the bag by the manufacturer, already contain the proper balance of vitamins and minerals for a horse on good quality forage. It is important not to mix a commercial feed with other grains such as oats, or other commercial feeds. Mixing feeds disturbs the nutrient balance that was formulated to be 'just right' in the original feed.



Figure 1. Does this feed room look familiar? Multiple buckets and containers containing various supplements. How many of these are necessary for your horse's health? Photo credit: C. Williams

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