

## Equine Research Hall of Fame inductees announced

The University of Kentucky Gluck Equine Research Foundation will induct three scientists into the UK Equine Research Hall of Fame Oct. 9 at the UK Hilary J. Boone Center.

Michelle LeBlanc, DVM, Dipl. ACT, a posthumous inductee formerly of Rood & Riddle Equine Institute; Ernie Bailey, PhD, professor at the UK Gluck Equine Research Center; and Elwyn Firth, BVSc, MS, PhD, Dipl. ACVS, a professor at the University of Auckland in New Zealand, were selected for their contributions to equine science and research. Nominated by their peers and colleagues, LeBlanc, Bailey and Firth were selected by past Hall of Fame inductees.



Clockwise from left: Drs. Ernie Bailey, Elwyn Firth, and the late Michelle LeBlanc will be inducted into the UK Equine Research Hall of Fame.



UK GLUCK EQUINE RESEARCH FOUNDATION

“On behalf of the Gluck Equine Research Foundation board, I would like to congratulate this year’s inductees,” said Case Clay, chairman of the foundation’s board of directors. “The inductees were selected from a strong group of nominees who have dedicated their lives to equine research. We look forward to celebrating the accomplishments of Drs. LeBlanc, Bailey and Firth at the induction ceremony.”

LeBlanc’s career extended over 35 years and included teaching, administration, and mentoring. She was a reproductive specialist with interests in mare infertility, embryo transfer, placental infections in mares, and acupuncture in infertile mares. LeBlanc was awarded the Lifetime Achievement Award from the World Equine Veterinary Association in 2011 and was named 2000 Theriogenologist of the Year by the American College of Theriogenologists. She died in April 2013 after a battle with ovarian cancer.

According to the nomination letter from Wayne McIlwraith, BVSc, PhD, DSc, FRCVS, Dipl. ACVS, university distinguished professor at Colorado State University, and Ed Squires, MS, PhD, Dipl. ACT (Hon), professor at the UK Gluck Equine Research Center, LeBlanc “led research in the development of innovative equipment and the development of novel research and treatment techniques in mares and foals. Her contributions as a teacher, administrator and mentor defied quantification. Her passion for the horse and for equine research up to her untimely passing makes her a very worthy recipient.”

Bailey joined UK’s Department of Veterinary Science in 1979 and established a research program for horse genetics. Beginning in the 1990s, Bailey, with his students and colleagues, conducted gene-mapping research and provided leadership for

### Articles of Interest

**Overseeding Horse Pastures**

**Study: EIPH Does Not Shorten Racing Careers**

**UK Releases Booklets on Safe Equine Travel**

**Weed of the Month: Wild Parsnip**

**Late Summer Heat Wave Could Stress Livestock**

**Algal Blooms Pose Danger to Livestock**

**Genetics, Health, and Equine Performance Presentation**

**Reducing Risk from Tick-Borne Diseases**

**UK Gluck Center to Host EAV Symposium in November**

**Follow us on Twitter**

**Upcoming Events**

the international horse genome project. This work led to sequencing of the horse genome at the National Human Genome Research Institute in 2006. The tools resulting from these initiatives empowered all areas of equine research. With his students and co-workers, Bailey used molecular genetic tools to uncover mutations responsible for coat color patterns, developmental defects, cytogenetic abnormalities, and genes influencing viral susceptibility in horses.

“I have had the pleasure of working with wonderful colleagues at a time when genetics technologies have just exploded. It is gratifying that colleagues and peers nominated and elected me to the Equine Research Hall of Fame,” Bailey said. “I am especially pleased with the recognition accorded the field of genetics. During the last 20 years

## Hall of Fame

our research field consisted of about 150 scientists and students, worldwide, who shared time, knowledge, and resources to create gene maps and other genomic tools for the horse. These new tools are empowering veterinarians and breeders to solve problems that plagued horses and horse owners for centuries. It's been a pleasure to work with these amazing scientists; the accomplishments actually belong to this extended community."

Bailey was nominated by James MacLeod, VMD, PhD, professor at the UK Gluck Equine Research Center.

"Over the past 35 years Dr. Bailey's direct research contributions, combined with his vision, cultivation, facilitation, and leadership of the international community of scientists working on horse genetics and genomics, has had a profound impact on equine science. Just as our understanding of the human genome is changing all aspects of human health, equine genomics is proving to be transformative for equine biomedical disciplines," MacLeod said.

Firth has worked in North America, The Netherlands, and New Zealand in

university research, teaching, and surgical referral clinics. He classified bone infection in foals and studied other bone and joint diseases of the young horse. This led to the quantification of bone, joint, and tendon changes in young foals exposed to exercise or confinement early in life, and in 2-year-olds trained for racing. A later multinational collaborative study showed that appropriate early exercise in pastured foals was not harmful and had positive effects on tissues, adult musculoskeletal health, and the welfare of the horse.

"To have been selected for induction into the University of Kentucky Equine Research Hall of Fame is a great honor," Firth said. "Receiving this prestigious award is a source of great pleasure to me, and I feel very proud to have been so recognized. It is full circle in some ways, since when I first left New Zealand it was to Lexington that I traveled, and I have been back many times since. It will be very nice to return."

Firth's nomination letter by McIlwraith and I.G. Joe Mayhew, BVSc, FRCVS, PhD, Dipl ACVIM, ECVN, professor at Massey University, commended him for his 35 years of contributions to research in equine musculoskeletal

disease: "Dr. Firth has made outstanding contributions to research in equine musculoskeletal disease and comparative knowledge emanating from that."

Equine Research Hall of Fame nominees can be living or deceased, active or retired in the field of equine research. Established in 1990, the Equine Research Hall of Fame honors international scientific community members biennially who have made equine research a key part of their careers, recognizing their work, dedication, and achievements in equine research.

Past inductees include Drs. George P. Allen, W. R. Allen, Douglas F. Antczak, John T. Bryans, William W. Dimock, Elvis R. Doll, Jr., Harold Drudge, Phillip R. Edwards, Baltus J. Erasmus, Harold E. Garner, Oliver J. Ginther, Harold Hintz, Sir Frederick Hobday, Leo B. Jeffcott, Eugene T. Lyons, Robert M. Kenney, I.G. Joe Mayhew, Travis C. McGuire, Jr., C. Wayne McIlwraith, Alan J. Nixon, Peter D. Rosedale, Edward L. Squires, Clyde Stormont, Sir Arnold Theiler, Peter J. Timoney, and Stephanie J. Valberg. [UK](#)

>Jenny Evans, MFA, is the marketing and promotion specialist senior at the University of Kentucky Gluck Equine Research Center.

## Recommendations for Overseeding Horse Pastures

Overseeding horse pastures that contain cool season grasses can help improve pasture production and forage quality and ensure a good ground cover the following year without major pasture renovations.

Overseeding consists of planting seed in a field with existing grass cover to fill in bare patches and thicken the stand. Property owners can overseed the entire pasture or just the trouble areas. The best time for overseeding is the fall when weed competition is low and ideal growing conditions exist for cool-season grasses. The ideal time for overseeding in Kentucky is Sept. 1-15. Seeding dates might be earlier in northern regions and later southern regions of Kentucky. In areas with long, cold winters, over-

seeding should occur in early spring. (Note: In this article we will not discuss overseeding bermudagrass pastures with annual ryegrass.)

Controlling competition from weeds is an important first step in overseeding. While herbicides are an effective way to control weeds, spraying can also hinder



Using high-quality seed is essential for a successful overseeding application

young grass seedlings, resulting in a failed establishment. Check your herbicide label for the recommended waiting period before seeding. More important than spraying weeds is mowing or grazing pastures close before seeding. This not only knocks back weeds, but reduces the chances that the existing pasture "shades out" the young seedlings that are just getting started.

Proper seeding method is also a key factor in overseeding success. The goal of any method is to place the seed ¼- to ½-inch into the soil and cover it to achieve good seed-to-soil contact. Use a no-till drill for the best chance of success. Make sure the drill is set correctly to keep seed at the correct depth. Harrowing before and after broadcast seeding is another method;

however, it is much less effective than drilling. Using a cultipacker or roller after the harrow method can help improve seed-to-soil contact. Finally, frost seeding is an option for overseeding clovers. Frost seeding involves broadcasting seed onto the ground during mid to late February and relying on the freeze and thaw cycle to work the seed into the soil. Frost seeding works well with red and white clover, but success is limited with grasses and alfalfa.

Allowing time for seedlings to establish is another critical step in overseeding. Returning horses to an overseeded pasture too soon can wipe out any seedlings by grazing or trampling. Ideally, a pasture should have six to eight months of rest after overseeding before normal grazing resumes; however, seedlings can generally tolerate a few

## Overseeding Pastures

sessions of light grazing. Another option is to take a cutting of hay in the spring before returning to full grazing. If it is not possible to remove animals from the pasture for six to eight months, consider using temporary fencing and overseeding half of a pasture one year and the other half the next.

The following recommendations will increase your chances of success when overseeding pastures:

■ **Apply lime and fertilizer amendments as needed** An up-to-date soil test will indicate both established and growing plants' nutrient needs. For more information, contact your local County Extension Agent or consult the UK publication Soil Sampling and Nutrient Management in Horse Pastures, AGR-200 ([uky.edu/Ag/Forage](http://uky.edu/Ag/Forage) under "Horse Links"). A low rate of nitrogen at seeding (30-40 lbs/acre) will improve the chances of successful establishment.

■ **Use high-quality seed of an improved variety** High-quality seed has high rates of germination and is free of contamination. Use a variety that has proven to be a top performer under local conditions. The University of Kentucky forage testing program tests the survival of cool-season grasses and legumes under grazing and reports these findings in Forage Variety Trials, [uky.edu/Ag/Forage](http://uky.edu/Ag/Forage). Many other states also have Forage Variety Trial data.

■ **Plant enough seed** Seeding rates are determined by the grass mixture to be planted. See Table 1 for the recommended seeding rates for common forage plants.

■ **Use the best seeding method available** We recommend using a no-till drill for overseeding.

■ **Control competition** Close mowing or grazing prior to overseeding will reduce existing grass and weed competition.

**Table 1. Common seeding rates and optimum seeding dates for pasture plant species.**

Species	Rate lb/A (seeded alone)	Rate lb/A (in mixtures)	Optimum Seeding Dates
Endophyte-Free Tall Fescue	20 - 40	10 - 20	8/15 - 9/15
Orchardgrass	15 - 30	10 - 15	8/15 - 9/15
Kentucky Bluegrass	15 - 30	10 - 15	8/15 - 9/15
Endophyte-Free Perennial Ryegrass	20 - 40	5 - 10	8/15 - 9/15

## MASTHEAD

### ■ University of Kentucky Ag Equine Programs

Jenny Evans, MFA, Managing Editor, [jenny.evans@uky.edu](mailto:jenny.evans@uky.edu)  
Holly Wiemers, MA, Managing Editor, [holly.wiemers@uky.edu](mailto:holly.wiemers@uky.edu)

### ■ Bluegrass Equine Digest Advisory Board

Bob Coleman, PhD, PAS, associate professor, director of undergraduate studies for equine science and management and extension horse specialist  
Ed Squires, PhD, Dipl. ACT (hon.), professor, UK Gluck Equine Research Center  
Jill Stowe, PhD, director of UK Ag Equine Programs and associate professor in the department of agricultural economics  
Mats Troedsson, DVM, PhD, Dipl. ACT, director of the UK Gluck Equine Research Center and chair of the department of veterinary science

### ■ Bluegrass Equine Digest Editorial Committee

Craig Carter, DVM, PhD, Dipl. ACVPM, director and professor of the UK Veterinary Diagnostic Laboratory  
Laurie Lawrence, PhD, professor in the department of animal and food sciences  
Ray Smith, PhD, professor and forage extension specialist  
William W. Witt, PhD, professor emeritus in the department of plant and soil sciences

### ■ The Horse: Your Guide to Equine Health Care

Alexandra Beckstett, Managing Editor  
Brian Turner, Layout and Design

The Bluegrass Equine Digest is a registered trademark of the University of Kentucky Ag Equine Programs and Gluck Equine Research Center. The Bluegrass Equine Digest is produced by the University of Kentucky in partnership with [TheHorse.com](http://TheHorse.com) and sponsor Zoetis. It is published monthly to provide up-to-date information on equine research from the University of Kentucky's College of Agriculture. Research material is meant to be shared. However, materials are copyrighted and require reprint permission from UK Ag Equine Programs. Past issues of the Bluegrass Equine Digest are available at [www2.ca.uky.edu/equine/bed](http://www2.ca.uky.edu/equine/bed).

■ **Allow immature seedlings to become established** In addition to limiting grazing of an overseeded pasture, also limit herbicide applications at critical times. Typically, seeding should not occur until six to eight weeks after spraying. After you overseed you should also wait approximately two months before spraying a newly overseeded stand (the new grasses should be 4 to 5 inches tall). With clovers the waiting period for seeding after spraying can be six or more months with some herbicides, so always follow herbicide labels. Other considerations when overseeding:

■ **Do not plant endophyte-infected tall fescue in pastures grazed by pregnant mares** Check to make sure that

you are planting endophyte-free or novel endophyte tall fescue in broodmare pastures.

■ **Perennial ryegrass is a short-lived, cool-season grass** that has exceptionally high seedling vigor and is often used to thicken troublesome areas. If perennial ryegrass is seeded at high rates (above 20%) it will out-compete other grasses, resulting in bare spots as perennial ryegrass dies out in two to three years. Perennial ryegrass can be infected with an endophyte similar to that of tall fescue; therefore, only use endophyte-free perennial ryegrass.

■ **Purchase seed well in advance of overseeding** High-quality seed is in high demand in the fall and might not be available if you try to purchase right before your seeding date.

■ **Store seed in a cool, dry area** to maintain germination levels. Always store in a rodent-proof container. **UK**

>Kelly Prince, an MS candidate; Krista Lea, MS; and Ray Smith, PhD, professor and forage extension specialist, all within the University of Kentucky Department of Plant and Soil Sciences, provided this information.



## Study: EIPH Does Not Shorten Racing Careers

New study results show no difference in the racing career longevity between horses that experience some level of exercise-induced pulmonary hemorrhage (EIPH) and those that never experience EIPH.

In the retrospective study, Stephanie Preston, MSc, of the Maxwell H. Gluck Equine Research Center's Equine Soundness and Sports Medicine Program at the University of Kentucky, evaluated clinical endoscopy, EIPH status, and racing records from 822 geldings imported to Hong Kong and raced there between 2007 and 2012. She said her study indicates low-level EIPH is common but does not impact performance or the horse's ability to stay in training.

"Maybe bleeding is a consequence of vigorous exercise but not necessarily a problem," Preston said. "The data suggest this is not a long-term issue for performance."

The study was funded by the Equine Soundness Program, a collaboration of the University of Florida's College of Veterinary Science Department of Large Animal Clinical Services and the Gluck Equine Research Center.

Preston found Hong Kong, where race-day furosemide (Salix, also known as Lasix) is prohibited, to be an excellent circuit to conduct her study. Horses there are all housed in a similar environment, under similar circumstances, and train and race on the same surfaces. Trainers can request endoscopic examinations at any time, and racing regulators monitor such information closely.

Using an endoscope, veterinarians grade EIPH incidents on a five-point scale, with Grade



Study results show no difference in racing career longevity between horses with or without EIPH.

0 representing no blood in the pharynx, larynx, trachea, or mainstem bronchi. Grade I bleeding involves a few small specks on the airway walls, and Grade II EIPH has a long stream of blood more than half the length of the trachea or two shorter streams occupying a third of the tracheal circumference. Grade III EIPH involves multiple distinct streams of blood covering more than a third of tracheal circumference while Grade IV, full epistaxis (visible bleeding through the nose), includes blood covering the tracheal surface and possibly present in the larynx pooling at the thoracic inlet.

In Hong Kong, horses with endoscopic exams that show EIPH of Grade III levels or epistaxis are subject to close monitoring and must breeze without registering EIPH higher than Grade II. Preston had access to this data collected by Hong Kong Jockey Club.

Preston's study found that of the 822 horses examined, 732 received at least one endoscopy and 724 received two or more exams. Of that group, 55% (405) showed some level of EIPH, while 45% did not bleed at all. The most severe

form of EIPH was seen in just 4% of the horses.

The study found no statistically significant difference in number of starts for EIPH-positive horses when compared with EIPH-negative horses. In fact, the EIPH-positive group raced in slightly more races, but not to the point of being statistically relevant.

"The results indicate that the diagnosis of EIPH does not impact the length of career of Thoroughbreds racing in Hong Kong or the total number of starts a horse makes during its career," the paper reads.

The small percentage of horses that did experience epistaxis stayed in training for an average of 699 days. That was shorter than horses that experienced lower grades of EIPH. The low-level EIPH-positive group stayed in training an average of 842 days from import to Hong Kong until retirement.

Additionally, the team found that, of those that exhibited EIPH, horses were diagnosed with EIPH a median of three times in careers spanning a median of 18 races.

The researchers also found that horses diagnosed with higher grades of EIPH were more likely to register higher grades of EIPH in the future, and horses that experience epistaxis are more likely to be retired for EIPH-related conditions than other EIPH-positive horses.

Preston spent more than 25 years in racing as an exercise rider, rider, trainer, and farm manager and at the time favored the U.S. policy of allowing furosemide as an EIPH treatment. She said she has changed her mind, however, and hopes her study provides a fact-based foundation for further debate. **UK**

>Frank Angst is a staff writer for *The Blood-Horse* magazine.

## UK Releases Booklets on Safe Equine Travel

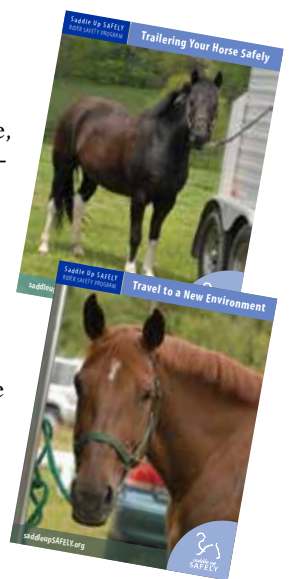
University of Kentucky HealthCare, in partnership with UK colleges of Public Health and Agriculture, Food and Environment and in conjunction with close to 50 community, equine, and medical organizations, has released two new educational booklets within the Saddle Up Safely educational partnership.

"Trailing Your Horse Safely" and "Travel to a New Environment" cover topics such as choosing a trailer, preparing a horse for a trip, information for time in transit, horse behavior away from home, overcoming horse fears, and equine safety resources.

Members of the Saddle Up Safely Auxiliary wrote the booklets' material. The auxiliary is a group of program volunteers who are knowledgeable and passionate about rider safety issues and help create and disseminate the campaign's educational messages.

"The auxiliary regularly met to discuss and debate each safety point to ensure the recommendations were grounded in good horsemanship and were realistic," said Bill Gombeski, director of strategic marketing at UK HealthCare and Saddle Up Safely lead. "I really appreciate their dedication and vision, and the help of the dozens of other horse experts who provided feedback about the material."

Saddle Up Safely was launched in 2009 in response to the number of riders admitted to UK's Chandler Emergency Department. The campaign aims to increase awareness and educate equestrians about riding and horse handling safety. Its ultimate goal is to reduce the number and severity of rider injuries and help make a great sport safer.



## Safe Equine Travel Booklets

Statistics underscore the need. According to the National Electronic Injury Surveillance System's 2007 estimates, millions of people ride horses each year, generating approximately 79,000 emergency room visits, with more than 13% of those admitted to the hospital.

While motorcycle riders experience a serious injury every 7,000 hours of riding, horseback riders experience one every 350 hours, according to the U.S. Centers for Disease Control and Prevention. It is estimated that one in five equestrians will be seriously injured during their riding careers. And novice riders, especially children and young adults, are eight times more likely to suffer a serious injury than professional equestrians.

The campaign features several tools to inform and educate, including a series of informational brochures; continuing medical education opportunities for medical personnel and first responders; education-based programs; and an interactive website featuring safety tips and stories from riders who have been injured. The website also includes a horse rider safety blog, written by Fernanda Camargo, DVM, PhD, equine extension professor within the UK College of Agriculture, Food and Environment.

To visit the campaign website, share tips about experiences involving horse and rider safety, read the blog, or download a copy of the newest booklets, visit <http://ukhealthcare.uky.edu/SaddleUp>. **UK**

>Holly Wiemers, MA, is communications director for University of Kentucky's Ag Equine Programs.

## Late Summer Heat Wave Could Stress Livestock

This year much of the summer has felt like early fall, but the heat has rallied recently, prompting concern about livestock heat stress.

"Air temperature and humidity can combine into a one-two punch that makes it hazardous for people and animals," said Matthew Dixon, meteorologist for the University of Kentucky College of Agriculture, Food and Environment. "Dew point temperatures above 65°F lead officials to declare livestock heat stress emergency alerts."

Dixon said temperatures over the past seven weeks have been below normal, and the livestock heat stress index has stayed below dangerous and emergency categories. However, very hot and muggy conditions will overtake much of the state with tempera-

tures in the upper 80s to mid-90s through the next week as an upper-level ridge of high pressure takes hold.

"In western parts of Kentucky, the heat will be more noticeable," Dixon said. "We expect highs out there to reach into the upper 90s with heat indices reaching upwards of 105°F. That will definitely push the livestock heat stress index into the emergency category."

The Livestock Heat Stress Index helps producers know when heat stress could create a problem for their animals. Periods of heat stress call for livestock producers to be vigilant in mak-



Horses double their water intake during hot weather.

THINKSTOCK.COM

## WEED OF THE MONTH

**Common name:** Wild parsnip

**Scientific name:** *Pastinaca lativa* L.

**Life Cycle:** Biennial

**Origin:** Eurasia

**Poisonous:** Yes (foliage), skin photosensitivity

Wild parsnip is distributed widely across the United States and Canadian provinces and frequently grows along fencerows and roadsides. Depending on the location, seeds germinate in the fall or early spring and plants flower from June through July.

Flowers are yellow or yellow with reddish tinge. This erect, growing plant can reach 6 feet in height.

The leaves alternate on the stem and are coarsely toothed. Stems are stout and hollow, often with ridges. Roots branch from a tuberous taproot and are edible.

Wild parsnip foliage causes skin photosensitivity and a rash. Humans and horses are sensitive to this species, with reaction severity varying among individuals.

Wild parsnip is a prolific seed producer, and seeds are the only mechanism of reproduction. Mowing, herbicide treatment, or hand weeding should occur well before flower production to prevent seed production. Consult your local Cooperative Extension Service personnel for herbicidal control in your area. **UK**



>William W. Witt, PhD, professor emeritus in the department of plant and soil sciences at the University of Kentucky, provided this information.

ing sure their animals are able to withstand the conditions.

Regulating body temperature becomes difficult for all horses when temperatures exceed 90°F, so avoid exercising them during very hot periods. When humidity is high, even temperatures much lower than 90°F can pose problems. Horse owners can reduce heat stress by scheduling activities during the cooler part of the day and giving horses plenty of water. Transport horses during the cooler hours of the morning or evening, and give horses access to water before, during, and after transportation in hot weather.

Offer horses frequent drinks during work in hot weather to help them maintain water balance and relieve the urge to drink a lot of water after exercise. After a hard

work, water horses out gradually.

Even nonworking horses double their water intake during hot weather, so be sure plenty of water is available in pastures, paddocks, and stalls.

Lactating mares will have especially high water requirements because they are also using water for milk production.

Hot weather also will increase horses' need for salt, which is lost during sweating. Heavy rains can "melt" salt blocks in pastures, so check them regularly.

Visit the UK Ag Weather Center website at <http://weather.uky.edu> to keep up with current weather, heat stress indices, and more. **UK**

>Aimee Nielson is an agricultural communications specialist for the College of Agriculture, Food and Environment.

## Algal Blooms Pose Danger to Livestock

Recent news reports of unsafe drinking water in the Great Lakes area has drawn national attention to toxic algal blooms. In Kentucky, cyanobacteria, also known as blue-green algae, recently were found in Green River Lake, Taylorsville Lake, Barren River Lake, Nolin Reservoir, and Rough River Lake at levels that prompted a recreational advisory.

Algal blooms are accumulated populations of algae in freshwater and marine water environments. They can reduce water quality, causing animals to drink less water than they need during hot, dry summers. Of the more than 2,000 species of blue-green algae identified, at least 80 are known to produce cyanotoxins (poisons) that can seriously affect animal and human health.

"Although algal blooms can occur at any time of the year, they happen most often in the warmer months of June through September," said Michelle Arnold, DVM, ruminant veterinarian for the University of Kentucky College of Agriculture, Food and Environment. "In freshwater the majority of harmful algal blooms are caused by cyanobacteria."

Blue-green algae naturally exist in wet places. They thrive in warm, stagnant, nutrient-rich water and are found frequently in ponds, lakes, and slow moving rivers.

While not all algae are harmful, ponds contaminated with fertilizer runoff or manure and urine are perfect environments for toxic blue-green algae. When the weather is hot and dry, rapid algae growth can result in a "bloom," or a buildup that creates a green, blue-green, white, or brown coloring on the water surface. It might even look like a floating layer of paint. If it's windy, the blooms might concentrate along the water's edge, increasing livestock's risk of ingesting the algae when they drink from the pond.

"Environmental factors such as water temperature, sunlight, water pH, and nutrient concentration all affect when toxins will be produced," Arnold said. "Cyanotoxins can affect the liver and nervous system and have been implicated in illness and human and livestock death in at least 35 states and in more than 50 countries worldwide."



Rapid algae growth can result in a "bloom" on the surface of the water.

Animals that consume affected water can die suddenly or suffer from weakness, staggering, or photosensitization depending on the type of toxin and how much they ingest.

The following steps can help keep livestock, pets, and humans safe from algae poisoning:

Always assume that a blue-green algal bloom is toxic. Provide clean, fresh water to animals, and fence off their access to stagnant, scum-covered ponds.

"Fencing off natural water sources and providing alternative water sources really is your best option," said Amanda Gumbert, UKAg extension water quality liaison. "Don't allow your animals to contaminate the water with feces and urine. Prevent fertilizer or manure runoff from entering water sources. Phosphorus is particularly important in fueling cyanobacteria growth."

If the water source is treated with an algaecide such as copper sulfate, prevent animal access for at least a week to allow any toxins released in the water to degrade. It is best to wait until ponds are no longer stagnant before allowing animals to drink from them.

"Creating and maintaining natural buffers, such as trees and shrubs, between farmland, housing developments, and waterways can help filter out excess nitrogen and phosphorus before they reach the water," said Steve Higgins, PhD, director of environmental compliance for the UK Agricultural Experiment Station.

To protect yourself, don't swim, jet ski, windsurf, tube, or water ski over scum layers or blooms. Don't use untreated

water for drinking, cleaning food, or washing camping gear. Boiling water will not remove algal toxins. Thoroughly wash any skin that comes into contact with a bloom. Don't eat shellfish caught or harvested from a bloom area.

Farmers who notice algal blooms in ponds intended for livestock use should have the water tested, as not all algal blooms produce toxins.

"Many algal blooms in Kentucky are composed of harmless green algae that may look like underwater moss, stringy mats, or floating scum," Gumbert said. "It is impossible to tell just by looking at the pond if it contains blue-green algae."

The UK Veterinary Diagnostic Lab can accept water samples and forward them to referral labs to identify blue-green algae and test for toxins. Visit <http://vdl.uky.edu/TestInformation.aspx> and search under "Toxicology" for further information regarding sampling and pricing.

"Unfortunately, testing water for an actual toxin is problematic, because toxins are not uniformly distributed in the water source," Arnold said. "Testing can be quite expensive, and there are many blue-green algae toxins for which no diagnostic tests exist. To be safe, always assume that a blue-green algal bloom has the potential to be toxic."

For more information, visit the Environmental Protection Agency website [www2.epa.gov/nutrient-policy-data/cyanotoxins](http://www2.epa.gov/nutrient-policy-data/cyanotoxins). **UK**

>Aimee Nielson is an agricultural communications specialist in UK's College of Agriculture, Food and Environment.



## Reducing Risk from Tick-Borne Diseases

The Centers for Disease Control and Prevention (CDC) indicates that the numbers of human cases of Lyme disease and other tick-borne diseases (TBD) reported each year in the United States have been increasing steadily, currently totaling tens of thousands annually. The USDA Animal and Plant Health Inspection Service has identified Lyme disease and anaplasmosis as the most common tick-borne diseases for U.S. horses. In some regions, 50% of horses can show antibodies to the Lyme disease pathogen, but only about 10% show clinical symptoms. Over 70% of the ticks reported to feed on horses also feed on humans, transmitting the same pathogens causing TBD.

Ticks can also be an irritant to people and animals. In severe infestations, ticks can cause anemia in small and young animals, and in some instances, a single tick bite can cause paralysis.

The U.S. Environmental Protection Agency and USDA have developed a smart, sensible, and sustainable approach to reduce the transmission of tick-borne diseases through tick management practices. The recommendations below help people protect themselves and their horses from TBD:

### Tick Management Practices

**General:** The following considerations apply to both people and horses:

- Ticks can be found in backyards, pastures, parks, along trails, and other riding areas.
- Ticks can be carried on mammals, wildlife, and birds.
- Ticks can also be carried into homes by dogs and cats, as well as on clothing.
- Prompt tick removal with tweezers is essential to reduce the transmission of pathogens causing TBD.
- The nymph stage of the tick equals the size of the head of a pin.
- Apply EPA-registered pesticide products (repellents/tick control) to people, pets, and horses according to the label directions.

**Protect Yourself:** Take the following steps when participating in outdoor activities:

- Wear long pants, a long-sleeved shirt, a hat, clogs, and boots (covering laces with duct tape) while outside.
- Wear permethrin-treated clothing.

## Genetics, Health, and Equine Performance

Ernie Bailey, PhD, a geneticist at University of Kentucky's Gluck Equine Research Center in Lexington, shares updated information about inheritance in horses. Watch his presentation at [TheHorse.com/34278](http://TheHorse.com/34278).



UNIVERSITY OF  
**KENTUCKY**

COLLEGE OF AGRICULTURE,  
FOOD AND ENVIRONMENT  
[www.ca.uky.edu](http://www.ca.uky.edu)

**UK Ag**  
**EQUINE**

[www.ca.uky.edu/equine](http://www.ca.uky.edu/equine)  
[equine@uky.edu](mailto:equine@uky.edu)

# UK Ag Equine Programs

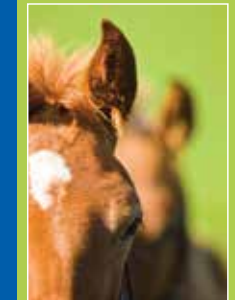


*The horse  
is at the heart  
of everything  
we do.*

■ World-class research in equine health, nutrition, economics, forages and more

■ Undergraduate and graduate opportunities and seven student teams and clubs

■ Year-round programs and educational materials for horse owners, farm managers and equine professionals



The College of Agriculture, Food and Environment is an Equal Opportunity Organization.



## Tick-Borne Diseases

- Conduct daily body tick checks (personal inspection using a mirror).
- Shower immediately after being outside using a coarse washcloth to scrub the skin in order to dislodge any small ticks missed by the inspection.

**Protect Your Horse:** Steps to take before and after you ride your horse include:

- Before riding, inspect your horse and remove attached ticks while grooming, especially the lower legs, on and under the tail, along the mane, and give special attention to warm/dark thin-skinned areas such as between the hind legs (udder or sheath areas, too), behind the elbows, and around the throatlatch and ears.
- After riding, check your horse for ticks.
- Re-apply pesticide (if recommended by label directions) especially to horses returned to pastures with risk factors (shade, tall grass, brush, weeds).

**Land Management:** Manage your property to reduce tick populations by:

- Removing leaf litter, brush, and weeds at the edge of the lawn or pasture.
- Creating a nine-foot buffer zone on horse trails and pasture boundaries frequented by deer or other wildlife by clearing litter, brush, weeds, and branches.
- Discouraging formation of wildlife habitats on farms by feeding grain in containers and keeping grains in tightly sealed containers.
- Maintaining the pasture at a length that allows for adequate pasture grass and yet reduces tick-seeking sites.
- Preventing horses from grazing in wooded areas by installing fencing.



COURTESY DR. MARIANNE SLOET

- Consulting your local Cooperative Extension agent for recommendations.

In addition to providing information for protection, an effective tick integrated pest management plan includes a tick surveillance program. Currently, the CDC collects reported TBD data in humans. Discussions are underway in the federal and private sectors on appropriate methods to collect tick surveillance data including tick identification and species distribution in the United States. This type of collected information could be very useful in identifying areas posing the highest risk to horses and their riders from TBD in the future. **UK**

### REFERENCES:

Centers for Disease Control and Prevention, Division of Vector-Borne Diseases. Tick-borne disease data in humans. Page last updated: June 17, 2014.

Centers for Disease Control and Prevention. Tick resources. Page last updated: May 5, 2014.

Stafford III, Kirby C. 2004. Tick Management Handbook. Connecticut Agricultural Experiment Station.

New Haven, Connecticut.

US Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services. Horse Disease Information. Last modified: May 30, 2014.

US Environmental Protection Agency, Office of Pesticide Programs. PestWise. Last updated on May 27, 2014.

CONTACTS: Candace Brassard (703/305-6598 orbrassard.candace@epa.gov) and Denise Greenway (703/308-8263 orgreenway.denise@epa.gov)—U.S. Environmental Protection Agency, Washington, D.C.

Angela James, PhD — 970/494-7278 angela.m.james@aphis.usda.gov — U.S. Department of Agriculture, Fort Collins, Colorado

*This is an excerpt from Equine Disease Quarterly, funded by underwriters at Lloyd's, London, brokers, and their Kentucky agents.*

*Equine Disease Quarterly is a quarterly equine disease research newsletter published by the University of Kentucky's Gluck Equine Research Center, and funded by underwriters at Lloyd's of London, brokers, and their agents.*

## UK Gluck Center to Host EAV Symposium in November

The University of Kentucky Gluck Equine Research Center will host a one-day symposium titled "Controlling EAV and Other Infectious Agents in Stallions, Semen, and Embryos" on Saturday, Nov. 22, from 8 a.m.-5:45 p.m. at the Embassy Suites in Lexington.

The safe international movement of stallions, semen, and embryos is essential to the equine industry's economic well-being. Venereal disease outbreaks can have disastrous impacts on the horse industry. This symposium focuses on strategies for controlling equine arteritis virus (EAV) and other infectious agents in stallions, semen, and embryos.

International experts will discuss topics such as the importance of the carrier stallion and methods to eliminate EAV from stallions; national and international consequences of an equine viral arteritis (EVA) outbreak; safety and efficacy of vaccines against EVA; and the veterinarian's role in adapting a code of practice for minimizing the spread of venereal diseases. The symposium is targeted toward veterinarians, regulatory officials, farm managers, and breed registry representatives.

The symposium is partially funded by a USDA-NIFA-AFRI grant titled "Identification of genetic factors responsible for establishment of equine arteritis virus carrier state in stallions." However, registration is required and the event costs \$25. To register, visit <https://eavsymposium.eventbrite.com>.

Seven hours of continuing education (CE) is pending



## EAV Symposium

approval by the Kentucky Board of Veterinary Examiners for veterinarians and veterinary technicians. CE sheets must be signed at the meeting to receive credit.

For more information, contact Jenny Evans at [jenny.evans@uky.edu](mailto:jenny.evans@uky.edu) or 859/218-1089. [UK](#)

>Jenny Evans, MFA, is the marketing and promotion specialist senior at the Gluck Equine Research Center.

### SYMPOSIUM SCHEDULE

8-8:30 a.m.	Registration
8:30-8:45	Introduction— <i>Dr. Udeni Balasuriya, UK Gluck Equine Research Center</i>
8:45-9:30	Importance of the carrier stallion in the epidemiology of EVA and molecular diagnostics— <i>Dr. Udeni Balasuriya, UK Gluck Equine Research Center</i>
9:30-10:15	Equine health-related and economic consequences of outbreaks of EVA— <i>Dr. Peter Morrese, Rood &amp; Riddle Equine Hospital</i>
10:15-10:30	Break
10:30-11:30	EVA International Perspective: <ul style="list-style-type: none"> <li>■ Epidemiology in Europe—<i>Dr. Richard Newton, Animal Health Trust (United Kingdom)</i></li> <li>■ International Trade—<i>Dr. Falko Steinbach, Animal Health and Veterinary Laboratories Agency (United Kingdom)</i></li> </ul>
11:30-noon	Serological diagnosis of EVA by cELISA— <i>Dr. Chungwon Chung, VMRD</i>
Noon-1 p.m.	LUNCH
1-1:45	Perspectives on EAV vaccination— <i>TBD, Zoetis, and Dr. Maria Barrandeguy, INTA (Argentina)</i>
1:45-2:15	Clearance of the carrier state in EAV infected stallions— <i>Dr. Ed Squires, UK Gluck Equine Research Center</i>
2:15-3	Current vaccination recommendations against EVA: Considerations of safety and efficacy/National and international control and disease certification programs for EVA— <i>Dr. Peter Timoney, UK Gluck Equine Research Center</i>
3-3:15	Break
3:15-4	Controlling bacteria and viruses in equine semen and embryos— <i>Dr. Reed Holyoak, Oklahoma State University</i>
4-4:45	Code of practice for managing stallions from the risk of venereal diseases: <ul style="list-style-type: none"> <li>■ USA perspective—<i>Dr. Dickson Varner, Texas A&amp;M University</i></li> <li>■ European perspective—<i>Dr. Tom Stout, Utrecht University (The Netherlands)</i></li> </ul>
4:45-5:30	Panel discussion lead by <i>Drs. Falko Steinbach, AHVLA (United Kingdom), and Maria Barrandeguy, INTA (Argentina)</i>
5:30-5:45	Closing remarks

### UPCOMING EVENTS

#### September 20, 9 a.m.

Asbury Draft Horse Field Day, Asbury University

#### September 25, 3:30-5:30 p.m.

Department of Veterinary Science Equine Diagnostic Research Seminar Series, Veterinary Diagnostic Laboratory, Lexington. Topic: Equine Herpes Virus-1 (EHV-1), Speakers: Drs. Steve Reed, Rood & Riddle Equine Hospital, and Udeni Balasuriya, UK Gluck Equine Research Center

#### September 25, 6 p.m.

Kentucky Equine Networking Association (KENA) Meeting, Networking 6 p.m.; Dinner 6:30 p.m. Topic: Shoeing for Various Disciplines.

## Now You Can Follow us on Twitter, Too

The University of Kentucky College of Agriculture, Food and Environment has several equine-related social media pages with the latest news and events information.

The UK Ag Equine Programs recently joined Twitter. Follow us @UKAgEquine. The UK Maxwell H. Gluck Equine Research Center is also on Twitter @UKGluckCenter.

Got Facebook? Like these pages administered by us:



**University of Kentucky Ag Equine Programs:** UK Ag Equine Programs is an overarching framework for all things equine at the University of Kentucky, including the undergraduate degree program, equine-related student organizations, equine research, and outreach activities.

**University of Kentucky Maxwell H. Gluck Equine Research Center:** The mission of the Gluck Center is scientific discovery, education and dissemination of knowledge for the benefit of the health and well-being of horses.

**University of Kentucky Horse Pasture Evaluation Program:** The University of Kentucky Horse Pasture Evaluation Program is a service program offered to horse farms in Kentucky with the goal of overall improved pasture management. Regardless of breed or discipline, the programs goals are to: provide detailed pasture management recommendation to horse farm owners and managers; help improve pastureland to increase quality and quantity of pasture as a feed source and reduce the need for stored feeds such as hay and grain; and assess the potential risk of fescue toxicity of individual pastures to pregnant broodmares.

**Kentucky Equine Networking Association** (created by the Kentucky Horse Council and University of Kentucky): The mission of the Kentucky Equine Networking Association (KENA) is to provide an educational and social venue for equine professionals and other horse enthusiasts from all disciplines to share ideas and business strategies, and obtain current knowledge on horse and farm management with the principal objective of enhancing individual horse ownership and the horse industry at large.

**Saddle Up SAFELY:** Saddle Up SAFELY is a rider safety awareness program sponsored by UK HealthCare, UK College of Agriculture, Food and Environment and many community organizations. It aims to make a great sport safer through education about safe riding and horse handling practices. [UK](#)



# THERE'S MORE THAN GRASS ON YOUR PASTURE.



## ONLY QUEST® PLUS GETS RID OF THE MOST DANGEROUS PARASITES.

Protect your horse from bots, tapeworms, encysted small strongyles, stomach worms and other common spring and fall parasites with QUEST® PLUS (*moxidectin/praziquantel*) Gel. The only single-dose product that meets the AAEP's veterinarian-recommended deworming guidelines. Visit [QuestHorse.com/threat](http://QuestHorse.com/threat) to learn more.

**QUEST® PLUS** GEL  
*moxidectin/praziquantel*

### Join our community



/eqstable



EQStable™ available in the Apple® App Store®

**IMPORTANT SAFETY INFORMATION:** Do not use QUEST Gel or QUEST PLUS Gel in foals less than 6 months of age or in sick, debilitated and underweight horses. Do not use in other animal species, as severe adverse reactions, including fatalities in dogs, may result.

All trademarks are the property of Zoetis Inc., its affiliates and/or its licensors. All other trademarks are the property of their respective owners. ©2014 Zoetis Inc. All rights reserved. QST13024

**zoetis**™