

## UK Equine Research Hall of Fame Inductees Announced

The University of Kentucky (UK) Gluck Equine Research Foundation will induct three scientists into the UK Equine Research Hall of Fame on Oct. 25 at the Hilary J. Boone Center on the UK campus, in Lexington.

Nominated by their peers and colleagues, Norm Ducharme, DMV, MSc, Dipl. ACVS; Sue Dyson, MA, Vet MB, PhD, DEO, FRCVS; and Susan Stover, DVM, PhD, Dipl. ACVS, were selected by past Hall of Fame inductees for their contributions to equine science and research.

"I am very pleased to honor three outstanding members of the equine research community with their upcoming induction into the UK Equine Research Hall of Fame," said David Horohov, PhD, chair of the Department of Veterinary Science, director of the Gluck Equine Research Center, and Jes E. and Clementine M. Schlaikjer Endowed Chair. "I am particularly pleased how this year's nominees' research programs have focused on athletic performance. Each has made important contributions to equine health and well-being in this area. Their efforts have greatly contributed to our increased awareness and sensitivity to the health and safety needs of these athletes."

Ducharme, James Law professor of surgery and staff surgeon at Cornell University Hospital for Animals and

Cornell Ruffian Equine Specialists, both in New York, has devoted much of his clinical effort to understanding the equine upper airway physiology during exercise. His research has focused on methods of identifying and quantifying dynamic upper airway obstructions, defining the anatomical structures and their function, and developing surgical and other methods for treating equine upper airway

diseases. He graduated from veterinary college at the University of Montreal in 1979 and completed his internship and residency at Cornell University's College of Veterinary Medicine in 1982. He received his Master of Science degree from the University of Guelph and became a Diplomate of the American College of Veterinary Surgeons (ACVS) in 1985. Ducharme served as president and chair of the board of the ACVS from 2005 to 2007.

"I feel so honored by this nomination to the UK Equine Research Hall of Fame," he said. "I consider this a team award. I have been so fortunate to have had great mentors to guide me; outstanding national and international colleagues to collaborate (with), support, and challenge me; (and) exceptional enthusiasm from technicians, graduate students, and residents, who all have contributed good ideas toward improving diagnosis and treatment of the upper airway of horses.

"I also was driven by the horses, which seemingly are always saying, 'You got to do

better! And, how hard can this really be?'" Ducharme continued. "I have been fortunate to be able to listen to the many trainers and referring veterinarian's views on the problems."

He said he is very privileged to receive support from the many equine research foundations, "namely the Grayson-Jockey Club Research Foundation, the Southern California Equine Foundation, and, for most of my career, the Harry M. Zweig memorial fund for equine research."

Dyson, head of clinical orthopaedics at the Animal Health Trust Centre for Equine Studies, in Newmarket, United Kingdom, is a world-renowned expert in equine orthopedics, with a particular interest in lameness and poor performance in sport horses. With a strong background as a rider, Dyson has an in-depth knowledge and understanding of performance problems in horses of all disciplines. Dyson has also made additional observations about how horses adapt their gaits in the face of lameness under a variety of circumstances and how the rider and tack can be influential. She has recognized the importance and limitations of diagnostic analgesia for localizing pain causing lameness, and has validated the usefulness and limitations of ultrasonography, scintigraphy, and MRI for routine diagnostic use. Dyson graduated from Cambridge University in 1980 with a bachelor of veterinary medicine degree in medicine and surgery and completed post-graduate



Dr. Norm Ducharme



Dr. Sue Dyson



Dr. Susan Stover

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## Research Hall of Fame

work at the University of Pennsylvania's New Bolton Center. She returned to the U.K. in 1982, when she began working at Animal Health Trust.

"As a lameness clinician, I feel humbled and honored to have been elected to join an elite band of scientists in the UK Equine Research Hall of Fame," Dyson said. "I owe a huge debt of gratitude not only to the friends and colleagues with whom I've had the privilege to work, but of course also to the horses, which provide endless challenges. I have been constantly inspired to try to improve the welfare of these fantastic athletes."

Stover, professor of anatomy, physiology, and cell biology at University of California, Davis (UC Davis), has focused her research on understanding the pathophysiology of catastrophic musculoskeletal injury in performance horses. Her research contributions have had an international impact and have influenced decisions on approaches to training and rehabilitation, horseshoeing, track surface types and preparation, diagnostic approaches, fracture repair, and techniques for improving racetrack safety for horses and jockeys. Her research on comparative orthopedics covers many areas with a primary focus on bone development and remodeling, bone tissue's response to exercise, and the pathogenesis of fractures and ligament injury. Stover graduated from Washington State University in 1976 with a doctorate in veterinary medicine and completed an internship and residency in equine surgery at UC Davis. After working in private practice in Washington, she returned to UC Davis where she continues to provide equine lameness and surgical care. Stover obtained a doctorate in comparative pathology from UC Davis and is a Diplomate of the ACVS.

"I have been privileged to collaborate with multidisciplinary teams of talented students, residents, and colleagues," she said. "Their passion to understand how the musculoskeletal system works has underpinned our 25-year journey to prevent orthopedic injuries and improve the welfare of racing and performance horses. Much remains to be done, and I am grateful to the mentors who encouraged me to push the envelope and to UC Davis, the

California Horse Racing Board, and the equine industry—veterinarians; owners; trainers; and funding organizations like the Grayson-Jockey Club Research Foundation, the Southern California Equine Foundation, and others—who trusted us with resources to pursue our goals. I am humbled to be recognized, and on behalf of the JD Wheat Veterinary Orthopedic Research Lab team, I thank the UK Equine Research Hall of Fame for this honor."

Equine Research Hall of Fame nominees can be living or deceased, active in or retired from the field of equine research. Established in 1990, the UK 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 George P. Allen, PhD; W. R. Allen, BVSc, PhD, ScD, DESM, MRCVS; Douglas F. Antczak, VMD, PhD; Ernie Bailey, PhD; John T. Bryans, MS, PhD; William W. Dimock, DVM; Elvis R. Doll Jr., MS, DVM; Harold Drudge, DVM; Phillip R. Edwards, PhD; Baltus J. Erasmus, BVSc; Elwyn Firth, BVSc, MS, PhD, Dipl. ACVS; Harold E. Garner, DVM, MS, PhD; Oliver J. Ginther, VMD, MS, PhD; Harold Hintz, MS, PhD; Sir Frederick Hobday, MRCVS; Leo B. Jeffcott, BVetMed, PhD, FRCVS, DVSc; Robert M. Kenney, DVM, PhD; Michelle LeBlanc, DVM, Dipl. ACT; Eugene T. Lyons, PhD; I.G. Joe Mayhew, BVSc, FRCVS, PhD, Dipl. ACVIM, ECVN; Travis C. McGuire, Jr., DVM, PhD; C. Wayne McIlwraith, BVSc, FRCVS, PhD, Dipl. ACVS, Dipl. ECVS; Alan J. Nixon, BVSc, MS, Dipl. ACVS; Peter D. Rosedale, OBE, MA, PhD, DESM, FACVSc, FRCVS; Edward L. Squires, MS, PhD, Hon. Dipl. ACT; Clyde Stormont, PhD; Sir Arnold Theiler, DVM; Peter J. Timoney, FRCVS, PhD; and Stephanie J. Valberg, DVM, PhD, Dipl. ACVIM, ACVSMR.

The UK Gluck Equine Research Center, in the UK College of Agriculture, Food and Environment, is home to the Equine Research Hall of Fame. For more information, visit [www.ca.uky.edu/gluck](http://www.ca.uky.edu/gluck). **UK**

>Jenny Evans, MFA, is the interim executive director of the Gluck Equine Research Foundation and marketing and promotion specialist senior at the Gluck Equine Research Center.

## Masthead

### ■ University of Kentucky Ag Equine Programs

**Jenny Evans, MFA**, co-managing editor and interim executive director of the Gluck Equine Research Foundation, [jenny.evans@uky.edu](mailto:jenny.evans@uky.edu)

**Holly Wiemers, MA, APR**, co-managing editor and communications director of UK Ag Equine Programs, [holly.wiemers@uky.edu](mailto:holly.wiemers@uky.edu)

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**Erica Larson**, News Editor

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## Does EMS Impact Horses' Immune Responses to Vaccines?

Obesity is a serious growing problem in horses, with studies estimating anywhere from 20.6 to 41% of horses are substantially overweight. Of course, this condition impacts more than just the size of a horse's girth. Obesity is also a key component of equine metabolic syndrome (or EMS), which can put horses at risk for a number of related health issues, including laminitis.

Because scientists have shown that both obese humans and mice have an altered immune response to vaccinations compared to those at healthy weights, researchers wondered if the same was true for horses with EMS. If so, this could leave EMS horses with less protection against potentially fatal diseases.

Sarah Elzinga, MS, a PhD student studying under the direction of Amanda Adams, PhD, at the UK Gluck Equine Research Center, shared what she and her team learned when they conducted a study on the topic at the 2016 American College of Veterinary Internal Medicine (ACVIM) Forum,

held June 8-11 in Denver, Colorado.

The team hypothesized that EMS horses, like mice and humans, would have a reduced response to an influenza vaccine compared to their non-EMS counterparts.

In their study the team used the ACVIM Consensus Statement's criteria of an EMS case, including regional adiposity (i.e., fat deposits on the rump or a cresty neck) or general obesity, hyperinsulinemia or insulin resistance (when the body produces insulin but does not use it effectively), and a history of or predisposition to laminitis. The team also confirmed that none of the horses had pituitary pars intermedia dysfunction, a condition that might also impact immune responses to vaccination.

Elzinga and colleagues employed 25 horses—13 horses with EMS and 12 non-EMS, age-matched horses; four horses from each group served as controls "vaccinated" with saline while the remaining horses received an influenza vaccine. The researchers collected blood samples before and after



KEVIN THOMPSON/THE HORSE

Equine metabolic syndrome did not appear to significantly alter horses' humoral responses to influenza vaccination.

vaccination to determine how strong the horses' humoral (in which antibody levels in the blood increase) and cell-mediated (in which disease-fighting white blood cells are summoned to destroy pathogens) responses to vaccination were.

The researchers said all horses responded to vaccination with a humoral response compared to controls vaccinated with saline. However, they determined that EMS did not appear to significantly impact horses' humoral responses compared to age-matched controls. Elzinga said more work is needed to identify possible differences in cell-mediated immune responses.

"It is possible that obesity, as compared to insulin

resistance, plays a larger role in the immune responses to vaccination as it does in humans," she added. "While EMS horses were insulin resistant and had significantly greater regional adiposity compared to non-EMS controls, they had moderate general obesity, which may not have been sufficient to impact immune response to vaccination."

In other words, while the EMS horses were insulin resistant and had larger fat deposits, they might not have been obese enough to have an impact on their immune response to vaccination. **UK**

>Erica Larson is the news editor for *The Horse: Your Guide To Equine Health Care*.

## Equine Congenital Cardiovascular Anomalies

Congenital cardiovascular malformations in horses are rare, with an estimated prevalence of 0.1-0.5%. Male and female horses are similarly affected, and a clear-cut breed predilection is not evident.

Cardiovascular malformations are broadly classified as either simple (a single anomaly) or complex (multiple coexisting anomalies). Each major category is further subdivided on the basis of the tissue affected: myocardium (heart muscle), blood vessels, or valves. Complex malformations typically involve multiple tissues and have

the least favorable prognoses.

Clinical signs vary in severity and age of onset and can include stunted growth, exercise intolerance, heart murmur, tachycardia (rapid heartbeat), respiratory distress, and cyanosis (a bluish discoloration of the skin and mucous membranes resulting from a deficiency of oxygen in the blood). Affected horses are frequently found dead; however, not all horses with cardiovascular malformations display clinical signs or die. In some cases, the cardiovascular defect is only identified at necropsy as an incidental finding and



ANNE M. EBERHARDT/THE HORSE

Congenital cardiovascular anomalies are rare in horses.

is not related to the cause of death.

Ventricular septal defect (VSD) is the most frequently reported congenital cardiac anomaly in the horse. This

## Cardiovascular Anomalies

anomaly is represented by a patent channel in the interventricular septum that allows communication between the two ventricles, which play a critical role in pumping blood. The channel can

result in altered pressures within the heart, the shunting of blood through the channel, compensatory hypertrophy (enlargement of the heart muscle), and systemic abnormalities (e.g. cyanosis) in severe cases. Horses with small defects can be asymptomatic or develop clinical signs at a later age. Further,

VSDs can be components of complex cardiac anomalies such as tetralogy of Fallot (consisting of a ventricular septal defect, pulmonic stenosis, rightward malpositioning of the origin of the aorta, and right ventricular hypertrophy/thickening), and truncus arteriosus (consisting of a ventricular septal defect and a single large arterial trunk exiting both ventricles).

Other defects described in the horse include:

- Abnormal communications between the atria (i.e., atrial septal defect and patent foramen ovale);
- Abnormal communication between the great vessels (i.e., patent ductus arteriosus);
- Malformed great vessels. (i.e., common truncus arteriosus);
- Abnormally positioned great vessels (i.e., complete transposition—in which the right ventricle pumps blood into the aorta and the left ventricle pumps blood into the pulmonary trunk—and double-outlet right ventricle—in which both the aorta and pulmonary trunk arise from the right ventricle);
- Heart valve abnormalities (i.e., tricuspid valve atresia); and
- Tetralogy of Fallot.

Archives at the UK Veterinary Diagnostic Laboratory were searched from 2010 to 2015 for cases of congenital cardiovascular malformations in the horse. Over that period, 18 cases were identified. Fourteen were in Thoroughbreds, two in American Saddlebreds, and one each in an Arabian and a Standardbred. Twelve of the animals were female and five were male; the sex of one animal was not identified. Ten cases of ventricular septal defect, which included nine simple and one complex anomalies, were diagnosed. The complex anomaly was associated with pulmonic stenosis. Two cases each of tetralogy of Fallot and truncus arteriosus with VSD were identified, and single cases of atrial septal defect, over-riding aorta, right ventricular hypoplasia with pulmonary atresia, and moderator band dysplasia were reported. **UK**

CONTACT: David Bolin, DVM, PhD—[david.bolin@uky.edu](mailto:david.bolin@uky.edu)—859/257-8283—UK Veterinary Diagnostic Laboratory, Lexington, Kentucky.

>This is an excerpt from *Equine Disease Quarterly*, funded by underwriters at Lloyd's, London.

## GRAD STUDENT SPOTLIGHT

### XIURUI (IRIS) CUI, MS

From: Changchun, China

Degrees and institute where received: Jilian University, majored in veterinary medicine with a minor in business management

Iris Cui came to Lexington in 2013 for a one-year Dubai International Thoroughbred Internship, provided by Darley America. During the program, Cui worked on the farm in the morning and attended lectures and visited other Thoroughbred farms and racetracks in the afternoon. She also worked night shifts during breeding season and flew to Dubai for a two-week visit.

During one of her visits, Cui met Jill Stowe, PhD, professor in agricultural economics at UK, who was lecturing about the equine industry in Kentucky.

"I was very interested in her work and kept in touch," Cui said. "We talked about the opportunity for me to work with her as a graduate student, so I applied for the master's degree in agricultural economics after my internship."

Cui started her graduate work in the fall of 2014 and graduated in May. During her two years at UK, Cui's research interest was the Thoroughbred industry in Kentucky. She focused her research on understanding more about the pricing of Thoroughbreds and providing scientific evidence to horse owners at public sales. Cui also analyzed Keeneland sales results using statistical programs, which allowed her to better understand buyers' risk preferences.

Cui was also concerned about the equine trade protocols between the United States and China. "Since I am originally from China, I have a personal goal to help build horse racing in China," Cui said. "Through surveys and data collection, I found out the trade policy between the two countries is not fair for breeders in the U.S."

Cui recently presented her master's thesis, "Determining the value of birth rank and parent age in Thoroughbred racehorses," at the Agricultural & Applied Economics Association conference in Boston, Massachusetts.

"My most valuable takeaway from the program was acquiring statistical skills for analyzing real data, which is very useful for my future career or education," Cui said. "I also gained valuable knowledge about economics and have a better understanding of the equine industry."

Cui is thankful for the wonderful faculty and staff and the friendships she built with other students.

Cui currently works as an agricultural economist intern at SEED CX, an agricultural commodity exchange firm in Chicago. So far in her position, she has conducted hemp market research, outreached to hemp participants and farmers worldwide, helped develop new products, and performed data analysis. Cui's internship ends in September. After it concludes, she is interested in returning to academia and working closely with the equine industry.

"I found my passion for teaching while I was a guest lecturer in an undergraduate class at UK, so I'd be happy to become a lecturer in equine management," Cui said.

In her spare time, Cui enjoys yoga, hiking, dancing, and cooking. She's also learning how to ride horses. **UK**

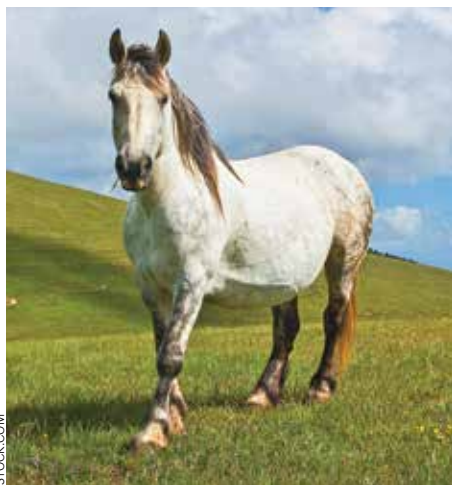


>Alexandra Harper, MBA, is the operations and communications coordinator for UK Ag Equine Programs.

## Using Progesterone as a Diagnostic Tool During Equine Pregnancy

Progesterone is a class of steroid hormones largely responsible for sustaining the embryo and maintaining uterine quiescence (dormancy). In horses, at least 10 known progesterone hormones are present in maternal circulation during gestation, but only a few of them are known to be biologically active.

Progesterone, the most renowned of this class of steroid hormones, is the only one with clinical diagnostic application. During early pregnancy, progesterone is produced in the equine ovary by the corpus luteum, and its concentrations remain elevated and peak between 60 and 120 days of gestation. From that point on, progesterone slowly decreases until it becomes nearly undetectable around 180 to 200 days of gestation. During late gestation, other progesterone hormones produced by the fetoplacental unit are responsible for maintaining the pregnancy. These are first detectable by Day 60 of gestation and are completely capable of maintaining pregnancy from around Day 120 to 140 until term.



Progesterone concentrations peak between Days 60 and 120 of gestation.

Circulating progesterone has been used diagnostically to evaluate luteal function during early pregnancy. When the circulating progesterone (P4) concentration is above 1 ng/mL, this is considered consistent with the presence of luteal tissue, indicating that a follicle has ovulated, luteinized, and is producing progesterone. When the circulating progesterone concentration

is above 4 ng/mL, this is considered adequate to maintain pregnancy. There are a number of reasons for monitoring and supplementing endogenous progesterone with progestins (synthetic progesterone) during pregnancy, such as uterine infections, history of pregnancy loss, and luteal insufficiency.

A few important issues regarding laboratory techniques and progestogens require clarification. To date, all clinical veterinary diagnostic laboratories use immunoassays to measure circulating progesterone. The specificity of these tests is limited by the antibodies used in these assays. Due to the structural similarities among different progestogens present in late gestation, after Day 120 of gestation, antibodies are unable to differentiate between those different molecules and, therefore, can give false or inaccurate results. In addition, different progesterone antibodies will result in disparate amounts of cross-reactivity; therefore, each progesterone assay will measure different amounts of progesterone, producing varying results between laboratories.

It is important to note that the best clinical interpretation

## THE GRASS GUIDE

### RED CLOVER

**Name:** Red clover (*Trifolium pratense*)

**Life cycle:** Short-lived cool-season perennial or biennial

**Native to:** Southeastern Europe and Turkey

**Uses:** Pasture and hay

**Identification:** Trifoliate leaves with a white "V" watermark, hairy stems, purple flowers

Red clover pairs well with cool-season grazing grasses in pastures used for rotational grazing. Unlike white clover, red clover cannot tolerate close grazing or poor drainage; however, it is more tolerant of shade. Red clover provides excellent forage quality when grazed or harvested before the flower blooms.

When infected with black patch, red clover can cause excessive drooling in horses (slobbers). Although this condition is a nuisance, it is otherwise harmless.

Because it is high-yielding, red clover is commonly mixed with grasses in hay fields. Red clover turns brown even when dried properly and, therefore, red clover hay will not appear green like other good-quality hays. Forage quality testing will often show that this "brown" hay is actually high-quality. [UK](#)



Although given the name red clover, the flowering buds appear to have a purple color. In this photo, you can also see the white "V" watermark on the leaves.

UNIVERSITY OF KENTUCKY PHOTOS

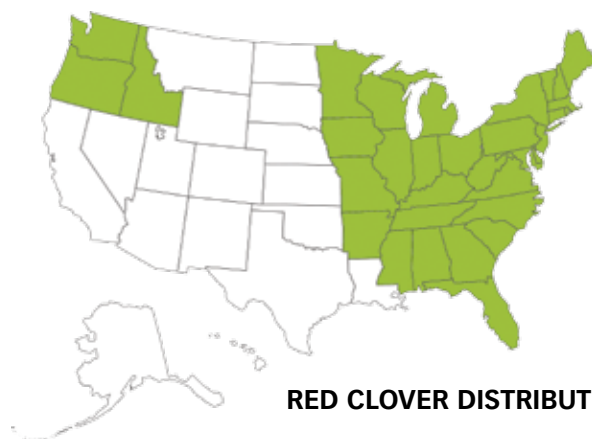


Red clover has a covering of hair on the leaves and stems.



The red clover plant can grow quite large and will branch out from one point of origin.

>Information provided by AnnMarie Kadnar, graduate student; Krista Lea, MS, coordinator of the UK Horse Pasture Evaluation Program; and Ray Smith, PhD, professor and forage extension specialist. All three are part of UK's Department of Plant and Soil Sciences.



RED CLOVER DISTRIBUTION

## Progesterone

for any progesterone result is the one provided by the clinical laboratory that measured the progesterone, as they have reference ranges for their specific equine progesterone assay.

The specificity lacking in immunoassays and the inter-laboratory variations can be overcome with the use of liquid chromatography-mass spectrometry (LC-MS). This technique has allowed researchers to evaluate changes in different progestogens during late gestation and further elucidate links between placental compromise during late gestation and the changes associated with specific progestogens. It would be advantageous for clinical laboratories to switch to LC-MS to provide diagnostic panels of greater specificity and wider

array of quantifiable progestogens.

In summary, current tests for progesterone in the mare are useful to evaluate the presence of luteal tissue ( $P4 > 1\text{ng/mL}$ ) and to ensure that levels of circulating progesterone are adequate for maintenance of early pregnancy ( $P4 > 4\text{ng/mL}$ ) until about 120 days of gestation. From that point until term, current clinical tests are somewhat unreliable due to the variety of progestogens present in maternal circulation. These limitations can be overcome with the use of LC-MS. **UK**

CONTACT: Alejandro Esteller-Vico, DVM, PhD—[aestellervico@uky.edu](mailto:aestellervico@uky.edu)—859/218-1098—UK Gluck Equine Research Center, Lexington, Kentucky

>This is an excerpt from *Equine Disease Quarterly*, funded by underwriters at Lloyd's, London.

## UK Horse Pasture Evaluation Work Showcased at Rangeland Congress in Canada

In July, UK Horse Pasture Evaluation Program coordinator Krista Lea, MS, and forage extension specialist Ray Smith, PhD, traveled to Saskatoon, Saskatchewan, Canada, to attend the 10th International Rangeland Congress.

While at the weeklong meeting, they presented an overview of the UK Horse Pasture Evaluation Program, including summaries of data collected over the last 11 years of the program. This information was well-received and could serve as a template for several similar programs being explored around the world.

Other data presented from UK included Switchgrass for Biomass work and the impacts of the National Forage Bowl Contest on student careers. In addition to showcasing their work, Smith and Lea attended

several educational sessions that provided information transferable to Kentucky, including Extension and technology transfer and controlling invasive species.

The UK Horse Pasture Evaluation Program began in 2005 as part of the Equine Initiative (now UK Ag Equine Programs) to develop stronger ties with Kentucky's equine industry. To date, the program has performed 160 evaluations representing more than 30,000 acres in 20 Kentucky counties. The program's goals are to provide detailed pasture management recommendations to horse farm owners and managers; improve pastureland by increasing forage quality and quantity, thereby reducing the need for stored feeds such as hay and grain; and assess the potential risk of fescue toxicity for

pregnant broodmares on pasture. The program is available to horse farms across the state regardless of farm size, breed, or discipline. Find more information at [equine.ca.uky.edu/horsepastures](http://equine.ca.uky.edu/horsepastures).

The International Rangeland Congress aims to promote the interchange of scientific and technical information on all aspects of rangelands: research, planning, development, management, extension, education, and training. The Congress plans to join with the International Grassland Congress for a joint meeting in 2020 in Nairobi, Kenya. Smith is the head of the planning committee for the future meeting. **UK**

>Krista Lea, MS, coordinator of UK's Horse Pasture Evaluation Program, provided this information.

## Carter Receives AVMA Veterinary Congress Prize

Craig Carter, DVM, PhD, Dipl. ACVPM, director of the UK Veterinary Diagnostic Laboratory, received the 2016 American Veterinary Medical Association's (AVMA) 12th International Veterinary Congress Prize at the Global Health Summit Reception held during AVMA Convention 2016 in San Antonio, Texas, in early August.

Carter was recognized for his international contributions to veterinary public health.

"Throughout his career, Dr. Carter has displayed a strong commitment to improving international understanding of veterinary medicine," said AVMA President Joe Kinnarney, DVM. "He is a service-oriented individual whose contributions to One Health efforts have had far-reaching effects across the globe. I congratulate him on this award, and thank him for his many years of dedication to international veterinary medicine and tireless efforts to improve public health in the United States and around the world."

In 2005, Carter joined the UK Department of Veterinary Science as a professor of epidemiology and, in 2007, became director of the UK Veterinary Diagnostic Laboratory. He also is on faculty at the UK College of Public Health and the new Lincoln Memorial University College of Veterinary Medicine in Harrogate, Tennessee.

His current research focus is on infectious disease epidemiology and electronic animal health monitoring.

Carter's military career spanned four decades, starting with active duty and reserves in the U.S. Air Force and later changing over to U.S. Army Reserve, retiring from the Army Reserves as a colonel in 2009. Carter received his Doctor of Veterinary Medicine degree from Texas A&M University, where he also received his Doctor of Philosophy degree in veterinary public health. **UK**

## Old Friends Hosts Field Day, Highlights Pasture Improvements

On July 15, the 2016 Scott County Farm-City Field Day took place at Old Friends, the Thoroughbred retirement farm in Georgetown, Kentucky.

In 2015, Old Friends worked with Scott County Cooperative Extension Agent Michelle Simon and the UK Horse Pasture Evaluation Program to evaluate and develop plans for improving all the paddocks on the farm. This field day offered an opportunity to show what improvements have been made and what concepts could transfer to other operations.



The program began with Michael Blowen, Old Friends' founder and president, and Tim Wilson, Old Friends' manager, giving an overview of the farm. They discussed some of the unique challenges of running a non-profit rescue facility as well as common challenges that every horse farm faces, such as high-traffic areas and spot grazing. Ray Smith, PhD, professor and forage extension specialist at UK, then gave a pasture seeding demonstration. He used a medium size no-till drill and a small ATV-compatible drill to demonstrate proper seed placement into an existing pasture.

Then, Simon and Krista Lea, MS, coordinator of UK's Horse Pasture Evaluation Program, led participants

in a hands-on exercise to determine weed control options for different areas based on the weeds and grasses found there. The program concluded with a meal provided by the Scott County Future Farmers of America Alumni and a chance for participants to visit with sponsors before storms ended the evening abruptly.

The industry provided substantial support for this program. Sponsors included the Scott County Extension Service, ADM-Silver Grove, Bevins Motor Company, Bluegrass Energy Cooperative Corp., Brook Ledge, Horse Transport Inc., Central Bank, Central Kentucky Ag Credit Association, Central Kentucky Veterinary Center, City of Georgetown, Farm Credit Services of America, Georgetown Kiwanis, Georgetown/Scott County Chamber of Commerce, Kentucky Bank, Nally &

Gibson Hamilton, Hinkle Paving Co., Scott County Beef Improvement Association, Scott County Farm Bureau, Scott County Fiscal Court, Southern States Cooperative, The Pond Lady, United Bank, and Whitaker Bank of Georgetown.

Founded in 2003 by former Boston Globe film critic Blowen, Old Friends now cares for more than 160 horses across three states whose racing and breeding careers have come to an end. A "living history museum of horse racing," the farm attracts nearly 20,000 tourists annually. The farm is open to the public daily for guided walking tours. Find more information at [OldFriendsEquine.org](http://OldFriendsEquine.org). **UK**

>Krista Lea, MS, coordinator of UK's Horse Pasture Evaluation Program, provided this information.

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## KEEP YOUR HORSE IN THE PICTURE.

Although not well-known, *Leptospira interrogans* serovar Pomona can cause devastating problems. *L. pomona* can colonize in the kidneys, be shed in the urine and the horse can become septicemic, which can potentially lead to abortion, uveitis and acute renal failure. LEPTO EQ INNOVATOR<sup>®</sup> is the first *Leptospira* vaccine developed specifically for horses to help prevent leptospirosis caused by *L. pomona*. It also helps prevent infections of the blood, which could, but has not been demonstrated to, help reduce the potential risk of equine recurrent uveitis, abortion or acute renal failure caused by *L. pomona*.<sup>\*</sup> An efficacy trial demonstrated LEPTO EQ INNOVATOR safely helps prevent *L. pomona* infections and urinary shedding.<sup>1</sup> A safety trial showed it was 99.8% reaction-free.<sup>2,3</sup> To learn more, visit [LEPTOEQINNOVATOR.com](http://LEPTOEQINNOVATOR.com).

<sup>\*</sup>Currently, there are no vaccines available with USDA-licensed label claims against equine abortions, uveitis or acute renal failure due to *L. pomona*.

<sup>1</sup> Data on file, Study Report No. B850R-US-12-011, Zoetis Inc.

<sup>2</sup> Data on file, Study Report No. B951R-US-13-043, Zoetis Inc.

<sup>3</sup> Data on file, Study Report No. B951R-US-13-046, Zoetis Inc.





UNIVERSITY OF KENTUCKY PHOTOS



## UK at Hats Off Day

Hats Off to Kentucky's Horse Industry Day, a celebration of the horse and its impact on the commonwealth of Kentucky, hosted by Rood & Riddle Equine Hospital, was held July 30 at the Kentucky Horse Park, in Lexington. The day offered fun family activities, including arts and crafts for children, pony rides, interactive educational booths, and equestrian competition. UK Ag Equine Programs has participated in the event for the past 10 years. This year, Uneeda Bryant, DVM, assistant professor and veterinary pathologist at the UK Veterinary Diagnostics Laboratory, was in attendance with an interactive display of equine organs.



## Upcoming Events

**September 8, 5-7 p.m.**

UK Ag Equine Programs' Welcome Back BBQ/Equestrian Olympics, UK's E.S. Good Barn

**September 29, 4 p.m.**

UK Department of Veterinary Science Equine Diagnostic and Research Seminar Series—Jennifer Davis, PhD, Dipl. ACVIM, ACVCP, associate professor of equine internal medicine and clinical pharmacology at North Carolina State University, will speak about drug clearance, UK Veterinary Diagnostic Laboratory

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