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## UK Launches Series of Educational Equine Parasitology Videos



**Dr. Martin Nielsen and Peak, a Danish-born Standardbred Trotter stallion, educated viewers about parasite control while at Alabar Stud, in Auckland, New Zealand.**

**M**artin Nielsen, DVM, PhD, Dipl. ACVM, Schlaikjer Professor of Equine Infectious Disease in the University of Kentucky's Gluck Equine Research Center, has created a series of 18 educational videos to help inform horse owners, farm managers, and veterinarians about equine parasitology best practices. The videos will become available over the course of a few months beginning in October.

Nielsen said the videos will be especially relevant and important to those who answer yes to any of the following questions: Do you deworm at the first frost? Do you keep your horses stalled following deworming? How about treating wormy-looking horses with a half dose of dewormer? Spoiler alert: Yes is the incorrect answer to all these questions.

Nielsen's videos fall into one of three categories: short videos addressing common misconceptions about parasite control; longer educational videos outlining important concepts in parasite control;

and videos that inform viewers about current findings, research needs, and the importance of UK's equine research herds.

"As a university researcher, I have an obligation to communicate about my area of research to the public," he said. "I am constantly searching for the most efficient way to do so. In this day and age, it seems obvious to communicate about these things on social media. I hope to get some useful information into the hands of horse owners, farm managers, and equine veterinarians—and to

build awareness about some of the work we do at the Gluck Center."

Topics that will be covered over the next several months include:

- Parasite control philosophy
- Deworm Debunk: Deworm at first frost?
- Deworm Debunk: Drug rotation
- Parasite refugia
- What's the right dewormer?
- Deworm Debunk: Five-day dewormers
- Deworm Debunk: Diatomaceous Earth
- Pasture hygiene
- Deworm Debunk: Confining horses
- How the weather affects parasite transmission
- Pasture management
- Deworm Debunk: Daily dewormers
- Deworm Debunk: Parasite egg counts
- Single horse considerations
- Does my horse have worms?
- Deworm Debunk: Checking the label
- The complexity of resistance genetics

"I wanted to try to address common misconceptions and myths in equine parasite control," Nielsen said. "I run into these over and over again. As a university academic, I deliver my share of webinars, seminars, educational fairs, books, tutorial articles, ask the vet responses, etc., every year, but these misconceptions never cease to exist. So this year, I decided to produce a series of short videos suitable for Twitter and Facebook. I'll address one myth or misconception at the time, and in 45 seconds or less I will explain why it is exactly that—a myth or misconception.

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PARASITOLOGY VIDEOS

This will be interspersed with a few longer videos providing more background information and highlighting recent research findings.”

Those interested in viewing the videos can follow the Gluck Center on Facebook @GluckEquineResearchCenter or on Twitter @UKGluckCenter. Nielsen’s Network for Good page can be found at [uky.networkforgood.com/causes/8423-nielsen-parasitology-research-gift-fund](http://uky.networkforgood.com/causes/8423-nielsen-parasitology-research-gift-fund)

**Watch Nielsen’s first video, How to Approach Parasite Control, at [youtube.com/watch?v=fq6b00emQEw](https://www.youtube.com/watch?v=fq6b00emQEw).**

and his UK page at [horseparasites.ca.uky.edu](http://horseparasites.ca.uky.edu). **UK**

>Holly Wiemers, MA, APR, is the communications and managing director for UK Ag Equine Programs.

**Masthead**

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**Lack of Rain Starting to Strain Kentucky Agriculture**

Just six or seven months ago, Kentucky was dealing with overabundant rainfall and soaked pastures, but now things are close to bone dry. Kentucky needs rain, and fast.

“Unfortunately, we’ve been seeing many reports that the dry conditions we seem to be stuck in are putting stress on our farmers,” said Matthew Dixon, agricultural meteorologist for the University of Kentucky College of Agriculture, Food and Environment.

“Kentucky is officially in agricultural drought, and now some reports indicate hydrologic drought is starting to develop.”

These conditions are not new to Kentucky’s farmers—they understand the state’s variable and sometimes extreme weather fluctuations—but it doesn’t make them any easier to deal with on the farm.



AIMÉE NIELSON

Pasture quality is diminishing across Kentucky.

Official information from the U.S. Drought Monitor lists more than a third of Kentucky as abnormally dry and about a quarter of the state in moderate drought.

Dixon said many areas haven’t seen rainfall since the last week of August, and the state has only averaged .07 inches since the beginning of September through Sept. 20. Couple that with above-average highs in the 90s many days this month, and things are getting crispy.

“Many reports I’m hearing here in the Ag Weather Center are that pasture conditions are greatly diminishing and farmers are having to feed supplemental hay to livestock, when they would normally still be grazing on healthy pasture,” said Dixon. “One county even said their farmers market would close in the next week or so due to crops drying up. Water availability for horses, cattle, and goats is starting to become a concern in Magoffin County, in addition to other portions of the state.”

Carol Hinton is the Cooperative Extension agent for agriculture and natural resources in Breckinridge County. She said farmers there are holding off putting cover crops in the ground for fear of failure without adequate moisture.

“Honestly, rain has been scarce most of the second half of summer,” Dixon said. “Even with the remnants of Tropical Storm Barry passing through, North Central Kentucky missed most of the rainfall. We went almost an entire year without any part of the state in a drought, but now it doesn’t look great.”

## LACK OF RAIN

Dixon said long-range outlooks through the end of September don't paint a good picture for catching up on missed rainfall. Many counties across the state are now under a burn ban. For an up-

dated list of burn bans, visit [eec.ky.gov/Natural-Resources/Forestry/wildland-fire-management/Pages/County-Burn-Bans.aspx](http://eec.ky.gov/Natural-Resources/Forestry/wildland-fire-management/Pages/County-Burn-Bans.aspx).

"Bottom line is it's dry now, and the forecast isn't giving us much promise for rainfall going forward," he said.

For current weather and drought

status, visit the UK Ag Weather Center at [www.wagwx.ca.uky.edu](http://www.wagwx.ca.uky.edu) and the National Integrated Drought Information System at [drought.gov/drought/states/kentucky](http://drought.gov/drought/states/kentucky). **UK**

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

## Equine-Assisted Therapy Staff and Volunteers Needed for Facility Air Quality Survey

Microenvironments within equine facilities feature many sources of air contaminants that can harm horses and humans alike. University of Kentucky College of Public Health faculty member and long-time equestrian Kimberly I. Tumlin, PhD, MS, MPH, wondered if the risks associated with air contaminants could alter the benefits of equine-assisted activities/therapies (EAA/T). People use EAA/T to improve their physical, cognitive, or emotional health through intentional interactions with horses.

The National Institute for Occupational Safety and Health-funded University of Cincinnati Education and Research Center has awarded Tumlin a pilot research grant to examine this important topic.

Air contaminants vary on horse farms, and exposures are a universal challenge. To establish a baseline understanding of work practices and potential exposures, Tumlin is recruiting EAA/T center directors and volunteer coordinators to complete an Equine Assisted Activities/Therapies Volunteer Worker Survey ([bit.ly/2kQkaAY](http://bit.ly/2kQkaAY)). This survey builds on 2018 research done by Staci McGill, a UK doctoral student in Biosystems and Agricultural Engineering, on indoor arenas. Based on the diversity and location of their services, some EAA/T facilities rely on indoor or covered facilities. Previous research by McGill identified dust as

a concern in 85% of horse indoor arenas.

"This research is the first step in developing understanding of the balance between risks and benefits of the horse-human interaction," Tumlin said.

EAA/T programs' success relies on volunteer workers who outnumber traditional employees sixfold. The value of these work hours equals more than \$4.5 billion, according to the Professional Association of Therapeutic Horsemanship International (PATH Intl.). In EAA/T, the horse-human interaction might include three volunteers with each horse, plus instruction staff, potentially increasing arena dust. However, researchers haven't established contaminant exposures specific to these volunteer workers.

An assistant professor in the Department of Preventive Medicine and Environmental Health, Tumlin conducts her research through a One Health lens that examines the connections between human, animal, and environmental health. In this innovative study, Tumlin partners with Purdue University exposure health scientist Sa Liu, PhD, MPH, and aerosol scientist Jae Park, PhD. Together they are measuring air pollution exposures among volunteer workers who interact with horses. Under the mentorship of Epidemiology Department Chair Erin Hayes, DrPH, MPH, the team is also looking at potential exposures to heavy metals such as lead, iron, and manganese. **UK**

>Kimberly I. Tumlin, PhD, MS, MPH, Assistant Professor, Preventive Medicine and Environmental Health, College of Public Health, and Athletic Training and Clinical Nutrition, College of Health Sciences, provided this information.

## Starch Source's Effect on Broodmares' Fecal Bacteria

Most easy-keeping horses can thrive on forages alone, but others, such as broodmares, need additional feedstuffs to meet their daily nutrient requirements. Highly palatable and digestible grain-based concentrates can help supply calories as nonstructural carbohydrates (NSC), most being starch. Because too much starch can upset horses' gut microbial balance, a research team at the University of Kentucky (UK) sought to determine if starch source affects fecal levels of these microbes in broodmares before and after foaling.

Normally, enzymes in the foregut (everything ahead of the large intestine) act on NSCs to aid absorption. If all the

NSC is not digested, it spills over into the hindgut, negatively affecting the microbial environment and leading to hindgut upsets and potentially colic. As part of



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her graduate research in the Department of Animal and Food Sciences, Morgan Pyles and a UK team compared the effects of oat-based (OB) or corn- and wheat-middlings-based (CWB) pelleted concentrates on fecal amylolytic (capable of breaking down starch), cellulolytic (capable of breaking down cellulose), and *Lactobacillus* spp bacteria in mares prior to foaling through post-foaling.

Eighteen Thoroughbred mares took part in the study from 310 days gestation through four weeks post-foaling and were randomly assigned to either the OB or CWB concentrate. Mares received 3.2 kilograms (7.05 pounds) of their respective concentrate per day prior to foaling

## FECAL BACTERIA

and 4.8 kilograms (10.58 pounds) per day after foaling. Researchers collected fecal samples from mares two weeks after starting their assigned diet prior to foaling and at Day 1, 14, and 28 post-foaling to determine the number of cellulolytic, *Lactobacillus* spp, and amyolytic bacteria present.

Starch intake averaged 1.05 grams per kilogram of body weight per meal prior to foaling and 1.32 grams per kilogram of body weight per meal after foaling. Surprisingly, said the researchers, the starch source in the concentrate did not affect fecal amyolytic, lactobacilli, or cellulolytic bacteria in the current study.

Previous research in horses on a forage-only diet found alterations in fecal bacteria when researchers introduced a diet with similar starch levels to the ones in the current study. One reason for this could be that the mares in this study consumed a pelleted concentrate, whereas horses in the former study

consumed minimally processed grains. Pelleting allows for opening up of the starch molecules in the feed, making way for enzymatic breakdown in the horse's stomach and small intestine, reducing starch spillover into the hindgut.

Researchers then combined all the data from the two treatments to evaluate the fecal bacterial changes over time in the mares. Fecal amyolytic bacteria did not change significantly prior to foaling and post-foaling. However, fecal lactobacilli and cellulolytic bacteria were altered significantly. Lactobacilli numbers decreased at one day post-foaling, then returned to prepartum values by two weeks post-foaling. Cellulolytic bacteria also decreased one day after foaling and returned to prepartum numbers by four weeks post-foaling. Changes in hormones, stalling prior to foaling, and decreased hay intake rates might have affected fecal bacteria in these mares.

It's possible the lack of differences in fecal bacteria between treatment groups was due to the processing of the cereal grains or because the mares had been fed

concentrates for several months before the study began, Pyles explained. Therefore, the gut bacteria might have already adapted to a diet consisting of concentrates with forage.

"There are many changes happening around parturition in mares," said Pyles, so "it is not surprising that we found the gut bacteria are also affected by this major event. Having a better understanding of the changes occurring around parturition may provide insight on the best management practices to prevent gastrointestinal upsets."

### Take-Home Message

Although the researchers saw no effect of starch source on fecal bacteria in broodmares, parturition did appear to alter the hindgut microbiota. Further studies are needed to address whether these changes during foaling can put mares at risk for hindgut upset. **UK**

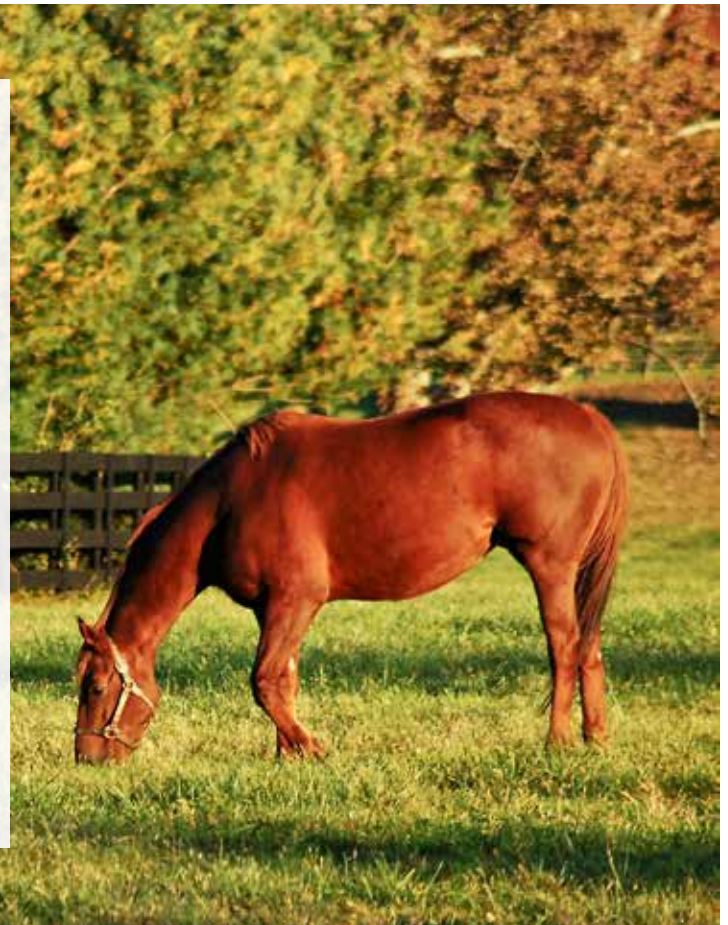
>Kristen Janicki, MS, PAS, is an equine nutritionist and freelance writer living in Nicholasville, Kentucky.

## TIMELY FORAGE TIPS

As September changes to October, the University of Kentucky offers tips to maximize pasture health:

- If you haven't already, conduct soil samples and apply fertilizer as needed.
- Plant perennial grasses and legumes. Consider using a novel endophyte tall fescue.
- Harvest hay as needed. Do not harvest alfalfa after mid-September.
- Scout pastures to identify perennial weeds and woody brush. Consult an agricultural professional to determine the best control strategy.
- Monitor livestock closely, and do not overgraze fields. Pasture plants accumulate energy reserves in the fall that help them overwinter and regrow in the spring.
- Feed hay to allow pastures to stockpile for winter grazing.
- Rest native warm-season grass fields until after frost for better winter survival.

Source: University of Kentucky Forage News



## Couple Comes Full Circle With UK Through Horses, Pastures

The University of Kentucky is where Keith and Laura Haag first fell in love with horses, and it's where they turned to get advice to improve the environment for the horses on Endeavor Farm.

Keith Haag, a 2009 graduate, is the Woodford County farm's manager, and Laura, who graduated in 2010, is the sales coordinator. Because the farm is primarily a commercial breeding operation, they were particularly concerned about the presence of KY 31 tall fescue in its pastures. The grass has an endophyte that can cause fescue toxicosis, which can lead to reproductive complications, including late-term abortions, in mares. They were also interested in general pasture improvements.

"We want to provide the horses that are on this property with the best pasture that we possibly can," Keith Haag said. "Our clients spend a lot of money to keep their horses here, and they expect a very high level of care in return. Part of that is providing their horses with good pastures."

The Haags learned about the Horse Pasture Evaluation Program while undergraduates at UK. Both developed their love of horses as student workers at UK's Maine Chance Farm and consider Laurie Lawrence, PhD, UK equine professor in the College of Agriculture, Food and Environment, one of their mentors.

"Dr. Lawrence was always preaching the benefits of pasture maintenance and really drilled it into us how important our pastures are to the health and well-being of our horses," Keith Haag said. "Our pastures are the most important resource that we have on this farm."

In fall 2018, the Haags began working on pasture evaluation and improvements with Ray Smith, PhD, UK forage extension specialist, and Krista Lea, MS, program coordinator, who was also a former classmate.

"Often farms initially contact us because they have broodmares, and they are worried about the reproductive issues that can arise because of tall fescue, but they often find out a lot of other things about their pastures, like ways to fill in bare spaces and weeds they

can control," Smith said. "So many of our clients call us back, not because of the fescue, but because they are interested in weed management, new grasses to plant, and general pasture rotation."

Through the program, the Haags received a detailed evaluation of the forage composition of the entire farm's pastures. They began implementing improvements as soon as they received the results.

"They have been so eager for information," Lea said. "We've talked about all different kinds of things from installing drylots to purchasing hay feeders

to improve feed utilization during the wintertime. They are willing to adopt new things. They ask questions to make sure it's safe and worth their money, but they are very willing to adopt new things not typically seen on horse farms, like electric fencing."

The electric fence allowed the Haags to renovate an area of a field without moving the horses off it.

"It was a 'hold your breath' moment after we put it in, but the horses handled it fine," Laura Haag said. "We are very confident that we can use it as a way to

## West Nile Virus Confirmed in Kentucky

Animal health authorities have confirmed the state's first equine West Nile virus (WNV) case of 2019. Kentucky Department of Agriculture officials reported Sept. 20 that a Boyle County horse was tested at the University of Kentucky's Veterinary Diagnostic Laboratory (UKVDL) based on detectable WNV-specific IgM antibodies and diagnosed Sept. 16 with WNV. The affected horse, an unvaccinated 7-year-old Paint gelding, presented with mild ataxia (incoordination) that was slightly more pronounced in his front limbs. The horse's attending veterinarian reported that the horse continues to respond and has a favorable prognosis.

Other states that have confirmed equine WNV cases include California, Colorado, Connecticut, Florida, Idaho, Iowa, Louisiana, Minnesota, and Washington.

### About West Nile Virus

WNV transmission occurs when infected mosquitoes feed on animals, as well as humans, after having fed on infected birds.

Clinical signs of WNV in horses include:

- Mild anorexia and depression;
- Fine and coarse muscle and skin fasciculation (twitching);
- Hyperesthesia (hypersensitivity to touch and sound);
- Changes in mentation (mentality), when horses look like they're daydreaming or "just not with it";
- Occasional drowsiness;
- Propulsive walking (driving or pushing forward, often without control);
- Spinal signs, including asymmetrical weakness; and
- Asymmetrical or symmetrical ataxia.

West Nile virus has no cure; however, some horses can recover with supportive care. Equine mortality rates can reach 30-40%. The American Association of Equine Practitioners includes WNV as one of the core diseases all horses should be vaccinated against at least annually. **UK**

>Diane Rice is a freelance writer, editor, proofreader, and photographer living in Nampa, Idaho. She enjoys gardening, reading, and spending time with her daughters, grandchildren, and pets.



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do rotational grazing in our paddocks and pastures going forward.”

The Haags have been pleased with the results and plan to continue using the program.

“We have noticed changes already,” Keith Haag said. “Before, we were just kind of throwing darts at a dart board and really hoping they would stick. Now, we have a much better idea of what we need to be doing and when we need to be doing it. There were some really simple things we could do to improve the quality of our pastures.”

In addition to the Horse Pasture Evaluation Program, UK offers many avenues for equine and other livestock producers to learn about pasture improvements,



KATIE PRATT

Ray Smith, PhD, second from right, speaks with (from left) Keith Haag; Krista Lea, MS, UK Horse Pasture Evaluation Program coordinator; and Laura Haag during a visit to Endeavor Farm.

including extension publications that cover basic pasture management. They are available online at [forages.ca.uky.edu/foragepublications](http://forages.ca.uky.edu/foragepublications). Agriculture and natural resource agents with the UK Cooperative Extension Service, can provide

pasture improvement advice to local producers at the farm level. **UK**

>Katie Pratt is an agricultural communications specialist within UK's College of Agriculture, Food and Environment.

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## UK Veterinary Diagnostic Lab Director Receives Lifetime Achievement Award

The University of Kentucky Veterinary Diagnostic Laboratory (UKVDL) director, Craig Carter, DVM, PhD, recently received the inaugural Allen W. Hahn Lifetime Achievement Award in Veterinary Informatics. The award honors individuals who have dedicated their careers to being leaders, educators, and innovators in veterinary informatics. The Association for Veterinary Informatics presented the award to Carter at the 2019 Talbot Symposium at Fetch DVM360, in Kansas City, Missouri.

Carter earned his bachelor's, master's, Doctor of Veterinary Medicine, and PhD from Texas A&M University. After veterinary school, he operated a large animal ambulatory practice in Texas for five years. Later, he joined the Texas Veterinary Medical Diagnostic Laboratory as a clinical associate, where he created a Department of Epidemiology and Informatics to advance animal disease monitoring and epidemiology services for the laboratory and its clients.

In 2005 UK recruited Carter to serve as professor of epidemiology, and in 2007 UK appointed him director of the UKVDL.

His research interests include infectious disease epidemiology, antimicrobial

LIFETIME ACHIEVEMENT AWARD



MATT BARTON

resistance, electronic animal health monitoring, computer-based clinical decision support, and laboratory information systems. He has worked as a consultant in more than 30 countries. Carter's military career in the U.S. Air Force and the U.S. Army spanned four decades. He commanded the first Army Reserve Veterinary unit into Afghanistan after the 9/11 attacks and retired as a colonel in 2009. He received the 2016 American Veterinary Medical Association International Veterinary Congress Prize and the 2018 E.P. Pope award from the American Association of Veterinary Laboratory Diagnosticians. Carter is a diplomate of the American College of Veterinary Preventive Medicine and a distinguished scholar of the National Academies of Practice.

The Allen W. Hahn Lifetime Achievement Award in Veterinary Informatics is the only informatics award dedicated to those who have chosen to apply their knowledge to the veterinary field. The award is named after pioneer Allen W. Hahn, DVM, who represented these ideals and served as an inspiration to many.

Find more information on the Allen W. Hahn Lifetime Achievement Award in Veterinary Informatics at [avinformatics.org/AllenHahnAward](http://avinformatics.org/AllenHahnAward).

The UKVDL's mission is to develop and apply state-of-the-art diagnostic methodology to improve animal health and marketability, to protect the public health, and to assist in the preservation of the human-animal bond through the principles of One Health. The UKVDL is fully accredited by the American Association of Veterinary Laboratory Diagnosticians. **UK**

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

## Free Educational Opportunities at the Thoroughbred Makeover

The Retired Racehorse Project's Thoroughbred Makeover and National Symposium, presented by Thoroughbred Charities of America, may be best known as the competition that's a culmination of 10 months of training for recently retired racehorses, but educational opportunities abound during the event.

On the afternoon of Friday, Oct. 4, at the Kentucky Horse Park, spectators can attend three educational seminars dedicated to the care and training of off-track Thoroughbreds. Light refreshments will be served. Seminars are free and open to all.

### Preventing Injury and Disease in Your OTTB

Sponsored by Godolphin, noon, moderated by Stephanie L. Church of *The Horse Media Group*

Your OTTB is likely both an investment and a partner. As you guide him from one career to another, you'll want to keep him as healthy and sound as possible. Here's how to be prepared for (but hopefully prevent!) anything from infectious disease to soft tissue and bone injuries.

**Panelists:** Larkspur Carroll, DVM, CORE Therapies; Cage Cruise, DVM, Bluegrass Equine Podiatry; and Kirsten Johnson, KESMARC LLC

### Feeding Your OTTB

Sponsored by Triple Crown Nutrition, 1:45 p.m., moderated by Michelle Anderson of *The Horse Media Group*

Thoroughbreds' lifestyles change significantly when they leave the track, and their diets need to accommodate this. We'll talk about common problems you might encounter during the transition period from racehorse to performance or recreational horse, whether it's keeping on weight, identifying signs of gastric ulcers, managing a "hot" horse, or simply determining where an OTTB needs specific nutritional support and how to supply it.

**Panelists:** Fernanda Camargo, DVM, PhD, University of Kentucky; Kenneth Kopp, DVM, Kemin; and Laurie Lawrence, PhD, University of Kentucky

### Prepurchase Exams

Sponsored by University of Kentucky Ag Equine Programs, 3:30 p.m., moderated by Alexandra Beckstett of *The Horse Media Group*

A bump here, a chip there, some reactivity over there. What does it mean for soundness now and later, and should you get X-rays? From the basic to the involved, here's what you can expect to find out (and perhaps not find out) when you get an OTTB



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## THOROUGHBRED MAKEOVER SEMINARS

sport or pleasure horse prospect vetted off the track.

**Panelists:** Emma Adam, DVM, PhD, University of Kentucky; Liz Barrett, DVM, Hagyard Equine Medical Institute; Shannon Reed, DVM, The Ohio State University

For more information about seminars, please visit [tbmakeover.org/rrp-tb-makeover-spectator-info/tb-education-clinics/seminars-coming-soon](http://tbmakeover.org/rrp-tb-makeover-spectator-info/tb-education-clinics/seminars-coming-soon).

The Thoroughbred Makeover and National Symposium, presented by Thoroughbred Charities of America, is the most lucrative retraining competition for Thoroughbred ex-racehorses in the world. The competition is intended to inspire trainers to become involved in transitioning these horses to second careers, and the National Symposium serves to educate the people involved in the care, training, and sale of these horses to responsible owners. For more information about the 2019 Thoroughbred Makeover and National Symposium, which takes place Oct. 2-5 at the Kentucky Horse Park, please visit [tbmakeover.org](http://tbmakeover.org). **UK**

>Kristen Kovatch Bentley, of Retired Racehorse Project, provided this information.

## UKVDL Can Now Identify Bacteria 24 Hours Sooner

Traditionally, bacteria and yeast are identified using labor-intensive biochemical methods, which could take several days to complete. In some cases, the microorganisms might require further testing for identification. Because antimicrobial susceptibility tests depend on identifying microorganisms, it is critically important to ID them correctly.

The University of Kentucky Veterinary Diagnostic Laboratory (UKVDL) has a new system, called MALDI-TOF, that allows lab personnel to reliably identify bacteria within a day. MALDI-TOF identifies most yeasts with a high level of confidence, as well. The technology is based on proteomic fingerprinting using high-throughput mass spectrometry. The resulting spectrum is then compared to a database and a reliable identification is made.

The fee for MALDI-TOF microorganism identification is \$10/isolate.

A \$10 accession fee will be applied per submission, which can contain multiple samples from the same animal.

Contact UKVDL Bacteriology section at 859/257-8283 for further information.

*This information was provided by UKVDL.*

## Upcoming Events

### UK Equine Career & Opportunity Fair

**Oct. 2, 4-6 p.m., Woodford Room, University of Kentucky Kroger Field**  
This event is open to all university students, alumni, high school students, and individuals seeking careers within the equine industry. To attend as a job or opportunity seeker, register at the link below or contact Savannah at [savannah.robin@uky.edu](mailto:savannah.robin@uky.edu) for more information. [https://app.joinhandshake.com/career\\_fairs/.../student\\_preview](https://app.joinhandshake.com/career_fairs/.../student_preview)

### Teri Lear Memorial Lecture

**Oct. 3, 4 p.m., UK Gluck Equine Research Center**  
Given by Elena Giulotto, PhD, professor, Department of Biology and Biotechnology "Lazzaro Spallanzani," University of Pavia, Italy.

**Topic:** Chromosome structure unique to horses: What does it tell us? Centromeres are that special region responsible for correct separation of chromosomes during mitosis and meiosis. Their structure is well-conserved among species. However, horses have a unique centromere structure that upends our understanding of their function. Giulotto is a leading equine geneticist and horsewoman from the University of Pavia, Italy. She is a renowned and engaging speaker. Come learn about how horses are once again an evolutionary mystery.

Teri L. Lear was a faculty member at the Gluck Equine Research Center specializing in the cytogenetics of horses. She provided valuable services to the veterinary community through clinical cytogenetics. In that connection, she investigated and identified chromosome mutations responsible for infertility and for disorders of sexual development. She was also a leader in the genomics community, advocating for and providing physical mapping of genes to chromosomes in connection with the International Horse Genomics Workshop. She left us in 2016 after a long bout with cancer. Her friends and colleagues established a fund to support a lecture in her memory.

### Equine Alumni Affiliate Network Trivia Night

**Oct. 9, 6:30 p.m., Blue Stallion Brewery, Lexington**

### RACE accredited CE for veterinarians, veterinary students, and veterinary technicians, sponsored by Boehringer Ingelheim

**Oct. 15, 11:30 a.m.-5:50 p.m., University of Kentucky Veterinary Diagnostic Laboratory, 1490 Bull Lea Road, Lexington.**

**Light lunch at 11:30 a.m., talks start at noon.** Five hours of RACE accreditation pending approval. This event will be livestreamed to Breathitt Veterinary Center, where you can attend for free by registering with Debbie Reed, DVM, at [dreed@murraystate.edu](mailto:dreed@murraystate.edu) or Jasona Allison at [jallison9@murraystate.edu](mailto:jallison9@murraystate.edu) or at [eventbrite.com/e/university-of-kentucky-vet-ce-boehringer-ingelheim-sponsored-tickets-68335857389](http://eventbrite.com/e/university-of-kentucky-vet-ce-boehringer-ingelheim-sponsored-tickets-68335857389).

- Amanda Adams, PhD, update on endocrine testing in horses
- Cage Cruise, DVM, podiatry considerations for the endocrine horse and broodmare
- Kristina Lu, VMD, Dipl. ACT, managing endocrine problems in broodmares
- Andrew van Eps, BVSc, PhD, MACVSc, Dipl. ACVIM, new developments in our understanding of what causes laminitis

### UK Equine Experience Day

**Oct. 18, 8:30 a.m.-5:30 p.m. E.S. Good Barn, Lexington.**

Event geared toward high school juniors and seniors with a strong interest in pursuing an Equine Science and Management degree. [students.ca.uky.edu/equineEXP](http://students.ca.uky.edu/equineEXP)



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**OPPORTUNITY FAIR**

**WEDNESDAY, OCTOBER 2, 2019**

**4-6 P.M.**

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