

Warm-Season Tips for Cool-Season Pastures



Crabgrass provides nutritious and palatable grazing to horses in the summer months.

COURTESY, AMANDA COLE

Cool-season pastures—dominated by species such as Kentucky bluegrass, orchardgrass, white clover, and tall fescue—grow rapidly in the spring and fall, and management techniques must change with the seasons. Here are some tips for managing cool-season pastures during the warm summer months.

Mow only as needed. Many farms mow pastures on a regular schedule, maybe every two weeks. Rigid schedules might simplify planning and labor needs, but can be costly in wasted labor and resources and lost forage production. Healthy pastures with minimal weeds should only be mowed to maintain quality, not aesthetics. As grasses mature, they produce a seedhead that, while needed for plant reproduction, reduces both forage quality and palatability. Mowing pastures to remove seedheads improves forage quality and encourages plants

to fill in bare areas by tillering out. Once seedheads are removed from cool-season grasses, they will not grow again during the year. Also plan to mow when pastures are more than 10 inches tall, when horses are grazing unevenly, or when undesirable weeds are producing seedheads.

Remember: Fertilizers feed weeds, too. Fertile soil is essential for good pasture health; however, weeds also benefit from fertilizers, particularly nitrogen. This means you must plan fertilizer applications carefully. Nitrogen applied during the fall or

early spring encourages cool-season grass growth. However, warm-season weeds will flourish with summer nitrogen applications and are more likely to compete with desirable grasses. Prevent competition by not applying nitrogen to pastures dominated by cool-season grasses during the summer. You can apply other fertilizers, such as phosphorus, potassium, and lime, any time, based on the weather and soil test recommendations.

Know your summer annuals. Summer welcomes a host of new plants in pastures that might be unfamiliar to some horse owners. Many farm managers recognize ragweed and spiny amaranth (pigweed), for example, as common warm-season annual weeds that frequent pastures, but some warm-season annual grasses, such as crabgrass and yellow foxtail, might be less familiar. Crabgrass can be a blessing or a curse for horse pastures. Many pastures overgrazed in the spring and fall can support horses in the summer months because of crabgrass' high yield and excellent forage quality. However, these pastures will be bare again in the fall once frost kills the crabgrass. Foxtail, on the other hand, has very poor forage quality, and the seedhead can cause significant irritations in the horse's mouth. Because both forages are grasses, few, if any, herbicides can effectively eliminate them from a pasture while leaving desirable cool-season grasses in place. Learn to identify these grasses and, if

In This Issue

Endocrine Diagnostics for Broodmares	02
Causes of Aged Horse Deaths	03
Eastern Kentucky Equine Wellness Clinics	05
Equine Cardiotoxins	06

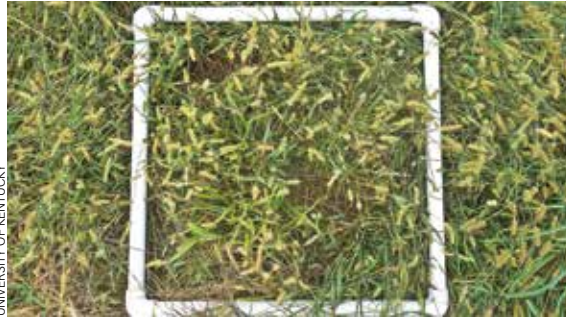
Warm Season Tips

they are prevalent in pastures this summer, consider renovating pastures in fall to eliminate them.

Prepare for fall improvements. Ideally, make pasture improvements in the fall when cool-season grasses are actively growing but many weeds are not. There are many steps to improving pastures, and planning is key. Timing is critical when re-establishing or overseeding a pasture, so purchase seed and reserve a no-till drill ahead of time, because others will have the same idea during the fall. Herbicides might also limit when and if pastures can be seeded. Many herbicides safe for established grasses can still harm young seedlings, so if you're planning to spray and seed, choose herbicides that control targeted weeds and have shorter reseeding windows or consider moving either seeding or spraying to the spring. Always read and follow all label recommendations. Summer is an ideal time to evaluate your pasture needs and begin planning for fall improvements.

What about warm-season pastures?

Pastures in the southern United States dominated by bermudagrass, bahiagrass, crabgrass, and other warm-season grasses are in peak production in the summer. Many of these grasses have high nitrogen requirements, so fertilize them, if needed, using stable nitrogen forms. In these pastures, start planning now for planting winter cover crops, such as annual ryegrass.



Yellow foxtail, a poor-quality forage, has seedheads that can irritate a horse's mouth. Most horses avoid foxtail if other forage is available.



Well-planned pasture re-establishment can produce high-quality grazing for years. This pasture was re-established in 2012 and is still highly productive.

Take-Home Message

Pastures are dynamic and require changing management strategies based on time of year, weather, soil type, and use. Contact your local county extension agent or farm supply store for more details on maintaining or improving your pastures. Not only do well-maintained pastures look stunning but they also provide quality grazing for horses, reduce hay and grain needs, and are environmentally friendly. [UK](#)

>Krista Lea, MS, coordinator of the University of Kentucky Horse Pasture Evaluation Program, provided this information.

Interpreting Endocrine Diagnostics for Subfertile Mares

Researchers are always looking for new ways to detect failed pregnancies, reproductive problems, or pregnancy loss in mares. Some of those indicators are tiny little molecules that we know better as hormones.

At the 2016 American Association of Equine Practitioners Convention, held Dec. 3-7 in Orlando, Florida, Alejandro Esteller-Vico, PhD, of the University of Kentucky (UK) Gluck Equine Research Center's Equine Reproduction Laboratory, reviewed how veterinarians can use basic endocrine (hormone) tests to diagnose reproductive problems in mares. He discussed three useful hormones and groups of hormones:

Masthead

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Endocrine Diagnostics

anti-Müllerian hormone, estrogens, and progestogens.

Anti-Müllerian Hormone (AMH)

Granulosa cells in ovarian follicles produce AMH, which measures reproductive aging and indicates the number of viable follicles a mare has in reserve. This hormone is also a marker for granulosa cell tumors (ovarian tumors), which could impair reproduction. Very low AMH concentrations could mean that a mare does not have many, if any, viable follicles left.

Estrogens

Estrogens are the primary female sex hormones and are synthesized by the ovary and placenta. They can serve as biomarkers for pregnancies. One form of estrogen—estrone sulfate (ES)—begins to increase around Days 35-40 of gestation and is a good indicator of pregnancy status, Esteller-Vico said. He cautioned that ES concentrations tend to be higher in Miniature Horses than in their larger counterparts, so pregnancy might not be detectable by measuring ES until approximately 80

days of gestation in Minis. Other estrogens, such as estradiol or estradiol sulfate, can be used during late gestation as biomarkers for placentitis (infection of the placenta), he added.

Progestogens

Progesterone, one of the most well-studied progestogens, plays a role in maintaining pregnancy. The corpus luteum (CL), the temporary structure that contains an ovarian follicle, secretes progesterone. In the absence of pregnancy, the CL degrades and progesterone concentrations drop. However, if an embryo is present, the CL's lifespan is extended and progesterone concentrations begin to increase immediately after ovulation and continue to increase until 60-120 days of gestation. Veterinarians can measure progesterone concentrations to determine if there is enough hormone present to sustain pregnancy. Progestogens also can be used during late gestations as biomarkers for placentitis, Esteller-Vico said.



Veterinarians can garner information about reproductive problems in mares via endocrine tests.

Take-Home Message

Careful interpretation of hormone concentrations can help diagnose reproductive problems, determine pregnancy status, and indicate the optimum time for conception. This information is useful for maintaining the mare's well-being and, of course, for the production and development of a healthy foal. **UK**

>Nettie Liburt, MS, PhD, PAS, is an equine nutritionist based in Long Island, New York.

Leading Causes of Death in Aged Horses in Kentucky Examined

Over the last century, the horse's place in society has shifted from that of an absolute necessity, primarily used for transportation and labor, to more of a pleasure animal. Today, horses are commonly companion animals, lesson horses, breeding stock, and sporting competitors, with more limited use in farm and ranch work. This change has resulted in an increasing geriatric horse population and, accordingly, the need to better understand the complexities of senior horse health.

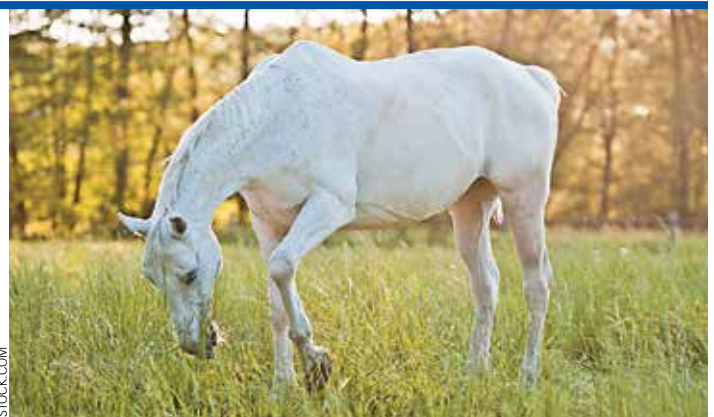
The UK Veterinary Diagnostic Laboratory (UKVDL) plays an important role in supporting Kentucky's horse

industry. From June 1, 2010, to June 30, 2012, 113 horses aged 15 years and older were submitted to the UKVDL for necropsy.

Review of these necropsy cases revealed that the main organ system contributing to the death of this group of aged horses was the digestive system, followed rather closely by the cardiovascular system.

Specific digestive system diagnoses noted in this group of geriatric horses included, but were not limited to:

- Strangling lipoma (a fatty tumor on a stalk that "strangles" the intestine);
- Small intestinal entrapment, devitalization, and/or rupture;



Owners can take certain steps to improve their horses' digestive health. For instance, a consistent diet with sufficient roughage promotes a healthy digestive system for horses of all ages.

- Gastric (stomach) rupture;
- Large colon displacement, torsion, impaction, and/or rupture; and
- Necrotizing colitis (in which the intestinal tissue is damaged and dies). Although it's not generally possible to prevent these disorders, owners can take

certain steps to improve their horses' digestive health. A consistent diet with sufficient roughage promotes a healthy digestive system for horses of all ages. However, as horses age, their teeth can wear unevenly and crack or break, preventing proper mastication and hindering food digestion.

Aged Horse Deaths

Therefore, proper dental care is crucial for older horses, along with appropriate nutritional substitutions (i.e., complete feeds) for horses that can no longer chew forage adequately.

Maintaining appropriate deworming

regimens for horses of all ages can also help preventing digestive dysfunction. For example, poorly-managed parasitic infections can contribute to adhesion formation, leading to intestinal obstruction, and tapeworm infection can lead to colic due to cecal impaction. Once an owner notices signs of colic and digestive distress, timely veterinary intervention

can sometimes improve the outcome for a horse, particularly if corrective surgery is warranted by a specific diagnosis.

Death due to cardiovascular system dysfunction might seem somewhat unexpected. However, after delving further into necropsy records, a not-so-surprising story emerged.

(Continued on page 5)

GRAD STUDENT SPOTLIGHT

BORA NAM

From: Bun-dang, Republic of South Korea

Degree and institute where received: BS in equine science and management with a minor in agricultural economics, UK

Horses have been in Bora Nam's blood since she was young. She began riding horses at age 10 and competed in dressage and show jumping in South Korea.

"I was fortunate to receive my dressage training with the Samsung Equestrian Team and my training in show jumping at Colleen Brook's farm in Australia," Nam said.

In 2006, her first year in the United States as a high school exchange student, she watched the Kentucky Derby on television. She chose Barbaro to win, and he did.

It was this equestrian background that sparked her desire to pursue a career in the horse industry.

"As soon as I heard the 2010 Alltech FEI World Equestrian Games were to be held at the Kentucky Horse Park, I decided that I would apply to the University of Kentucky to further my education," Nam said. "The equine programs at UK were very impressive. They helped to open my eyes and mind to gain an overall appreciation of the equine industry, both from a scientific and business viewpoint."

As an undergraduate, Nam said she was fortunate to obtain a position at the UK Gluck Equine Research Center during her freshman year.

"While initially working in the virology laboratory of Dr. Udeni Balasuriya (BVSc, MS, PhD), professor of virology at the Gluck Equine Research Center, as an undergraduate research assistant, and later a senior laboratory technician, I became increasingly interested in research in specific equine viral diseases and the opportunity this provided to contribute to promoting equine health and well-being," Nam said.

Her current research project is focused on equine arteritis virus (EAV) evolution during persistent infection of stallions' reproductive tracts. The virus is behind equine viral arteritis (EVA), an economically important disease that can result in abortion in pregnant mares, fatal illness and death in neonatal foals, and carrier state establishment in 10% to 70% of affected stallions.

As part of Nam's research, she and colleagues established a model to study intrahost EAV evolution in seven persistently infected stallions. They monitored the stallions for about two years, collected samples



PHOTOS COURTESY BORA NAM



from each stallion at monthly intervals, and sequenced the full-length genome of 53 isolates of EAV. Then, they carried out further technical analyses to study the EAV isolates' evolution and quasispecies (a cluster of variant viruses that arise from mutations over time within a viral isolate) nature. Aside from evaluating the genetic relationship of the isolates over time, the researchers carried out phenotypic analysis to determine the effects of viral evolution on antigenic divergency among the viruses.

Asked what her biggest takeaway has been from the program so far, Nam said, "It has helped me realize the importance of building a strong scientific background through enrolling in hard science courses. The knowledge I have gained has helped me improve my understanding and hone my critical thinking skills relative to my research. Research has taught me the value of collaboration when striving to accomplish a higher goal."

Nam is currently completing her master's thesis project in veterinary science with a focus on virology at the Gluck Center.

"I very much appreciate the support, encouragement, and guidance from my professor and colleagues in the laboratory," Nam said. "The most valuable lessons I learned were to be patient, never give up, process step by step toward attaining a goal, and, above all, how to work with people."

Nam plans to graduate in August and hopes to take advantage of her combined background in equine management and veterinary science to apply the scientific knowledge she has gained to the equine industry. She hopes to work for a veterinary biological or pharmaceutical company that seeks to promote equine health and welfare.

Nam said she also looks forward to interacting with people and helping them address their needs. She hopes to serve as a bridge between the United States and Asian countries in helping to promote equine business in both parts of the world. **UK**

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

Aged Horse Deaths

Uterine artery rupture was responsible for approximately half of the cases where the main cause of death was attributed to the cardiovascular system. This statistic appears to be associated with the presence of numerous breeding farms in Central Kentucky. Increased risk of uterine artery rupture is an important issue for owners and veterinarians worldwide to consider when breeding mares over 15 years of age. Additionally, the potential high risk for

uterine artery rupture in older mares could highlight the option of embryo transfers to surrogate mares to obtain offspring from valued aged mares. As with any medical procedure, embryo transfer and surrogacy are not without risk and might be restricted by certain breed registries (for instance, The Jockey Club requires that Thoroughbred foals be produced via live cover—assisted reproduction techniques aren't allowed).

While the main causes of death identified in this preliminary review for horses over the age of 15 in Kentucky highlight potential problem areas for the medical

management of older horses, a more extensive review of past cases is needed to fully establish significant trends from this study.

CONTACT: Ashton B. Miller, graduate research assistant, in collaboration with Alan Loynachan, DVM, PhD, and Amanda Adams, PhD—ashton.miller@uky.edu—859/257-4757—UK Gluck Equine Research Center, Lexington, Kentucky. **UK**

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Graduate Student Perspective: Applying Research Knowledge During Equine Wellness Clinics

Jessica Scare Kenealy, BS, a PhD student and graduate research assistant at the UK Gluck Equine Research Center, wrote this commentary about her recent experience in applying her research skills during an outreach event to serve the equine community.

Recently, I had the opportunity to escape from the laboratory and participate in a unique event that allowed me to put my research and acquired knowledge to the test at the Eastern Kentucky Equine Wellness Clinic. As a graduate student, it is important to engage in opportunities that allow us to disseminate the information we are generating to the public and serve as an encouraging reminder of the purpose of our research.

The event, organized by the UK Ag Equine Programs Agents Working Group, was led by Fernanda Camargo, DVM, PhD, equine extension associate professor at UK, and Amy Lawyer, MS, equine extension specialist in the Department of Animal and Food Sciences. It was fueled by participation from local county extension agents Lyndall Harned and Bon-



PHOTOS COURTESY JESSICA SCARE KENEALY

Students braved the cold rain with microscopes, flotation solution, and diagnostic slides to perform on-site fecal egg counts for parasite diagnostics. (From left to right: Luciana Dias de Castro, Jessica Scare Kenealy, Csenge Kálmán, Ashley Steuer, Livia Ramires, Jamie Norris, Jacqueline Dillard, and Faith Miller.)

nie Jolly; Pedro De Pedro, DVM, assistant professor at Ross University School of Veterinary Medicine, in St. Kitts, West Indies; several veterinary students from Ross University; animal science and equine science undergraduate and graduate students; and representatives from the equine parasitology laboratory run by Martin Nielsen, DVM, PhD, Dipl. ACVM, associate professor and Schlaikjer Professor of Equine Infectious Disease at the Gluck Equine Research Center.

Nielsen's lab was represented by doctoral students

Ashley Steuer, DVM, BS, Zoetis Resident of Veterinary Parasitology, and myself; undergraduate students Faith Miller, Jamie Norris, Emily Mercier, and Danielle Rolle; Livia Ramires and Luciana Dias de Castro, visiting scholars from Brazil; and Csenge Kálmán, a visiting scholar from Hungary. Undergraduate students Jason Huber, Morgan Falk, Megan Dupont, Aya Omar, and Jacqueline Dillard also volunteered their time.

The outreach event was organized to provide underserved Eastern Kentucky owners and their horses



Apple, an Appaloosa pony, receives his vaccinations and health exam by a Ross University veterinary student while his owner provides general information.

with routine vaccinations, Coggins testing, dentals, as well as fecal egg counts for parasite diagnostics and appropriate deworming treatments at a reduced price. The supplies, vaccinations, and dewormers were sponsored by Zoetis, Gastrogard, UK Ag Equine Programs, Kentucky 4-H Horse Program, Neogen, Boehringer-Ingelheim, Kentucky Equine Education Project, Kentucky Horse Council, Kinetic Vet, and McCauley Brothers.

Over three days, we served four counties: Boyd, Har- din, Jackson, and Whitley. The clinics were tailored to

Graduate Student Perspective

fit horse owners' needs and were held at various county fairgrounds, farms, and properties.

While the clinic's obvious goals were diagnostics and routine care, it also further developed equine owners' communication with their local extension agents and provided an excellent learning experience for the students. The owners consistently expressed gratitude and excitement upon our arrival and were eager to tell us about their beloved horses or seek advice on management practices.

In particular, I recall one owner shaking my hand in departure, saying, "Thank you. This has been a wonderful experience. We hope you come back next year."

We served about 35 owners and more than 200 equids. The owners were from a variety of backgrounds, but one in particular worked closely with the local school to provide 4-H opportunities to children who otherwise would not have the chance to be involved with such a rewarding extracurricular activity. Another farm operated as a nonprofit equine therapy facility for individuals with mental and/or physical disabilities. These owners consistently work very hard to give back to their communities, and it was a privilege to serve them and their loyal equids.

We had the opportunity to interact with several beautiful Rocky Mountain and Tennessee Walking Horses, Miniature Horses, Quarter Horses, Thoroughbreds, mules, working horses from Amish communities, and, of course, Pop-Tart, the cutest and most-adored Miniature Donkey. This experience provided an excellent



PHOTO COURTESY JESSICA SCARE KENEALY

The first day of the Boyd County clinic was off to a busy start. Owners began by checking in with their horses, selecting a treatment package, and receiving a plastic bag for fecal sample collections, none of which would have been possible without generous donors. (From left to right: Faith Miller, Danielle Rolle, Emily Mercier, Jessica Scare, and Morgan Falk.)

reminder of our purpose as veterinarians, researchers, and extension agents—to appreciate, educate, and serve equid owners.

Aside from performing parasite diagnostics via fecal egg counts for each horse, the equine parasitology laboratory students collected research material. The focus was to define equine management practices in rural Kentucky, which are likely different from those in Central Kentucky. This information has been unavailable to us until now. We conducted a brief questionnaire survey regarding farm and management practices with each owner.

Ninety of the horses surveyed were working horses from Amish communities. They provided a very unique look at the parasitological demands associated with heavily working horses in the United States, which has never been observed before and is presumed to be different from horses in other careers.

Lastly, we sought to observe the prevalence of the equine bloodworm (*Strongylus vulgaris*), a highly pathogenic parasite that is now considered rare in

areas where anthelmintic treatments are common. In addition to the surveys and fecal egg counts, we brought fecal samples back to the lab for further analysis. Currently, we are performing three techniques to identify bloodworms, including coprocultures, a method of culturing larvae within the feces; PCR to identify any bloodworm DNA within the parasite eggs; and a serum

ELISA to test for specific antibodies produced by the horse in response to this parasite. Our study results will help us better understand different management practices, the parasitological demands of working horses in the United States, the various management practices associated with the bloodworm, and further improve parasite management recommendations.

Overall, the clinic was unanimously declared a huge success. The owners were very pleased with the service and attitude provided by all participants, showing promise for increased attendance in years to come. The clinic provided opportunities for numerous collaborations between departments and institutions and the development of new relationships and further strengthening of our existing mission. We serve the horse no matter where it lives, what resources are available to it, and for its multiple purposes.

And, by the way, all the equids had parasites! **UK**

Cardiotoxins in Horses

Equine cardiac disease is an uncommon, but potentially serious, condition. Clinical signs range from poor performance to sudden death, and causes include congenital malformation, chronic valvular degeneration, cardiomyopathy, inflammatory or infectious disease, ruptured chordae tendinae, and cardiotoxins. Here, we'll review some common cardiotoxins that affect Central Kentucky horses.

Ionophores (e.g., monensin and lasalocid) are common feed additives and supplements intended for cattle, pigs, or chickens. Exposure occurs when horses have access to concentrated mineral premixes containing ionophores formulated for cattle or through a feed-mixing error. Acute ionophore intoxication causes anorexia, muscle tremors, rapid heart rate, and respiratory distress due to heart failure. Chronic exposure results in unthriftiness, poor performance, exercise intolerance, rapid breathing, and sudden death from cardiac damage.

Blister beetles are often found in alfalfa hay and contain a highly irritating substance called cantharidin. Small amounts of cantharidin cause gastrointestinal and urinary tract irritation. Moderate amounts cause cardiac muscle damage, low blood calcium concentrations, and synchronous diaphragmatic

Cardiotoxins

flutter (“thumps”). Large amounts cause shock and death within hours.

Taxus is a common cause of poisoning of horses in Central Kentucky. *Taxus*, or yew, is a popular ornamental evergreen shrub. Almost all parts of the plant, including the seeds, contain highly toxic compounds called taxines. In the winter, the taxine concentrations are at their highest within the plant. Even a small amount of plant material can cause rapid heart failure. Because taxines act so quickly, horses ingesting yew are often found dead without signs. When present, signs include weakness, incoordination, slow heart rate, and difficulty breathing.

White snakeroot is a perennial woodlands plant common throughout



A number of plants—including yew (above), rhododendrons (top right), and white snakeroot (bottom right)—can cause cardiac damage in horses.

the Eastern United States. It contains a mixture of compounds called “tremetol.” Intoxication is sporadic because the tremetol concentrations in the plant varies depending on location and prevailing growing conditions. Tremetol causes congestive heart failure and cardiac degeneration in horses. It can



also pass into mares’ milk and poison nursing foals.

Rhododendrons, azaleas, laurels, mountain pieris, and fetterbush all contain grayanotoxins. Grayanotoxins cause either slow or rapid heart rate, abnormal rhythm, weak pulse, and cardiac arrest. These plants are particularly attractive in winter because their leaves remain green.

Milkweeds, or butterfly weeds, are wildflowers as well as cultivated ornamentals. Some milkweeds contain toxins called “cardenolides.” Signs can begin within hours of plant ingestion and include slow or rapid heart rate, low blood pressure, and arrhythmias. Fresh cardiotoxic plants are generally unpalatable. They are more edible as clippings or baled with hay, but are no less toxic than fresh material.

Venomous snakes native to North America include the pit vipers: rattlesnakes, water moccasins, and copperheads. In Central Kentucky, timber rattlesnakes and copperheads are the most common. Most pit-viper venoms comprise dozens of different components, some of them as yet unidentified. Snakebites in horses most often occur on or near the muzzle and can result in severe swelling and edema. If the nasal passages become so swollen that labored breathing ensues, a tracheostomy (surgically creating an opening through the skin and trachea and inserting a tube to allow the horse to breathe) might be necessary. Bleeding, tissue necrosis (death), and secondary bacterial infection around the bite wound are

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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[®] 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*.^{*} An efficacy trial demonstrated LEPTO EQ INNOVATOR safely helps prevent *L. pomona* infections and urinary shedding.¹ A safety trial showed it was 99.8% reaction-free.^{2,3} To learn more, visit LEPTOEQINNOVATOR.com.

^{*}Currently, there are no vaccines available with USDA-licensed label claims against equine abortions, uveitis or acute renal failure due to *L. pomona*.

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

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

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

Cardiotoxins

common sequelae. Some venoms contain cardiotoxins that damage the heart. Antivenins are available but must be administered in a timely manner and cannot reverse tissue damage that has already occurred.

Many other substances can be cardiotoxic, including a number of additional plants, medications (e.g. xylazine and theophylline), and illicit drugs (e.g. amphetamines and cocaine).

CONTACT: Megan Romano, DVM, veterinary toxicology resident—megan.romano@uky.edu—859/257-6777—UKVDL, Lexington, Kentucky. [UK](#)

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UK Equine Farm and Facilities Expo to be Held June 8



The expo is designed to provide horse farm owners and managers a hands-on event that shows practical solutions for facilities and pasture management.

The UK Ag Equine Programs will host an Equine Farm and Facilities Expo from 3:30 p.m. to 8 p.m. on Thursday, June 8, at New Vocations at Mereworth Farm, 719 Dolan Lane in Lexington. The event is free, and a meal will be provided.

Horse owners and farm managers will have the opportunity to visit exhibitor booths and see a range of equipment and supplies for facilities of all sizes. Specialists from the UK College of Agriculture, Food and Environment will provide instruction about practical aspects of equine operation management including barn design, farm site planning, nutrient intake regulation, and pasture management. Specialists will also staff informational booths, and farm tours will be available.

"The expo provides horse farm owners and managers a hands-on event that shows practical solutions for facilities and pasture management," said Ray Smith, PhD, forage extension specialist in the UK Department of Plant and Soil Sciences. "We appreciate New Vocations hosting this event and

UKVDL Disease Mapping Initiative Featured Map

Rabies 1989-2016

The UKVDL has enhanced its interactive rabies map. Along with updated information for 2016, the map now contains new features that will make it easier for users to pick out specific results and dismiss irrelevant information.

The map, which displays the historical rabies data of Kentucky for the past 27 years, comes from the Kentucky Department of Public Health and is maintained by the UKVDL's epidemiology section.

The previous map displayed data by county. Users could hover over a particular county on the map to see the number of submitted tests or click on the county to see a detailed list of submissions that include test results, date, species, and type of exposure.

The new map not only includes the default results of all submissions but also has the ability to filter results based on species and test result. Instead of having to sift through numerous years of submissions for a specific result or species, users can now refine the map to display only the options relevant to their interests. The inclusion of these new filters could help revolutionize public access to Kentucky's disease information by allowing users to quickly find the results they need.

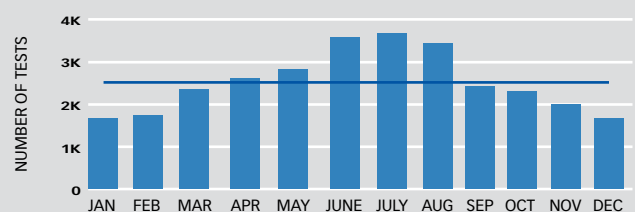
Individuals with questions or concerns about disease outbreaks can contact UKVDL at 859/257-8283. [UK](#)

>Jacqueline Smith, PhD, MSc, BSc, Dipl. AVES, UKVDL epidemiologist and adjunct professor of epidemiology at Lincoln Memorial University, is the founder of the UKVDL Disease Mapping Initiative, a database designed to record all infectious disease cases submitted to the UKVDL.

KENTUCKY RABIES 1989-2016



RABIES TESTING TREND CHART



See each month's featured map at vdl.uky.edu/FeaturedMap

UK Farm and Facilities Expo

opening the farm's gates to the public."

Founded in 1992, New Vocations has grown into the largest racehorse adoption program in the country. Its mission to rehabilitate, retrain, and re-home retired racehorses has led to the placement of more than 6,000 individuals, with over 450 retirees entering the program each year.

Mick Peterson, PhD, UK Ag Equine Programs director, encouraged people to attend for the chance to learn something new about horses or horse facility management.

"The Farm and Facilities Expo provides a unique opportunity to not only think about the efficiency of your property but also to learn more about potential health and safety benefits for both animals and people using the facilities," he said.

While not required, an RSVP is appreciated for food planning purposes. Please email equine@uky.edu to RSVP. For more information about this and other UK Ag Equine Programs events, visit www.ca.uky.edu/equine. **UK**

>Maddie Regis is a marketing major at UK and communications and student relations intern within UK Ag Equine Programs.

Stay Socially Connected to UK Ag Equine Programs

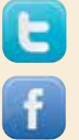
The UK College of Agriculture, Food and Environment has several equine-related social media pages featuring the latest news and event information.

Follow us on Twitter:

UK Ag Equine Programs: @UKAgEquine

UK Maxwell H. Gluck Equine Research Center: @UKGluckCenter

NEW!! UK Veterinary Diagnostic Laboratory: @UKVDL



Prefer Facebook? Like these pages we administer:

UK Ag Equine Programs An overarching framework for all things equine at UK, including the undergraduate degree program, equine-related student organizations, equine research, and outreach activities.

UK Equine Alumni A community established for the alumni of UK's equine programs, including ESMA, graduate students, and club and team members.

UK Maxwell H. Gluck Equine Research Center The Gluck Center's mission is scientific discovery, education, and dissemination of knowledge for the benefit of the health and well-being of horses.

NEW!! UK Veterinary Diagnostic Laboratory 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.

UK Horse Pasture Evaluation Program A service program offered to Kentucky horse farms with the goal of overall improved pasture management.

Saddle Up SAFELY A rider safety awareness program sponsored by UK HealthCare; the UK College of Agriculture, Food and Environment; and community organizations. It aims to make a great sport safer through education about safe riding and horse handling practices. **UK**

Animal Resource Exercise Will Help Responders Prepare for Emergencies

During natural disasters such as hurricanes, tornadoes, floods, and winter storms, animals are vulnerable, and they rely on humans for help. To help humans—specifically, animal first responders—prepare in advance, the UK College of Agriculture, Food and Environment (CAFE) is hosting the Multi-Jurisdictional Animal Resource Coordination Exercise (MARCE) 2017. The virtual exercise for animal responders across the United States will take place July 11-12 and repeated on July 13-14. It will focus on disaster response for pets, livestock, and horses; captive wildlife;

and laboratory animals.

"We are looking forward to this opportunity to enhance responders' knowledge and understanding of how to request resources for animal response from federal, state, and nongovernmental organizations during a disaster," said Andrea Higdon, UK CAFE Emergency Management Systems director. "It's also an excellent way to enhance national, regional, and state partnerships and to challenge partners to coordinate animal response during a disaster."

The exercise is designed to simulate a real-world disaster. Each state will



Animals, including horses, are especially vulnerable during natural disasters such as hurricanes, tornadoes, floods, and winter storms.

Animal Resource Exercise

spend one day being the disaster-affected state and the other day responding to disaster areas' requests. The scenario will push disaster-affected states to reach out to federal and nongovernmental agencies for aid.

The exercise development team will direct logistics from Kentucky while teams from 21 states will participate from their emergency operations centers. On-site personnel will provide states with realistic animal-related issues to address.

"The primary goal of MARCE 2017 is to improve

communication before, during, and after a disaster between state departments of agriculture and state emergency management," Higdon said. "We hope participants will be able to handle requesting animal care resources more efficiently during real-world disasters as a result of the increased collaboration between state, federal, and nongovernmental agencies."

Funding for the training resulted from a cooperative agreement between UK and the USDA Animal and Plant Health Inspection Service.

Visit the MARCE website, marce.ca.uky.edu, for more details, including links to pre-exercise training modules. **UK**

>Aimee Nielson is an agriculture communication specialist with the UK College of Agriculture, Food and Environment.

Upcoming Events

June 8, 3:30 – 8 p.m.

UK Equine Farm and Facilities Expo
New Vocations at Mereworth Farm, Lexington, Kentucky
Free admission and dinner is included. RSVP to equine@uky.edu.

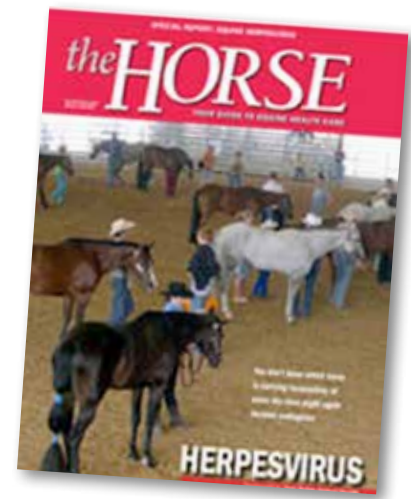
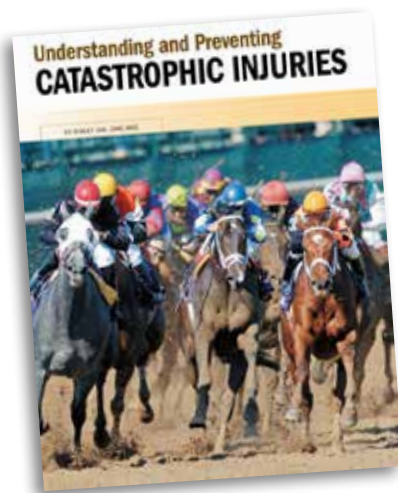
June 29, 4 – 5 p.m.

UK Department of Veterinary Science Equine Diagnostic Research Seminar Series
UK Veterinary Diagnostic Laboratory, Lexington, Kentucky
Josie Traub-Dargatz, DVM, MS, Dipl. ACVIM, of Colorado State University, will present "Evolution of Equine Infection Control Management."

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