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Recent Study Indicates Possible Parasite Drug Resistance

A recent study by University of Kentucky researcher Mary Rossano, MS, PhD, assistant professor in Animal and Food Sciences, suggests that two commonly used dewormers (fenbendazole and moxidectin) might no longer be as effective against small strongyles as once thought. Rossano conducted her study on 15 horses at UK's research farm, but her results mirror those of other, larger studies.



Rossano's study tested the effectiveness of a popular five-day double-dose fenbendazole treatment for reducing strongyle-type fecal egg counts in yearlings. When originally introduced, this treatment was highly effective against adult, developing, and encysted small strongyles. However, Rossano's results indicated this double-dose regimen did not significantly reduce the number of small strongyle eggs in feces. The study also examined average times for reappearance of strongyle-type eggs after moxidectin treatment. Rossano found that while moxidectin did reduce fecal egg counts to zero, the time it took for egg counts to rebound after treatment was shorter than expected—only six weeks. When first introduced, moxidectin suppressed fecal egg counts for 10-12 weeks, or about twice as long.

A similar study published by another UK researcher, Eugene Lyons, PhD, a professor in the Department of Veterinary Science, found that parasite recovery times after horses were dewormed with ivermectin have shortened and seem to be based on the

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larvae growth stage at the time of administration.

Rossano said recent research conducted by Ray Kaplan, DVM, PhD, Dipl. EVPC, associate professor at the University of Georgia's College of Veterinary Medicine, indicated that U.S. resistance is highest in Kentucky and Florida, where large populations of high management status (and, thus, frequently dewormed) horses reside. The other contributing factor to parasite resistance is the mobile nature of horses in the modern world.

"Horses move around and they take their parasites with them. That's how parasites spread," said Rossano.

And so does drug resistance. There are some drugs no longer on the market because they eventually stopped working on equine parasites. The most commonly resistant parasites appear to be small strongyles, but ascarids are

now widely resistant to ivermectin.

Rossano cautioned that the applications of her recent research are limited given the small sample size of horses. "It's a small study—I don't want to draw broad conclusions from it," she said.

She does not recommend that owners immediately rework deworming programs to exclude these drugs, but she does suggest they test their horses' fecal egg counts periodically throughout the year. Farm managers should consider testing all horses once before deworming to identify which ones tend to shed the greatest number of eggs, and retest them two weeks after deworming to see whether the drug is effective on their farm.

Rossano suggested that if a product doesn't reduce egg counts by at least 80%, it is not very effective. If a drug does not work, there is no reason to keep using it. Performing follow-up tests

on some treated horses will also provide information on the egg reappearance time for a dewormer, or the time it takes for the egg counts to rebound. This provides information on how frequently high egg-shedding horses need to be treated. There might be some variability in prevalence of different parasite species and drug resistance across regions, or even operations, which is why testing provides farm managers with the most accurate information.

Rossano also advised owners to target the types of parasites most likely to affect their horses.

"By testing, you will know what parasites are present on your operation, and from there, you can choose an appropriate dewormer," she said. [UK](#)

Natalie Voss is a recent graduate in equine science and management and an equine communications intern for the UK Equine Initiative.

Overseeding Horse Pastures in Central Kentucky

Overseeding horse pastures is a pasture management practice that helps ensure good ground cover, quality grazing, and an aesthetically pleasing pasture in the coming year.

Overseeding consists of planting seed in a field with existing grass cover, to fill in bare patches and thicken the stand. This can be done over the entire pasture, or it can be limited to trouble areas. The best time to overseed is in the fall, when weed competition is low and ideal growing conditions exist for cool-season grasses.

Weed control is an important step in overseeding. While herbicides are an effective way to control weeds, spraying might also hinder young grass

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

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

seedlings and result in a failed establishment. Close mowing or grazing is usually the best weed control method to help seedlings establish.

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Proper seeding method improves the chance of a successful overseeding. The goal is to place the seed ¼-½ inch into the soil and cover it to achieve good seed-to-soil contact. Use a no-till drill for the best chance of success. Landowners also can harrow before and after seeding; however, this method is much less accurate and effective than using a no-till drill. Use a cultipacker or roller after harrowing to help improve the seed-to-soil contact. Frost seeding (spreading forage seed on existing pastures during the late winter or very early spring while the ground is still frozen) is another option. However, the success of this method greatly depends on environmental conditions and, therefore, is not usually recommended.

Allow time for seedlings to establish. Returning horses to an overseeded pasture too soon can wipe out seedlings by grazing or trampling. Ideally, a pasture should have one year of rest after overseeding before heavy grazing resumes; however, seedlings can usually tolerate a few sessions of light grazing. Harvest the pasture for hay after the grass has reached maturity, and before returning the pasture to full grazing. This ensures healthy root establishment before hoof traffic is introduced. If it is not possible for animals to be removed from the pasture for a full year, consider using temporary fencing and overseeding half of a pasture one year, and the other half the next.

The following recommendations increase the chances of a successful overseeding:

Apply any needed lime and fertilizer amendments. An up-to-date soil test will indicate the

WEED OF THE MONTH

Common name: Tall ironweed

Scientific name: *Vernonia gigantea* (Walt.) Trel.

Life Cycle: Warm season

Origin: North America

Poisonous: No

Tall ironweed is distributed widely across the eastern half of the United States and is found in low, damp areas of pastures and roadsides. This tall, upright plant can approach 10 feet under optimum growing conditions, but it more commonly grows to about 5 feet. Tall ironweed is rarely eaten by animals. The leaves are rough and sharply toothed, with small downy hairs on the underside of the leaf. The leaves alternate along the stem and are 2-10 inches long. Tall ironweed reproduces from seeds and buds on the crown of a deep, vigorous taproot. Flowers are reddish to deep purple in color.

Tall ironweed control is possible when herbicides are applied to plants less than 12-15 inches tall that have not been mowed. Effective control also is obtained after plants are mowed and when regrowth is treated with herbicide. Late May through August is the preferred time for herbicide application. Mowing is an effective treatment to prevent seed production. Consult your local Cooperative Extension Service personnel (www.csrees.usda.gov/Extension) for herbicidal control in your area. 

William W. Witt, PhD, a researcher in the University of Kentucky Plant and Soil Sciences department, provided this information.



Tall Ironweed

nutrients needed for both established and growing plants. For more information, contact your local county extension agent or consult the UK publication "Lime and Fertilizer Recommendations" (www.uky.edu/Ag/Forage, under Publications).

Use high-quality seed of an improved variety. Use a variety that has proven to be a top performer under Kentucky conditions. The University of

Kentucky forage testing program tests the survival of cool-season grasses under grazing by horses and reports these findings in Forage Variety Trials (www.uky.edu/Ag/Forage). High-quality seed has high rates of germination and is free of contamination from weed seed. Remember, quality seed will produce a pasture that lasts for years; "cheap seed" will only lead to headaches.

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Plant enough seed. Seeding rates are determined by the grass mixture to be planted. See Table 1 (page 2) for the recommended seeding rates for common forage plants.

Use the best seeding method available. No-till drill seeding is recommended most for overseeding.



Figure 1. Many overseedings fail to establish due to competition from weeds.



Figure 2. High-quality seed is essential for successful overseeding.

Control competition. Close mowing or grazing prior to overseeding in the fall reduces weed competition.

Allow immature seedlings to become established. In addition to limiting grazing of an overseeded pasture, also limit herbicide applications at critical times. Typically, seeding six weeks after spraying and waiting an additional six to eight weeks before spraying again is recommended. Always follow herbicide labels.

Other considerations when overseeding:

- Pastures grazed by pregnant mares should not be planted with endophyte-infected tall fescue. Make sure you are planting endophyte-free tall fescue in broodmare pastures.
- Perennial ryegrass is a short-lived cool-season grass that has exceptionally high seedling vigor and is often used to thicken troublesome areas. If perennial ryegrass is seeded at high rates (greater than 25%) it will outcompete other grasses, which will result in bare spots as perennial ryegrass dies out in two to three years. Perennial ryegrass can be infected with an endophyte similar to that of tall fescue; therefore, only endophyte-free perennial ryegrass should be seeded in broodmare pastures.
- Purchase seed well in advance of overseeding. High-quality seed is in high demand in the fall and might not be available at that time.
- Store seed in a cool, dry area to maintain germination levels. Refrigerators are excellent storage sites if room is available. Always store seed in rodent-proof containers. **UK**

Ray Smith, PhD, forage extension specialist in the University of Kentucky College of Agriculture, provided this information. Assistance was provided by Krista Cotton, BS in animal science, Kentucky Equine Management Internship graduate and pasture evaluation associate.

Horses Needed for Metabolic Syndrome and Laminitis Research

The Equine Genetics research group at the University of Minnesota-College of Veterinary Medicine has collaborated with Bob Coleman, PhD, associate director for undergraduate education in equine science and management and extension horse specialist at the University of Kentucky, as well as Ray Geor, BVSc, MVSc, PhD, Dipl. ACVIM, of Michigan State University, and Nicholas Frank, DVM, PhD, Dipl. ACVIM, of the University of Tennessee, to investigate the disease occurrence and genetics of equine metabolic syndrome (EMS).

Equine metabolic syndrome is a devastating condition characterized by obesity and/or regional adiposity (cresty neck), insulin resistance, and laminitis. Certain horses seem to be predisposed to EMS and are often referred to as "easy keepers." These horses are very efficient at utilizing calories and often require a lower plane of nutrition than other horses to maintain body weight. The difference in EMS susceptibility among horses managed under similar conditions is likely the

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result of a genetic predisposition.

The goal of this investigation is to better understand the roles breed, gender, age, environment (diet and exercise), and genetics play in EMS. The success of the study depends on the collection of data from as many horses with EMS as possible; therefore, assistance of horse owners and their veterinarians is critical. To identify the underlying genetic susceptibility to EMS, genetic marker information will be compared between horses with EMS and non-EMS control horses. The long-term goal is to use genetic markers for EMS to detect horses susceptible to EMS and laminitis before they develop clinical signs. Once susceptible horses are identified, management practices can be initiated to better protect them from developing the disease.

Participation in the study involves three steps:

1. The owner fills out a brief 10-question online survey available at www.cvm.umn.edu/equinegenetics/EMS/home.html and will be notified within a week if his or her horse is deemed an appropriate study candidate.
2. If the horse is selected as a potential candidate for the study, the owner will be sent a link to a second online survey requesting additional information about the horse and his management, along with information about another horse on the property not suspected of having EMS to serve as a control. An ideal control horse will be of similar age and breed, have no history of laminitis, not be considered overweight, and not have signs of equine Cushing's disease (delayed

shedding of hair coat, increased drinking/urination). The owner also will be asked to submit several simple body measurements and digital photos of both horses.

3. Within a few months of completing the second survey, owners of horses selected for inclusion in the genetic study will be asked to work with their veterinarians to provide blood samples, which will be analyzed free of charge and include insulin and glucose, adrenocorticotrophic hormone (ACTH), triglycerides, and nonesterified fatty acid (NEFA) concentrations (both the owner and veterinarian will receive notification of the results). A portion of the blood sample will be used for DNA isolation and stored for genetic research. Owners will also be asked to submit feed, hay, and pasture samples, which also will be analyzed free of charge.

Horse owners that assist in the project will provide information essential to further understanding EMS and ultimately determine ways to better

REMINDER: APPLY NITROGEN TO HORSE PASTURES IN THE FALL

A story published last year suggested that forage stand density of cool-season horse pastures in Kentucky can be improved with nitrogen application. For more information, please visit: www.TheHorse.com/14783.

manage and treat horses suffering from the condition. To learn more about the equine metabolic research project and how you can get involved, visit: www.cvm.umn.edu/equinegenetics/EMS/home.html. UK

Submitted by Bob Coleman, PhD, associate director for undergraduate education in equine science and management and extension horse specialist at the University of Kentucky, on behalf of the University of Minnesota-College of Veterinary Medicine.

GREENING THE GAMES

Over the last several months, Green Friends of the Games has worked diligently to improve different areas of the Kentucky Horse Park before the start of the 2010 Alltech FEI World Equestrian Games. Some of the greening projects include improving water quality in and around the park, placing recycle bins around the park, and planting native Kentucky vegetation and trees.

"We have a lot of projects, and we're just glad to have made the Games as green as possible," said Carol Hanley, EdD, associate director of UK's Tracy Farmer Institute for Sustainability and the Environment.

On May 10, as part of the Cane Run Watershed restoration project, more than 25 volunteers began planting a buffer zone composed of native vegetation, perennials, tall grasses, and trees along the stream beside the original indoor arena. The project was then completed by College of Agriculture extension staff.

The purpose of the streamside buffer zone is

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to filter water runoff before it reaches the stream, which will improve the water quality, Hanley said. The buffer zone also minimizes soil erosion and provides a habitat for wildlife to thrive.

Along with water quality improvement at the park, measures for better recycling are also under way. The addition of recycling bins around the park will allow visitors the opportunity to recycle their plastic bottles, programs, and other recyclable materials. Composting and food waste collection is also part of the waste reduction plan. All plates, cups, utensils, napkins, and straws distributed through concessions will be made of compostable materials.

The recycling bins were paid for with money raised during The Green Friends of the Games fundraising event in May. The bins will remain at the park once the Games are over.

As part of another project, area hotels are encouraged to compost food waste and install rain gardens on their premises. A list of green hotels, such as the Marriot Griffin Gate in Lexington and the Boone Tavern Hotel in Berea, will be available at www.ise.uky.edu/node/76.

World Equestrian Games attendees also will be able to purchase carbon offsets from the forests of Eastern Kentucky to help reduce their travel emissions. This project is being implemented through the Mountain Association for Community Economic Development Inc. (MACED), Rural Action, and Appalachian Sustainable Development.

According to Irene DeLuna, program associate for MACED's Forest Opportunities Initiative,



The streamside buffer zone at the Horse Park was constructed to improve water quality.

"Nearly 90% of forestland in the region is privately owned, and less than 5% is under some sort of management plan. This project targets private landowners to bring their property under sustainable management for the long-term storage of

atmospheric carbon and for the protection and enhancement of the forests for biodiversity, water quality, and wildlife habitat. Currently there are 41 landowners covering nearly 26,000 acres, with another 52 landowners actively pursuing the enrollment of around 30,000 acres. The Appalachian Forest offsets offer a greater value than many other offsets, as Central Appalachia is a particularly important region in the climate change debate."

To calculate your carbon footprint and purchase Appalachian Forest offsets online, visit www.appalachiancarbonpartnership.org/offset.asp. For more information on making the Games green, visit www.ise.uky.edu. **UK**

Alexandra Harper is a UK equine intern and recent graduate with a BA in Communication.

SURVEY RESULTS SHOW NEED FOR HORSE SAFETY CAMPAIGN

According to a recent UK HealthCare survey, 60% of Kentucky horseback riding respondents did not wear safety apparel the last time they rode.

"Many riders who have been injured say that they feel that those injuries were preventable," said Fernanda Camargo, DVM, PhD, equine extension professor at the University of Kentucky. "Wearing a helmet and paying attention to what your horse is communicating to you are two of the primary ways you can prevent injuries."

Survey results also showed that out of the

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100 respondents, 31 had been injured at least once in the past three years from handling or riding a horse. Out of those 31 respondents, 70% of them thought their injury could have been prevented.

"The survey conducted by this campaign showed that the majority of people who rode recently didn't wear any protective gear, like a certified and properly fitted helmet," explained Camargo. "One of the aims of this important campaign is reaching out to riders of all ages and abilities to educate them about how to stay safe while riding and handling a horse. It can also serve as an important reminder to many of us who have years of experience with horses, but might become lax in our everyday behavior."

The campaign's website showcases booklets, produced in conjunction with dozens of participating equine organizations, that feature educational information on horse-transmitted diseases, horse-related injuries, and general horse and rider safety information. To visit the campaign website, share tips about experiences involving horse and rider safety, and read the blog hosted by Camargo, go to www.saddleupsafely.org. 

Julie Meador is an information specialist with UK HealthCare.



University of Kentucky Hosts Successful International Symposium on Equine Reproduction

More than 300 equine reproduction specialists from 31 countries convened recently at the University of Kentucky for the 10th International Symposium on Equine Reproduction (ISER). The invitation-only meeting is held every four years; the next one is slated to be held in New Zealand in 2014.

"This conference is a must for those who want to stay up-to-date on cutting-edge science in equine reproduction. We had a wonderful blend of students, young scientists, and established researchers," said Ed Squires, PhD, Dipl. ACT (hon.), chair of the International Equine Reproduction Symposium Committee, the organizing body of the ISER. Squires is also the executive director of the UK Gluck Equine Research Foundation and the director of advancement and industry relations at the Gluck Center.

The first international symposium was held in 1974 in Cambridge, United Kingdom. The purpose of the meeting was to provide a forum for biologists and veterinarians interested in equine reproduction to exchange and argue their views, review the present state of knowledge of the subject, produce guidelines for future research, and foster international friendship and collaboration.

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The meeting continues to bring together scientists and veterinarians from around the world and provides a forum for exchanging information on clinical and basic research aspects of equine reproduction. The symposium's scientific meeting covered experimental or clinical research in four areas: the stallion, conception and early development, the nonpregnant mare, and the pregnant mare and perinatology.

The symposium was also comprised of 164 short communications presented or displayed via poster presentations. Proceedings of the 10th International Symposium on Equine Reproduction were published as extended abstracts in a supplement of the journal *Animal Reproduction Science*.

"In conjunction with having a great scientific meeting, we were also able to showcase the Kentucky horse industry and culture to our national and international guests. They seemed particularly impressed with the Kentucky Horse Park, location of the upcoming Alltech FEI World Equestrian Games," said Walter Zent, DVM, local chair of the international symposium, chair of the Gluck Equine Research Foundation, and veterinarian at Hagyard Equine Medical Institute in Lexington.

The meeting kicked off with a welcome barbeque on UK's campus July 25. Jim Tracy, the university's vice president for research, gave the welcoming address, and the following morning UK President Lee T. Todd Jr. welcomed attendees to the campus. Other special presentations throughout the meeting included remarks from two co-honorary chairs, Bill Pickett, PhD; and Douglas Mitchell, BSc, MRCVS, Dipl. ACT; and an invited lecture by W.R. "Twink" Allen, BVSc, PhD, ScD, DESM, MRCVS, titled "Sex, Science, and Satisfaction: A Heady Brew."

Although the International Symposium on Equine Reproduction was invitation-only, two one-day meetings were open to the public—a Practitioner Day program July 25 and a Farm Managers' Day program July 31.

More than 90 practitioners attended the Practitioner Day program, during which 11 speakers covered topics including infertility in stallions, hormonal therapy in mares, early pregnancy, placentitis, and frozen semen.

Thirty-five farm managers and owners from Kentucky and surrounding states attended the Farm Managers' Day program. International authorities in equine reproduction presented the program and provided a brief overview of the four sections of the symposium's scientific meeting.

For more information on the International Symposium on Equine Reproduction, visit www.iser-online.org. 

Jenny Blandford is the Gluck Equine Research Foundation Assistant at the Gluck Center.

NEW KENTUCKY EQUINE NETWORKING ASSOCIATION

The Kentucky Equine Networking Association (KENA), open to both equine professionals and horse owners, will launch at a dinner and educational meeting on Sept. 16 at Spindletop Hall in Lexington, Ky.

The new group, focused on the Kentucky show and pleasure horse community, is charged with the mission of providing an educational and social venue for equine professionals and other horse enthusiasts from all disciplines. KENA will provide the opportunity for attendees to share ideas and business strategies and to obtain up-to-date knowledge on horse and farm management.

Supported by the University of Kentucky Equine Initiative and the Kentucky Horse Council, the Sept. 16 educational topic will be "Threats to American Equestrianism," presented by Col. Walter Herd, a horseman, retired Army colonel, member of the Kentucky Horse Council board of directors, and strategic consultant.

"By creating this group, area equestrians demonstrate recognition of the importance of the horse show and pleasure industry to Kentucky's horse economy," said Ed Squires, PhD, Dipl. ACT (hon.), executive director of the UK Gluck Equine Research Foundation and the director of advancement and industry relations at the Gluck Equine Research Center. "The UK Equine Initiative looks forward to working with this group in support of our educational and research mission."

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Madelyn Millard, board president of the Kentucky Horse Council, said, "Unifying the many segments of the horse industry has always been a key goal of the Kentucky Horse Council. The establishment of KENA is the first step in consolidating our Kentucky industry into one unified voice."

The Kentucky Equine Networking Association

welcomes all Kentucky horse owners and professionals to attend the Sept. 16 event. For details and reservations, visit www.kyequinenetwork.org. A brochure about the organization can be found at www.kentuckyhorse.org/attachments/wysiwyg/3/New%20KENA%20Flyer2.pdf. **UK**

Contributed by Ginny Grulke, Kentucky Horse Council executive director.

WEST NILE VIRUS IN KENTUCKY

The first case of West Nile virus (WNV) in a Kentucky equid this year was reported on Aug. 20. The diagnostic testing was conducted by the University of Kentucky's Veterinary Diagnostic Laboratory.

On Aug. 12, the 5-year-old Thoroughbred mare in Taylor County began showing signs including hypersensitivity to touch and mild ataxia (stumbling and incoordination). She hadn't been vaccinated against WNV, and she was referred to an area equine hospital where she "responded favorably to treatment with full recovery anticipated," according to Rusty Ford, equine programs manager at the state veterinarian's office.

West Nile virus is transmitted by the bite of an infected mosquito. Clinical signs can include ataxia, depression or apprehension, weakness of limbs, partial paralysis or the inability to stand, muscle twitching, or death. **UK**

The screenshot shows the homepage of TheHorse.com. At the top, there is a navigation bar with links for Home, Topics, News, Videos, Free Reports, Resources, Free Horses, Blogs, Podcasts, Newsletters, and Subscribe. Below the navigation bar, the main content area features a large heading: "Video Series Features UK Experts on TheHorse.com". To the right of this heading is a box titled "Upcoming video segments include:" which lists several topics: "HOW TO MEASURE YOUR HORSE AND ESTIMATE HIS WEIGHT", "THE HORSE'S SKELETON: FORELIMBS", "WHAT'S YOUR HORSE'S BODY CONDITION SCORE?", "THE HORSE'S SKELETON: SKULL/TEETH", "HOW TO SAMPLE HAY FOR ANALYSIS", "THE HORSE'S SKELETON: HINDLIMBS/PELVIS", "HOW TO CLEAN AND DISINFECT WATER BUCKETS/TROUGHS", "HOW TO TAKE YOUR HORSE'S VITAL SIGNS", "HOW TO CLEAN/DISINFECT EQUIPMENT", and "HOW TO CLEAN LEATHER GOODS/TACK".

Video Series Features UK Experts on TheHorse.com

TheHorse.com and the University of Kentucky have partnered to provide hands-on educational videos to website visitors. Three videos are currently posted online: [Pasture Weeds: Most Toxic](#); [Weed Management: This-tles](#); and [The Horse's Skeleton: Overview](#).

Videos will be posted at www.TheHorse.com every other week through the completion of the Alltech FEI World Equestrian Games, then weekly until all videos have been posted. **UK**

Holly Wiemers, MS, is communications director for the UK Equine Initiative.

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YOUR GUIDE TO EQUINE HEALTH CARE

Safeguards for International Shipment of Horses

Planning a trip abroad? Grab your passport, buy a ticket, and pack your bags. Whoa—not if you are a horse.

When a horse crosses an international border, the country the horse is traveling to requires proof that the horse won't threaten the health of the resident equine population. The University of Kentucky Maxwell H. Gluck Equine Research Center is often sought for research-based information that will define appropriate procedures to safeguard horse health. This research is very important, because horses travel more than any other animal species (for competition, breeding, and change of ownership, among other reasons).

The movement of horses internationally is underscored with the upcoming Alltech FEI World Equestrian Games (WEG) Sept. 25-Oct.10 at the Kentucky Horse Park (KHP), when about 750 horses representing 62 countries will ship to the Bluegrass. This isn't the first event for which many horses have been shipped to the United States; hundreds of horses shipped into Georgia for the 1996 Olympic Games. One of the most pressing issues, then and now, is equine piroplasmiasis, a disease of *Equidae* (horses, donkeys, mules, and zebras) caused by two parasitic organisms, *Theileria (Babesia) equi* and *B. caballi*. The blood-borne disease is usually transmitted to horses by certain tick species, but it can also be spread via contaminated needles. But since the disease is

transmitted only by exposure to infected blood, it's easier to control than many other diseases.

Once a horse contracts piroplasmiasis, clinical signs appear in seven to 22 days. Cases can be mild or severe, depending on the amount of the organism in the horse's blood. An acute case can have fever, anemia, jaundiced mucous membranes, a swollen abdomen, and labored breathing. A roughened hair coat, constipation, and colic might also be seen. Milder cases appear weak and inappetent. Up to 20% of infected horses can die and survivors become carriers—they carry the parasite even though they aren't ill. They can, however, pass it to other horses via ticks that bite first the infected horse, then an uninfected one.

Piroplasmiasis could have been a major roadblock in bringing the WEG to Kentucky. Since the disease needed thorough evaluation, WEG organizers asked Gluck researchers for advice. Together with Rusty Ford, Kentucky Department of Agriculture's equine programs manager in the state veterinarian's office, they studied the problem.

"Helping get research-based answers is the hallmark of a land grant university; so is teamwork," said Nancy Cox, PhD, associate dean for research and director of the Kentucky Agriculture Experiment Station. "The entomologists and veterinarians that teamed with our partner state agency worked to safeguard horses from all over the world, as well as those in Kentucky."

Lee Townsend, PhD, a professor of entomology at UK, conducted surveys of ticks at the KHP. The research provided valuable information, and a follow-up survey was recently conducted leading into the Games. The outcome of these investigations indicated that the risk of equine piroplasmiasis being transmitted at the Horse Park was minimal. Beyond that, the American dog tick, which can serve as a vector of equine piroplasmiasis, becomes dormant in the month of September.

Ticks are found in tall grass and undergrowth. So as an effective way to avoid ticks at the Horse Park, facilities management will keep grass short in areas where horses will compete.

Equine infectious disease researcher Peter Timoney, MVB, PhD, FRCVS, Frederick Van Lennep Chair in Equine Veterinary Science at Gluck, said, "There are large economic risks" if countries do not enforce regulations. But the regulators need solid research on which to base their regulations.

The USDA and state regulators worked with the Gluck Center and the department of entomology to formulate safeguards based on risk assessment that allow more freedom of movement of participating horses. Horses testing positive for piroplasmiasis are given a 90-day temporary entry permit and kept separate from horses that are negative for antibodies to either causal agent of equine piroplasmiasis. Most of the international horses will remain in Kentucky less than 90 days. [UK](#)

Diana Jividen is an editorial officer in Agricultural Communications Services at UK.

UK Equine Initiative Participates in Horse Mania

On the corner of Cooper and Nicholasville Roads in Lexington, Ky., stands one of Lexington's 89 Horse Mania 2010 horses. Affectionately called "Big Blue," the equestrian- and College of Agriculture-themed horse was brought to life by artist Jennifer Conrad-Barber and "purchased" by a syndicate of University of Kentucky faculty, staff, students, and stakeholders on behalf of the Equine Initiative. On Dec. 11, "Big Blue" will be auctioned and proceeds will support local charities and Lexington's developing public art program.

For more about Horse Mania 2010, visit www.horsemania2010.com.



Funding for the UK Equine Initiative horse was made possible by the following syndicate:

Majority shareholder: Marci Hicks

Triple Crown: Ronda & Craig Carter, Nancy Cox, and Robert & Susan Harmon

Win: Lowell & Joan Bush, Dan Fick, Lori Garkovich, Gloria Gellin, Laurie Lawrence, James & Kathleen MacLeod, Lesley Oliver, Michael & Jeanne Owens, Scott Smith, Holly & Bryan Wiemers, and Bill & Mary Witt

Place: Equine Initiative Agents Working Group and Keith & Jill Stowe

Show: Fernanda Camargo, Rhonda & Kevin Hagan, and Bob Perry

UPCOMING EVENTS

Sept. 9, Power of the Horse Reception, benefiting the Race for Education and the University of Kentucky Equine Initiative, at the University of Kentucky Art Museum.

Sept. 15-18, College of Agriculture Roundup at the Good Barn.

Sept. 16, Kentucky Equine Networking Association Dinner, "Threats to American Equestrianism," presented by Col. Walter Herd. Registration deadline is Sept. 1, \$26/person. Register: www.kentuckyhorse.org/attachments/calendar-events/466/KENA-Reg-Form.pdf.

Sept. 25-Oct. 10, Alltech FEI World Equestrian Games at the Kentucky Horse Park.

Sept. 30, 4 p.m., Department of Veterinary Science Equine Diagnostic Research Seminar Series. Natasha Werpy, DVM, Dipl. ACVR, assistant professor at Colorado State University, will speak about imaging-modality approach at the Gluck Center.

Oct. 2, University of Kentucky Robinson Center Mountain Ag Field Day, Jackson, Ky.



**HORSES ARE BUILT TO COMPETE
WITH OTHER HORSES.
NOT PARASITES.**



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