

Environmental Best Practices for Horse Owners

Managing horses can be both rewarding and challenging. Horse owners often struggle to balance their horses' needs with environmental concerns, while remaining within their farm's budget. In the United States farmers must comply with both federal and state regulations concerning agricultural sediment, pathogens, and nutrient pollution to the air and water. Fortunately, researchers have determined a set of best management practices (BMPs) that are the most effective, practical, and economical means of reducing and preventing pollution. BMPs not only create cost savings, but they also can increase animal welfare and facilitate proper farm management.

In this article we will list a few best management practices beneficial to

owners, horses, and the environment. Usually owners do not need to apply BMPs to the entire operation but can install them in areas with the highest potential for environmental pollution, especially those areas that could affect surface or groundwater.

Streams and Waterbodies

Limiting horse access to streams and riparian areas can greatly reduce pollutant loads to surface and groundwater.

Stream Crossings Implementing a stream crossing with exclusion fencing will improve water quality as well as reduce nutrient, sediment, pathogen, and organic matter loads in streams. Limiting foot and equipment traffic around these areas also helps reduce farmwide erosion. Owners can design stream crossings for use with farm equipment and/or to provide horses with easy pasture access. This improves grazing distribution while reducing the likelihood horses sustain injury while walking to difficult-to-reach pastures.

Riparian Buffer Zones A riparian buffer is the transitional zone between the aquatic ecosystem and upland areas bordering a stream or other body of water. Maintaining and enhancing vegetated riparian buffers provide landowners with reduced erosion and flood damage from the slowing of water, increased farm aesthetics from attractive vegetation and shade, water temperature regulation that limits algae growth and improves fish habitat, and natural filtration of contaminants from farm runoff. Wide buffers (>160 feet) tend to remove nitrogen from water most efficiently, but a smaller buffer of

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20 feet on each streambank at least provides streamside protection and some contaminant filtering.

Paddocks and Pastures

Allowing horses to behave as they would naturally can lead to overgrazing, congregation in sensitive areas, mud buildup, vegetation loss, soil compaction, and pasture area erosion.

Grade Stabilization Structure If you struggle with gully erosion on your farm, maintaining paddock vegetation is the best way to control further erosion. Owners sometimes place roll bales in gullies, hoping to keep soil in place and stop further erosion. However, this practice actually worsens erosion, as horses are attracted to the gully to eat the hay. To free up this unusable land and to prevent injuries to



Riparian buffer zones provide streamside protection and contaminant filtering.

Environmental Practices

horses, construct a grade stabilization structure to manage the gully. These structures stabilize gullies by controlling water flow and absorbing stream energy, but gradually decrease the necessary elevation change between the channel (former gully) and the receiving surface water body to prevent erosion. A typical structure accomplishes this via a series of closely placed posts and cattle panels to hold large rocks in place.

High Traffic Pads and Drylots

Horses that congregate around feeding and watering areas can create mud, increase soil compaction, eliminate desired vegetation, and lead to increased weed infestation. To reduce these problems in high-traffic areas, horse owners should install hardened surfaces and use rotational feeding and watering practices to reduce pasture damage and improve horse health. Horses exert additional energy walking through mud, which can increase feed costs. Constructing drylots and hardened surfaces in high-traffic areas can help maintain forage, decrease mud and erosion, reduce the number of internal parasite larva hatching from feces, and allow tractors and other farm equipment to enter feeding areas without causing rutting and soil damage.

Rotational Grazing Rotational grazing moves horses from one paddock to another to optimize horses' foraging diet and to allow forage regrowth. Compared to continuously grazed systems, rotational grazing improves plant diversity and regrowth speed, prevents erosion, filters runoff due to adequate vegetative growth, and can improve herd health.



Grade stabilization structures help control erosion.

With improved forage quality and reduced mud created by constant foot traffic, owners might see reduced supplemental feed and medication costs. Move mineral supplements, feeders, and shelters periodically to redistribute equine traffic throughout a paddock, thus avoiding troublesome manure accumulation.

Shade Structures Providing your horses with adequate shade helps prevent sunlight- and heat-related illnesses. Horses generally prefer shade from trees rather than constructed structures. Trees help block incoming solar radiation, and moisture evaporating from their leaves helps cool surrounding air. If there are not enough trees for the number of horses, animals will congregate densely, eroding the soil and exposing roots, which can damage or kill the trees. To avoid this owners can build portable, low-cost shade structures with a 70% or greater occluded cloth that are moved easily within and between pastures as part of a rotational grazing system. The ability to move these structures facilitates manure cleanup and lessens soil compaction and/or mud creation. Research indicates that a well-designed portable shade structure can reduce total heat load by 30 to 50% and should be placed in a north-south orientation to help the area remain dry.

Barn and Work Areas

Several facility management practices can reduce off-site movement of pollutants, including:

Pervious concrete bathing and drainage areas Individuals who exercise, show, and sell horses frequently bathe their animals. Bathing areas should be equipped with sufficient traction for horse hooves but also should avoid pathogens, bacteria, detergents,

pesticides, urine, manure, and other suspended solids from wastewater runoff, which can pollute surface and groundwaters. Pervious concrete might be the best alternative surface material for such horse facilities because it infiltrates wash water, reduces the splashing of ponded or puddled water, and provides a habitat within the substrate matrix for beneficial bacteria to thrive. These bacteria are capable of destroying harmful pathogens found in animal waste. Wash water infiltrating the pad and substrate can be discharged through a vegetative filter strip or other treatment system to further slow and filter water contaminants.

Composting We all dread the loss of a horse but it is an unfortunate reality. Many carcass disposal options exist, but one of the best ways to make good of the situation is through composting. Composting does require time and space, and owners might need some specialized equipment. Composting can provide horse owners with a convenient method for disposing of animal mortalities, while providing a valuable soil amendment. Owners can also store and reuse the compost material to decompose other mortalities.

Barns and housing facilities drainage

If water runs onto your farm from upland sources, implement diversion practices to keep runoff clean. Owners can create levees, dikes, drainage swales, and diversion ditches cheaply to carry water away to a vegetated filter strip or drainage way. Placing gutters on the sides of buildings diverts clean rainwater away from horse handling areas and prevents the pollution of this otherwise clean and usable water.

To avoid polluting the environment, horse owners need to identify pollution sources on their farms and implement best management practices. More information about this and many other topics can be found within the College of Agriculture's publications at www.ca.uky.edu/agcomm/pubs.asp. **UK**

>UK Biosystems and Agricultural Engineering faculty members Stephanie Mehlhope, MA, Sarah Wightman, BS, and Steve Higgins, PhD, Director of Animal and Environmental Compliance for the Kentucky Agricultural Experiment Station, provided this information.



A portable shade structure.

2012 Kentucky Equine Survey Begins June 25

Beginning June 25, horse owners across Kentucky might be one of 15,000 “horseholds” selected by the USDA National Ag Statistics Service (NASS) to contribute critically important information about Kentucky’s horse industry. Those receiving a survey in the mail are urged to complete and return the information promptly.

The University of Kentucky’s (UK) Ag Equine Programs and the Kentucky Horse Council (KHC) have partnered on the 2012 Kentucky Equine Survey, a statewide comprehensive survey of all horse breeds. The study has been undertaken in conjunction with the University of Louisville’s (UofL) Equine Business Program and the NASS Kentucky field office. The last comprehensive study of this type was conducted in 1977.

“The survey team has been working diligently to set the necessary foundation for a successful launch of the Kentucky Equine Survey,” said project lead Jill Stowe, PhD, assistant professor in agricultural economics at UK. “We are excited that the time has arrived, and we look forward to a strong response by Kentucky’s horse operation owners.”

The purpose of the study is to acquire an accurate inventory of all horses in the state by breed and use and to describe their economic impact at the farm and community levels through races, shows, trail rides, and other events. Information relating to capital investments on the farm and through farm equipment is also requested to better assess the Kentucky horse industry’s full economic value. Horses being inventoried include those on farms owned by the horse owner as well as those stabled at equine boarding and breeding facilities.

The survey will collect details about the breeds of horses in Kentucky, their uses, and their estimated value. Other economic questions include the number and value of horses sold or purchased in 2011. Approximate horse care expenses are also requested, including wages, taxes paid, feed, bedding, health, supplies, farrier, insurance, boarding, and training fees.

All farm and individual names are confidential to NASS and will not be

available to any state or federal agency, nor to UK, UofL, or KHC. Summary results from the survey are expected in December 2012, with in-depth economic impact results becoming available during early 2013.

“We are excited that the time has arrived, and we look forward to a strong response by Kentucky’s horse operation owners.”

Jill Stowe

The study has been partially funded by a grant to KHC from the Kentucky Agriculture Development Fund (KADF), as well as from UK’s College of Agriculture, KHC, and equine industry supporters. UK and KHC are in the final stages

of soliciting matching funds from Kentucky’s equine industry, which are required for a portion of the KADF grant funds. Early supporters toward this effort included the Kentucky Thoroughbred Farm Managers Club, the North American Equine Ranching Information Council, the Kentucky Quarter Horse Association, and the Kentucky Thoroughbred Association/Kentucky Thoroughbred Owners and Breeders. Alltech, Equine Medical Associates, Farmers Feed Mill, Keeneland, Northern Kentucky Horse Network, Sierra Farm, and Webster Pharmaceuticals have provided or pledged additional financial support. Additionally, KHC continues to raise money through a grassroots campaign where private horse owners donate \$10 on behalf of their horse(s).

More information about the 2012 Kentucky Equine Survey can be found at www2.ca.uky.edu/equine/kyequinesurvey or on KHC’s website at www.kentuckyhorse.org. **UK**

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MASTHEAD

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Reproductive Tract Bacteria Studied

breeders who use live cover can breathe a sigh of relief: While live cover breeding facilities sometimes face pathogenic bacteria outbreaks, results from a study led by University of Kentucky PhD student Katheryn Cerny demonstrated bacteria on stallions' external genitalia does not affect stallion or mare fertility.

The study's purpose, explained Cerny, was to investigate the occurrence of potentially pathogenic bacteria on stallions' external genitalia to determine if bacteria present on the stallion impacts pregnancy and pregnancy rates. She also studied the occurrence and type of bacteria in the mare's uterus after live cover breeding to stallions with or without positive bacterial cultures.

Two Central Kentucky Thoroughbred farms (15 stallions and 206 mares) participated in the study during the 2010 and 2011 breeding seasons. The research team collected samples for bacteriological evaluation from the stallions' prepuce and post-ejaculate urethra. In mares they took uterine swabs 18 to 36 hours after cover. They also tracked mares for pregnancy at Day 14 and pregnancy loss after Day 14.

Culture results showed 22.4% of stallions tested positive for potentially pathogenic bacteria, with *Streptococcus zooepidemicus* accounting for more than

WEED OF THE MONTH

Common name: Broadleaf Plantain

Scientific name: *Plantago major* L.

Life Cycle: Perennial

Origin: Eurasia

Poisonous: No



Broadleaf plantain is widespread across North America and is a commonly occurring plant in all types of pastures and rough turf. It readily survives overgrazing and compacted horse pastures, especially when rainfall is limited. Leaves can grow up to four inches wide and two to 10 inches in length, depending on the growing conditions. Each leaf has three to seven prominent veins. The flower stalk usually grows 10-20 inches high, and the flower-containing spikes can measure from six to 10 inches. Both flowers and fruits bloom from May through September or October. Broadleaf plantain is spread primarily by seeds.

This weed has a fibrous root system and an underground root crown from which leaves and flower stalks arise. This structure allows broadleaf plantain plants to survive mowing several times during the year. Broadleaf plantain is relatively easy to control with several herbicides; however, mowing in pastures is generally ineffective. Hoeing or digging the taproot (the main root that grows vertically downward) is successful and should be done before the seed heads are formed. Consult your local [Cooperative Extension Service](#) personnel for herbicidal control in your area. **UK**

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

half (51.1%). In mares, 29.2% of uterine cultures tested positive, the vast majority also with *S. zooepidemicus* (90.9%). Cerny determined, however, that these positive bacterial culture results did not impact breeding. "This study found that there was no difference in pregnancy rates between mares bred to a stallion that had a culture positive for potentially pathogenic bacteria compared with mares bred

to a stallion that had a negative culture," she explained. "Also, the bacteria that was cultured from the uterus after breeding was not likely to be the same bacteria that was found on a positive-culture stallion at the time of breeding."

These results call into question the practice of routine cultures of stallions and post-breeding treatment of mares, Cerny noted. "Future studies should be

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Reproductive Tract Bacteria

directed at investigating the benefits of post-breeding treatments administered to all mares," she said. "Identifying susceptible mares and treating accordingly should therefore be a priority. Additionally, there is a concern for the development of antibiotic resistance when these practices are implemented. Studies have found that some bacteria have increased resistance to one or more antibiotics. These findings

have been population-dependent, but with the increased use of intrauterine antibiotic infusion in Central Kentucky, the risk of increasing antibiotic resistance is a concern and a call for future research."

Cerny completed her MS in equine reproduction in the spring of 2012 in the Gluck Equine Research Center's Department of Veterinary Science under the guidance of Ed Squires, PhD, Dipl. ACT (hon.), director of UK Ag Equine Programs and executive director of the UK Gluck Equine Research Foundation. She

is currently working on a PhD in reproductive physiology in the Department of Animal Science with Phillip Bridges, PhD. She will present the abstract of this study, "Presence of Bacteria in the Reproductive Tract of Healthy Stallions and its Relation to the Fertility of Mares," at the August 2012 Society for Theriogenology conference in Baltimore, Md. **UK**

>Natalie DeFee Mendik is an award-winning freelance journalist with three decades of horse experience.

Grazing Management During Drought

Much of Kentucky has received little rainfall since spring began, but the drought has hit Western Kentucky exceptionally hard, with some cities 8 and 9 inches below normal rainfall totals. With some of the state's historically driest months ahead, good pasture management is critical for livestock producers, said forage extension specialists from the University of Kentucky (UK) College of Agriculture.

One of the easiest things producers can do to ensure their animals get the most use out of their forages is to practice rotational grazing. In a rotational grazing system livestock graze in one area for a limited time before being moved to another area. This gives forages time

to recover from grazing and ensures the animals use a greater percentage of the available forage.

"During a drought we can't afford to waste pasture, and rotational grazing permits us to use more of what we grow and waste less," said Garry Lacefield, UK forage extension specialist.

Many of Kentucky's pastures are full of cool-season grasses including tall fescue, orchardgrass, and Kentucky bluegrass. These pastures are the least productive during hot, dry weather. If producers install some warm-season perennial grass pastures into their rotational grazing system, it can help ensure their livestock have quality forages during the summer months. While it might be too late to

install these grasses this year, producers might want to consider establishing them in the future.

Another option for producers is to incorporate pastures containing alfalfa or alfalfa-grass mixes into their grazing system. Alfalfa tends to have a deep root system, which makes it more drought-tolerant than other cool-season legumes and grasses. Alfalfa also continues to produce while other cool-season grasses go dormant during periods of extreme drought, Lacefield said.

Bermuda grass is a good warm-season option for pastures in areas of the state where Bermuda grass will grow, said Bob Coleman, PhD, PAS, associate director for undergraduate education in equine science and management and extension horse specialist.

Additionally, Coleman recommends horse owners remove horses from pastures when they have grazed the grass down to 4 inches. If regrowth doesn't reoccur in 21-28 days, he recommends horse owners designate a drylot or sacrifice area to feed horses in until the pastures recover to 8 inches or more. While the sacrifice area might not recover this growing season, it should be a small area for horse owners to renovate in the fall.

UK extension publications on rotational grazing, summer annuals, and extending the grazing season are available under the publications section on the UK forage website, www.uky.edu/Ag/Forage. **UK**

>Source: Modified UK College of Agriculture news release. Katie Pratt is an agricultural communications specialist within UK's College of Agriculture. Bob Coleman, PhD, PAS, is associate director for undergraduate education in equine science and management and extension horse specialist.



GOCF: NISTESKI/PHOTOS.COM

Designate a drylot or sacrifice area for feeding horses until pastures recover.

The Older Horse: An Immunological Perspective

In recent years there has been a shift in the U.S. horse population, with an increasing percentage (20-30%) of aged horses (≥ 15 years). Many of these older horses remain actively involved in equestrian sport competitions, are still being bred, or serve as companion animals. Thus, further understanding of how the biology of aging affects the older horse has become increasingly important and valid, given the greater demand for veterinary care and management of these animals. Unfortunately, as with elderly people, old horses suffer from age-related diseases such as arthritis, congestive heart failure, Cushing's syndrome, and cancer. They also experience age-related changes in immune function.

A decline in the function and regulation of the immune system is a hallmark of aging.

A decline in the function and regulation of the immune system is a hallmark of aging, termed "immunosenescence." It greatly affects the ability of this aged population to resist infection and respond effectively to vaccination. In fact, it has been shown that like elderly humans, geriatric horses are susceptible to influenza virus infection despite pre-existing immunity to the virus. With age, all components of immunity are affected. These components include innate and

adaptive responses to prevent infection and respond satisfactorily to vaccination. This process is very complex; however, changes in T lymphocyte function underlie much of the age-related decline in the protective immune response. Proper T-cell function is crucial in combating invading organisms and maintaining a pool of memory cells to handle future encounters with the same antigen. The exact causes of immunosenescence are not clear, although it is becoming more evident that

this process is multifactorial and correlates with universally observed processes across species, including the following: thymic involution (attributing to a decreased pool of naive T-cells capable of responding to new pathogens), chronic antigenic stimulation due to persistent infections (predominantly causing clonal exhaustion of memory T-cells), and signal transduction changes in immune cells. Collectively, these alterations contribute to the diminished ability of the immune system to respond to vaccination, enhancing susceptibility of this age group to infectious disease.

It's important that vaccines and vaccination strategies are developed that keep pace with the changing risk profile of an aging horse population. Vaccines are only effective, however, if the immune system is capable of responding to them. Research efforts are being directed at furthering our understanding of how different formulations of vaccines may overcome immunosenescence in the aged horse.

It is also important to recognize how different vaccine constructs stimulate the immune system. Inactivated or "killed" vaccines are processed and recognized by the immune system as exogenous antigens; they induce primarily an antibody response but poor cell-mediated immune (CMI) responses. "Live" vaccines are processed by the immune system as endogenous antigen, which mimics how a natural viral infection is processed; these antigens elicit both antibody and strong CMI responses. Indeed, it has been shown that older horses are capable of responding to a vectored, or live, influenza vaccine. Further research is needed to improve our understanding of vaccine



Equine Farm and Facilities Expo

Here, attendees of UK's 4th Annual Equine Farm and Facilities Expo learned about the merits of tall fescue at Margaux Farm LLC, in Midway, Ky., on May 31. Approximately 250 people attended. Margaux Farm LLC is a leading Thoroughbred breeding operation focused on producing sound and durable top-quality racehorses. They stand several stallions, including five-time grade 1 winner Devil His Due. Steve Johnson, the 2001 Kentucky Thoroughbred Farm Managers' Club President and 2003 Farm Manager of the Year, manages the farm. Corporate sponsors for this year's event included America's Alfalfa, BASF—The Chemical Company, Central Equipment, McCauley Brothers Feed, Pennington Seed, Southern States, and UK Ag Equine Programs.



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The Older Horse

effectiveness in aged horses. Areas of current investigation include using high-dose vaccines, multiple administration of vaccines, DNA vaccines with immunostimulatory properties, and vaccines containing new adjuvants. It is also important to recognize that other factors,

such as chronic diseases, age-associated inflammation (“inflamm-aging”), frailty, stress, and nutritional status likely contribute to impaired immune responses to infectious agents and vaccinations with age. These types of studies will help provide a platform on which to further investigate mechanisms responsible for a decline in immune responses with advancing age. **UK**

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Practical Biosecurity for Horse Farms

Reducing potential infectious disease outbreak risks can be challenging, but farm owners can take steps to minimize introducing and spreading these diseases, said Roberta Dwyer, DVM, MS, Dipl. ACVPM, a professor in the department of veterinary science at the University of Kentucky. These include traffic control, education, and a clean environment.

Biosecurity

Vaccination is an important (though not 100% effective) safety measure for disease prevention, Dwyer said. Horse owners should work with their veterinarian and staff to create a biosecurity plan and vaccination program for their farm. Veterinarians define biosecurity as a set of control measures designed to break the cycle of and reduce the spread of infectious diseases. A biosecurity plan should include fly, rodent, bird, and pest control and prevention, as well as traffic control on the farm.

Disease Agents of Concern

Causes of equine disease outbreaks include rotavirus, *Salmonella*, equine herpesvirus, equine influenza, equine arteritis virus, rhinoviruses, *Streptococcus equi*, and *Rhodococcus equi*. Of the bacterial and viral pathogens that infect horses, clostridial organisms are some of the most difficult to kill.

“Be careful when you read social media (about disease outbreaks)—always get information confirmed to avoid panic and misinformation,” Dwyer said.

Isolating a Sick Horse

Dwyer said owners should immediately isolate any horse with a nasal discharge, cough, fever, or diarrhea from other horses and consult the farm veterinarian. Disinfect any stalls or barns that housed sick horses.

“Isolate sick, new, and horses returning from a show or event for approximately two weeks to help reduce the risk of them introducing an infectious disease to the resident horses,” Dwyer said.

When performing daily chores, muck sick horses’ stalls last and avoid spreading the infected manure or bedding on fields. Also wear protective clothing and disposable gloves to help stop contagious disease spread between horses and people, Dwyer said.

Prevention is Best

Traffic between barns and horses creates potential contami-

nation sources, such as when horses return from racing, showing, veterinary hospitals, etc. Thus, veterinarians highly recommend traffic control as a disease prevention method.

“Separate broodmares from competition horses and youngsters to avoid exposure to high-risk horses,” Dwyer said.

As mentioned, quarantine is another central measure to protect resident horses from those that have co-mingled with others at shows, sales, and events off the farm.

Pest and rodent control are also part of an efficient biosecurity plan. Reducing standing water helps limit the next generation of flies and mosquitoes, Dwyer said. Keep feed rooms, tack rooms, and other stable areas tidy and well-swept; this will help prevent mice and rodent issues.

Human traffic also carries potential for disease spread. Therefore, advise blacksmiths, trainers, veterinarians, and visitors to disinfect boots and wash hands before entering the barn and handling horses. This can be accomplished easily with an alcohol-based hand disinfectant. Provide running water, liquid

hand soap, and clean paper towels in every barn to encourage employees to wash their hands. If running water is not available, a liquid hand sanitizer is an effective substitute, Dwyer said.



Clean and disinfect shared equipment.

Sharing equipment such as water buckets and feed tubs also poses a risk of spreading pathogens from one horse to another, said Dwyer. This is especially important to remember while at horse shows and on trail rides. If you do let people borrow equipment, be sure to clean and disinfect that equipment thoroughly prior to using it on your own horses.

Use detergent and water to clean surfaces prior to using a disinfectant, as organic matter such as manure, discharges, and soil can inactivate even the best disinfectant. This cleaning step is critical to an effective disinfection program, and prevention is generally easier than cleanup, Dwyer said.

When choosing disinfectants, consult a veterinarian for guidance as to which is most effective for the surface being treated. Disinfectants available on the market include phenols, quaternary ammonium compounds, and peroxygenase compounds.

“Work out a plan with your staff and veterinarian that includes frequent cleaning routines,” Dwyer said. “A clean environment always reduces the risk of spreading disease.” **UK**

>Shaila Sigsgaard is a contributing writer for the Bluegrass Equine Digest.

Gluck Center to Host International Conference on Equine Infectious Diseases

The University of Kentucky (UK) Maxwell H. Gluck Equine Research Center will host the 9th International Conference on Equine Infectious Diseases (EID IX) Oct. 21-26, 2012, at the Hilton Lexington/Downtown Hotel. This is the second time this conference has been held in Lexington. UK hosted the fifth conference in 1987 to mark the Gluck Center's official opening 25 years ago.

The five-day conference will feature plenary sessions covering infectious and parasitic diseases in the areas of emerging, respiratory, gastrointestinal, neurologic, reproduction, and diseases of the working horse. There will also be abstract presentations on specific disease agents, immunology, diagnostics, and special sessions focusing on gastrointestinal parasites and impediments to the international movement of horses.

The conference will feature a practitioner's day Oct. 21 for equine veterinarians or anyone interested in equine infectious diseases that will highlight some of the more significant findings presented at the conference.

"The 9th International Conference on Equine Infectious Diseases will provide a unique opportunity for equine scientists and veterinarians from around the world to meet and discuss recent advances and ongoing challenges," said local organizing chair David Horohov, PhD, William Robert Mills Chair in equine immunology at the Gluck Center. "This conference will provide a worldwide perspective on many of these issues and help to identify areas of urgent need for future research. We will also hear about recent advances in the diagnosis, treatment, and prevention of these diseases."

The international conference series on equine infectious diseases began in 1966 in Stresa, Italy. Other previous meetings included Paris, France (1969 and 1972), Lyon, France (1976), Lexington, Ky. (1987), Cambridge, United Kingdom (1991), Tokyo, Japan (1994), and Dubai, United Arab Emirates (1998). About 90 equine researchers attended the first

Evolution in Equine Parasite Control

While information on anthelmintic resistance in equine parasites has been available for a long time, the equine industry has been very slow to acknowledge or respond to it. Numerous studies have documented the increasing prevalence of resistance to the different commercially available drug classes. Not surprisingly, parasitologists have strongly recommended reducing treatment intensity by moving away from the traditional calendar-based treatment protocols, which are based upon anthelmintic treatment of all horses at regular intervals year-round. Current recommendations involve regular analysis of fecal samples for the presence of parasite eggs before making treatment decisions. Several questionnaire-type surveys have revealed that despite these recommendations, horse owners in many countries still rely on frequent, regular anthelmintic treatments without any consideration of the parasite species that might be involved and the efficacy of anthelmintic drugs used against those parasites.

Several possible reasons might account for this approach: 1) Parasitologists lack effective channels of communication to convey their message; 2) the anthelmintic resistance has not yet reached a level that represents a threat to equine health; 3) the calendar-based approach has been much easier to follow than the more complicated treatment strategies based on testing fecal samples; and 4) in many countries, cheap anthelmintic drugs have been available over the counter, so horse owners have not had to retain a veterinarian's services, thereby lessening the expense. Singly or collectively, the foregoing factors have made it very difficult to change old habits when it comes to parasite management on horse farms.

However significant these obstacles, major changes in parasite management on farms have been observed in recent years. Awareness of anthelmintic resistance among equine veterinarians and their clients appears to be increasing. As a result, testing for parasite eggs in fecal samples is becoming more common. Several reasons have been put forward to account for this change. Several European countries have now implemented prescription-only restrictions on anthelmintic drug formulations, and these restrictions have led to a much greater degree of veterinary involvement in the treatment decision process. Under prescription-only conditions, veterinarians are expected to perform parasite surveillance and prescribe appropriate anthelmintics. As a result, the intensity of treatment has decreased considerably. Even in countries without this legislation, substantial changes have been observed. Many veterinary practitioners in the United States have adopted fecal testing, and several laboratories now offer egg counts and advice on a larger scale.

Apart from legislation in Europe, the most important factor that has promoted change is likely the Internet. In the past decade, several equine news media have established efficient portals for disseminating knowledge to horse owners. Online broadcast of news, blogs, webinars, questions and answers, etc. has helped make new information more accessible and the average horse owner more aware of equine health issues than he or she was a decade or two ago.

As a result, veterinarians and horse owners worldwide are now realizing the problems resulting from following the traditional calendar-based deworming protocols for controlling strongyles and ascarids, which is generating many queries and challenges for parasitologists. Included are questions on how to interpret current diagnostic tests, the need for new diagnostic techniques, assessment of the impact of parasitism on equine health, equine performance under different deworming regimens, understanding modes of drug resistance, etc. The challenges confronting parasitologists, veterinarians, and horse industry members are many, and the need for research in equine parasitology is greater than ever. **UK**

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Gluck Center Hosts EID

conference in 1966, and about 330 attended in 1998.

"Since the last conference in Dubai in 1998, we have seen the re-emergence of infectious diseases and parasitism as major health concerns for equine populations," Horohov said. "We have also seen the emergence of new equine infectious diseases both here and abroad. I very much look forward to interacting with colleagues from around the world and hearing more about the important work they are doing to improve the health and well-being of horses."

The platinum sponsor for the conference is Pfizer Animal Health. Gold sponsors are Boehringer Ingelheim, Coolmore America, Grayson-Jockey Club Research Foundation, IDEXX Laboratories, International Racehorse Transport, Merck Animal Health, Merrial, and VMRD Inc. Silver sponsors are the American Quarter Horse Association, Bayer Animal Health, Butler Schein Animal Health, Darley, Hagyard Equine Medical Institute, Juddmonte

June 30-July 7

Kentucky State 4-H Horse Show, Kentucky Expo Center, Louisville, Ky.

July 26, 4 p.m.

Department of Veterinary Science Equine Diagnostic Research Seminar Series, Veterinary Diagnostic Laboratory, Lexington, Ky.

Aug. 4

Hat's Off Day, Kentucky Horse Park, Lexington, Ky.

Aug. 30, 4 p.m.

Department of Veterinary Science Equine Diagnostic Research Seminar Series, 4 p.m., Veterinary Diagnostic Laboratory, Lexington, Ky.

UPCOMING EVENTS

Farms, Mersant International Limited, Peden Bloodstock, Platinum Performance, Rood & Riddle Equine Hospital, and Siena Farm LLC. Bronze sponsors are Castleton Lyons, Centaur, Equine Medical Associates, Milburn Equine, Neogen Corporation, North American Equine Ranching Information Council, and Virbac Animal Health. Other supporters include the Kentucky Thoroughbred Farm Managers' Club, Kentucky

Thoroughbred Association/Kentucky Thoroughbred Owners and Breeders, and WinStar Farm LLC.

For more information on the EID IX conference, visit www.eidc2012.com. To register for the conference or for practitioner's day, visit <http://eidc2012.eventbrite.com>. **UK**

>Jenny Blandford is the Gluck Equine Research Foundation Coordinator at the Gluck Center.

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The University of Kentucky College of Agriculture has several equine-related pages on Facebook with the latest news and events information. Stay up-to-date with the latest happenings by following

our activity on the following pages:

[UK Ag Equine Programs](#)

The UK Ag Equine Programs (formerly Equine Initiative) is an overarching framework for all things equine at the University of Kentucky, including the undergraduate degree program, equine-related student organizations,

facebook

equine research, and outreach activities.

[University of Kentucky 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.

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

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

Bluegrass Equine Digest Receives AHP Award



The Bluegrass Equine Digest received the second place award in the online equine-related newsletter category at the American Horse Publications (AHP) 2012 Annual Awards Competition in Williamsburg, Va., on June 2.

Now in its third year, the monthly e-newsletter dedicated to equine research at the University of Kentucky is co-edited by Jenny Blandford, Foundation Coordinator at the UK Gluck Equine Research Center, and Holly Wiemers, Communications Director for UK Ag Equine Programs. Alexandra Beckstett, associate managing editor at *The Horse* magazine, also edits the newsletter.

"This is a well-organized and well-designed newsletter, clearly valuable to the horse industry," said the judges. "The three-column design is good. Use of typographic hierarchy is good."

SmarkPakEquine.com won the first place title out of nine total entries.

>Jenny Blandford is the Gluck Equine Research Foundation Coordinator at the Gluck Center.