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## Advances in Equine Neurological Disease Symposium a Success



More than 130 equine practitioners and professionals from 10 states attended the Advances in Equine Neurological Diseases Symposium, a seven-hour program presented by the University of Kentucky Equine Initiative and Gluck Equine Research Center on Dec. 6. Featured topics included equine protozoal myeloencephalitis (EPM), wobbler syndrome, and the neurologic form of herpesvirus.

Steve Reed, DVM, Dipl. ACVIM, of Rood & Riddle Equine Hospital in Lexington, was a moderator and organizer of the symposium, along with Dan Howe, PhD, of the Gluck Equine Research Center; Ed Squires, PhD, Dipl. ACT (Hon.), director of the Equine Initiative and executive director of the Gluck Equine Research Foundation; and Jenny Blandford, Gluck Foundation Coordinator at the Gluck Center.

### Equine Protozoal Myeloencephalitis

Howe and Robert MacKay, BVSc, PhD, Dipl. ACVIM, professor of Large Animal Medicine at the University of Florida College of Veterinary Medicine, discussed EPM, an illness that strikes horses by way of the opossum. Opossums carry the parasite *Sarcocystis neurona* (the causative agent of EPM) and pass it to horses, usually by infecting feed (or water) with their parasite-laden scat. After infecting a horse, the parasite can invade and damage the spinal cord's gray matter.

Diagnosis of EPM is tricky, as many variables come into play. Onset can be quick and severe or slow and mild, and clinical signs can appear similar to those associated with wobbler syndrome.

The presence of antibodies against *S. neurona* does not equate to disease, as a high rate of horses test positive but do not develop EPM.

"Infection by *Sarcocystis neurona* is astonishingly common, but actual disease is very rare, at about 1%," McKay said.

It is not clear why so many horses are infected but so few develop the disease. It is also unclear if some affected horses carry latent forms of *S. neurona* and relapse, or if they encounter new

exposure to the parasite.

Clinical signs of EPM include:

- Ataxia, or lack of muscle control, and weakness;
- Knuckling of hind legs;
- Asymmetry of stride length, with overstepping in front and the hind legs taking short steps;

## ARTICLES OF INTEREST

### Relative Feed Value of Hay

### Kentucky Farm Cash Receipts Exceed \$5 Billion

### Lloyd's of London's 30th Year Supporting UK

### Relationship Between *Sarcocystis Neurona* and EPM Examined

### UKVDL Records Rise in Leptospirosis Cases

### Endometritis in Mares Horse Course

### UK Equine Initiative to Host Equine Showcase and Breeders' Short Course

### Norm Luba Named 2011 Friend of the UK Equine Initiative

### Upcoming Events

## (NEUROLOGICAL SYMPOSIUM ...)

- Pelvic and back leg weakness; and
- Lack of fever.

The low disease rate suggests that most infected horses mount a protective immune response to *S. neurona*. Researchers believe failure to resist *S. neurona* might be caused by stress, foaling, lactation, illness, long transport, immunodeficiency, and/or genetics. Geographic location also plays a part.

“In areas that see rainfall, like Kentucky, there is a seroprevalence (the frequency of individuals in a population that have a particular element in their blood serum) rate of about 50%,” McKay said. “Cold, mountainous areas, like Canada and Montana, have a seroprevalence rate of about zero.”

Howe said all strains of *S. neurona* are not the same, and the strain variation complicates our understanding of the disease and delays vaccine development.

He stated that sequencing projects like the ongoing *S. neurona* genome project have already lead to improved serologic testing for EPM and should provide additional advances to control EPM in the future. ELISAs developed from *S. neurona* sequence information provide improved tests to aid EPM diagnosis and are offered commercially by Equine Diagnostic Solutions LLC, in Lexington, Ky.

### Equine Herpesvirus (EHV)

Udeni Balasuriya, PhD, MS, BVSC, associate professor of virology at UK's Gluck Equine Research Center, and Lutz Goehring, DVM, MS,

PhD, Dipl. ACVIM, assistant professor in equine medicine at Colorado State University's College of Veterinary Medicine and Biomedical Sciences, lectured on equine herpesvirus. Balasuriya began the presentation explaining that herpesviruses are widely found, usually species-specific, share common properties and morphology, and usually spread through mucosal contact.

Horses often test highly positive for EHV, though in most animals it is a low-level presence that causes mild respiratory disease.

“The danger is EHV-1, the strain that can cross the placenta and cause abortion, neonatal death, neurological death, and respiratory illness,” Balasuriya said.

Goehring pointed out that EHV outbreaks are almost always associated with an index case—a horse that travels for breeding, training, or showing. The upside to the index case is the population that can be infected is limited, especially in a closed herd, if proper measures are taken.

EHV shows specific age and breed predilections:

- Rare in yearlings and 2-year-olds;
- Not found in ponies of any age;
- Mules are viremic but do not get sick;
- Affects “tall” horses disproportionately; and
- Affects mares more than stallions.

Despite media coverage, including in the *New York Times*, stating that EHV cases have increased, Goehring believes the increase in cases is a result of greater detection, more reporting of

the disease, and increased movement and longer stays at events, which all increase the risk of infection.

During an outbreak Goehring recommends:

- Identifying and isolating febrile (feverish), shedding, neurologic horses;
- Increasing the distance between horses, closing doors and windows, etc.; and
- Treating horses with Valtrex or similar antivirals and NSAIDs.

Prophylaxis/therapeutic intervention for EHV-1 include vaccines, antiviral therapy, anti-inflammatory drugs to decrease the rate of endothelial cell infection, and management options.

### Wobbler Syndrome

Jennifer Janes, DVM, PhD candidate in UK's Veterinary Diagnostic Laboratory, discussed the clinical and pathological aspects of wobbler syndrome. Brett Woodie, DVM, MS, Dipl. ACVS, of Rood & Riddle Equine Hospital, lectured on the intricacies of cervical stabilizing surgery for horses with wobbler syndrome. Barrie Grant, DVM, MS, Dipl. ACVS, MRCVS, a veterinarian based in Bonsall, Calif., also discussed surgical techniques as well as post-surgery recovery for horses.

Recognized since 1911, wobbler syndrome is a neurologic disease resulting in spinal cord compression in the cervical region leading to ataxia, Janes explained. It occurs more often in males than females and affects Thoroughbreds, Tennessee Walking Horses, Warmbloods, and

## (NEUROLOGICAL SYMPOSIUM ...)

Quarter Horse and Quarter Horse-types more than other breeds.

Wobbler syndrome also is a multifactorial disease, with the following believed to play a part:

- genetics
- rapid growth
- high-carb diets
- decreased copper/increased zinc level
- trauma

Clinical signs include ataxia, with hind limbs affected more than the fore, and neurologic issues such as toe dragging, hind limb circumduction, hind limb overreaching, and a base-wide stance.

Woodie discussed his surgical experience

performing cervical stabilization on horses. He stressed the very specific challenges of this surgery, which requires a skilled team, exact positioning, and custom-built tables and cradles that hold the horse's neck far forward and very straight. This allows the surgical team to use K-wire placements as guides, indexing the surgical site, which is a critical aspect. Woodie noted that C6-7 is the site requiring the highest number of surgeries.

Grant was part of the team, along with human orthopedic surgeon George Bagby, MD, and veterinarian Pam Wagner, DVM, who helped develop the surgical procedure used in horses (and people) to treat cervical cord compression. His

many refinements of this specialized surgery include using the "Seattle Slew" titanium implant, threads on implants to reduce fractures, and shortened surgery times.

His influence includes teaching his technique to many of the surgeons worldwide who now practice cervical stabilization. Notably, in both of Triple Crown winner Seattle Slew's surgeries to stabilize his neck, Grant was lead surgeon.

The symposium was filmed by [TheHorse.com](http://TheHorse.com). A DVD copy will be available for purchase in early 2012 at [ExclusivelyEquine.com](http://ExclusivelyEquine.com). **UK**

*Karin Pekarchik is an editorial officer in UK's Agricultural Communications Services.*

## Relative Feed Value of Hay

Good-quality hay is an important component of a horse's diet, particularly in the winter when fresh pasture is not available.

One way to evaluate hay quality is to have your hay analyzed. Many different types of analyses are available, and the cost can range from \$10-20 per sample to more than \$100. The most extensive analysis reports more than 20 different nutrients or chemical fractions.

Although this detailed information makes sense to nutritionists, it is often not helpful to someone who wants to compare the values of different hays, or who wants an overall assessment of the hay's nutritional value. To simplify the interpretation of hay analyses, nutritionists have come up with equations to give more general estimates of forage quality. One estimate of quality is relative feed value (RFV).



**Relative feed value is one estimate of hay quality.**

RFV was developed for cattle and takes into account the hay's expected digestibility as well as the expected level of consumption. Basically, the assumption is the better the hay quality, the more easily the animal will digest it and the more it can consume. Digestibility and intake estimates are calculated from the concentration of neutral detergent fiber (NDF) and acid detergent fiber (ADF) in the hay. As a forage plant matures, it becomes more fibrous and stemmy, which results from increased NDF and ADF concentrations. So, as NDF and ADF increase, RFV decreases.

The following table shows the composition of some common forages used for horses in Kentucky. The RFV is calculated from the equations developed for cattle (no equations currently exist for horses).

RFV does not exactly apply to horses, but it can provide a basis of comparison between different hays, particularly of the same type. For example, if you had a choice between a full-bloom alfalfa hay with an RFV of 100 or a

## (RELATIVE FEED VALUE ...)

mid-bloom alfalfa hay with an RFV of 125, you could be pretty certain the latter hay would have a higher feeding value.

Ideally, you would like to know that the second hay provides 25% more value than the first hay, but RFV estimates are not that accurate for horses. Nonetheless, if the two hays cost the same, the one with the higher RFV will usually provide more nutrition for the dollar.

So what RFV of hay should you purchase?

The answer to this question depends on the type of horse being fed, as well as the price of the hay. Hay with high RFV is most appropriate for horses with high nutrient requirements, such as lactating mares, growing horses, and some performance horses. The higher a hay's RFV, the less you will need to feed. In addition, as the RFV of the hay increases, the amount of concentrate (sweet feed, grain, or pelletized feeds) needed will decrease. So, when choosing between two similarly priced hays, the one with the higher RFV might reduce total feed costs by reducing the amount of concentrate that is fed.

However, hay with a very high RFV isn't necessarily the "best" hay for every horse. If a mature idle horse with low nutrient requirements is given unrestricted access to high-RFV hay, he will probably become very fat. At a normal rate of intake, hay with a moderate RFV might be best for idle, mature horses. Hay with moderate or low RFV might be desirable for horses with low nutrient requirements, because they can eat enough to satisfy their hunger without gaining too much weight.

Although RFV can provide a general idea about forage quality, it does not

	CP**	NDF	ADF	RFV
Grass* Hay; very mature, large seed heads	7.0%	63.9%	41.1%	83
Timothy Hay; early maturity, few small seed heads	11.7%	53.1%	34.0%	109
Grass Hay-Alfalfa Hay Mix; mid maturity	14.1%	52.1%	36.7%	108
Alfalfa Hay; full bloom, some leaves, large stems	16.0%	49.8%	42.8%	104
Alfalfa Hay; mid-bloom, leafy, medium stems	18.2%	44.9%	36.1%	125
Alfalfa Hay; early bloom, leafy, small stems	21.7%	39.0%	30.2%	156
Alfalfa Cubes ( bagged)	21.1%	42.4%	33.5%	138

\*Examples: orchardgrass or timothy

\*\* All compositions are shown on a 100% dry basis.

give an estimate of how closely the hay will satisfy an animal's nutrient requirements.

RFV is a calculated value from a laboratory analysis of fiber concentrations in a hay sample. It does not address the amount of protein, calcium, phosphorus, or other important nutrients horses need and it does not provide any information about the hay's cleanliness. Regardless of RFV, horse hay should be free of dust and mold. Horses are susceptible to respiratory irritation from moldy and dusty hay, and this irritation can affect exercise performance. Therefore, when evaluating the value of hay to be purchased, consider both a visual inspection and a laboratory analysis of its composition. [UK](#)

*Laurie Lawrence, PhD, professor in the department of animal and food sciences at the University of Kentucky, provided this information.*

## Kentucky Farm Cash Receipts Exceed \$5 Billion

Reflecting national trends, Kentucky's farm economy did extremely well in 2011, with farm cash receipts likely to exceed \$5 billion for the first time (up from \$4.4 billion in 2010),

estimate agricultural economists with the University of Kentucky (UK) College of Agriculture.

Official U.S. Department of Agriculture 2011 cash receipts for Kentucky won't be released until summer 2012, but Will Snell, PhD, UK extension professor, said the team of UK economists is seeing improvement in returns on corn,

soybeans, wheat, cattle, horses, hogs, and dairy. Net farm income is expected to rebound back above \$1 billion in 2011, compared to \$780 million in 2010.

Growth was seen across the nation, despite a severe drought in some areas of the country. The USDA projects U.S. net farm income will reach a

## (FARM RECEIPTS ... )

record high of \$100.9 billion, up 28% over last year and 50% higher than the 10-year average.

Snell and UK agricultural economists Craig Infanger, PhD, and Kenny Burdine, MS, agree that the force behind the improved financial returns in agriculture is the boom in exports over the past two years and the strong demand for grains for biofuel production.

“U.S. farm exports plunged in 2009, but then jumped to \$109 billion last year,” Snell said. “Ag exports rebounded to a record \$137 billion in 2011. It’s not so much that the volume of exports has been impressive, it’s that prices have soared.”

Snell, Infanger, Burdine, and fellow UK agricultural economists Cory Walters, PhD, and Tim Woods, PhD, along with Kentucky Farm Business Management Program Coordinator Jerry Pierce presented a 2012 Kentucky farm economic outlook and an overview of 2011 as part of the annual Kentucky Farm Bureau Federation conference in Louisville in November.

Corn and poultry are likely to be the top two sources of cash receipts in Kentucky this year, helped by favorable growing conditions and substantially higher corn prices. Corn, soybean, and wheat prices continued to trend upward, with corn up 29%, soybean up 16%, and wheat up 30%. Kentucky producers planted increased acreage in response. Walters said the higher prices, increased acreage, and higher yields resulted in a significant increase in revenue.

Poultry production increased slightly in 2011, though it is projected to decline in 2012. Lower

production, higher feed costs, and higher export levels will tighten supplies, which could stimulate a price increase from \$.02 to \$.04 per pound.

In the equine industry stud fees held steady and 2011 September yearling and November breeding stock sales were strong, resulting in a moderate improvement over 2010 receipts.

“Those sales were likely supported by pent-up demand, tax incentives, and some significant dispersals,” Burdine said.

He predicted equine receipts should remain steady next year if the market remains relatively strong.

On the whole, the UK agricultural economists were optimistic about 2012. Given reasonable weather, continued economic recovery, and strong export markets, the team believes next year’s farm cash receipts could set another record high, topping out between \$5.3 and \$5.7 billion.

A copy of the outlook publication including information on individual farm sectors can be found at [www.uky.edu/Ag/AgEcon/pubs/extension/2012KYOutlook.pdf](http://www.uky.edu/Ag/AgEcon/pubs/extension/2012KYOutlook.pdf). UK

*Source: edited news release by agricultural communications specialist Carol Spence.*

## LLOYD’S OF LONDON’S 30TH YEAR SUPPORTING UK

Global insurer Lloyd’s of London recently presented the University of Kentucky (UK) College of Agriculture with a \$45,000 check in continuing support of *The Equine Disease Quarterly*, an equine health research-based publication produced by the Department of Veterinary Science.

The award-winning publication provides timely, researched-based reports on some of the most important issues facing the equine industry. The publication reaches more than 18,000 readers in 93 countries. Available on the Internet, its articles are regularly abstracted by a variety of scientific and lay equine publications worldwide.

“The continued sponsorship of The Lloyd’s *Equine Disease Quarterly* by Lloyd’s of London makes it possible for our Maxwell H. Gluck Equine



(LLOYD'S OF LONDON ...)

Research Center to reach the equine community in Kentucky and across the globe with the latest information on equine health,” said UK President Eli Capilouto. “The Gluck Center exemplifies UK’s commitment to research that makes a difference in the commonwealth, the nation, and the world.”

Mats Troedsson, DVM, PhD, Dipl. ACT, director of the Gluck Center and chair of the Department of Veterinary science, echoed President Capilouto’s assessment.

“The financial support from Lloyd’s has allowed us to continuously publish *The Equine Disease Quarterly* since 1992,” he said. “The newsletter has become a valuable source of information for the equine veterinary community and the international equine industry. The value of our partnership with Lloyd’s of London cannot be overemphasized, and we are very thankful to the longstanding support that has made this success possible.”

This donation represents Lloyd’s 30th year of collaboration with the Department of Veterinary Science on research and other activities with nearly \$1 million of support.

“Lloyd’s is the global leader in bloodstock insurance, and we are proud to support the critical research needed to ensure equine health,” said Julian Lloyd, chair of Lloyd’s Livestock Committee and bloodstock underwriter at the Amlin Syndicate. “*The Equine Disease Quarterly* is the premier publication of its type, and we are glad to continue our partnership with the University of Kentucky in its promotion and distribution.”

Published four times yearly, the *Quarterly* is available to subscribers at no charge. It is co-edited by Roberta Dwyer, DVM, MS, Dipl. ACVPM, a professor in the department of veterinary science; Peter Timoney, MVB, PhD, FRCVS, Frederick Van Lennep Chair in Equine Veterinary Science at the Gluck

Equine Research Center; and Neil Williams, DVM, PhD, Dipl. ACVP, from the UK Veterinary Diagnostic Laboratory.

The current version of *The Equine Disease Quarterly* is located online at [www.ca.uky.edu/gluck/quarterly/oct11.asp](http://www.ca.uky.edu/gluck/quarterly/oct11.asp). For more information about the University of Kentucky’s Department of Veterinary Science and the Gluck Equine Research Center, visit [www.ca.uky.edu/gluck/index.htm](http://www.ca.uky.edu/gluck/index.htm).

Lloyd’s of London is a 323-year-old insurance and reinsurance market, whose member syndicates underwrite risk in more than 200 countries via approved brokers. As a global leader in specialty insurance, Lloyd’s remains committed both to supporting equine research and providing the insurance coverage essential to the well-being and prosperity of bloodstock interests worldwide. **UK**

*Source: edited news release, Agricultural Communications Services.*

## Relationship Between *Sarcocystis Neurona* and EPM Examined

Equine protozoal myeloencephalitis (EPM) is one of the most discussed diseases in the horse health industry. Many owners are familiar with the clinical signs horses display once affected, but how much do they know about *Sarcocystis neurona*, one of the disorder’s causative agents?

During a presentation at the Advances in Equine Neurological Diseases Symposium, held Dec. 6 in Lexington, Ky., Daniel K. Howe, PhD, a molecular parasitologist at the University of Kentucky Gluck Equine Research Center, provided extensive insight into the parasite and its relationship to EPM.

### Life Cycle and Infection

Howe first discussed *S. neurona*’s two-host life cycle—something many horse owners are familiar with. To complete its life cycle, this organism requires a definitive host (the opossum), which feeds on the muscles of a dead intermediate host (such as a raccoon, skunk, cat, or armadillo) containing *S. neurona* sarcocysts. Once ingested by the opossum, the parasites mature to their infective stage (sporocysts), which the opossum passes in its feces.

Horses, which are generally considered “dead-end hosts” (meaning they typically can’t pass the protozoa on to other animals), contract the disease by ingesting infected matter, often grass or hay contaminated with opossum feces containing *S. neurona* sporocysts.

Once the horse ingests the sporocysts, the parasite essentially makes

## (S. NEURONA ... )

itself at home in the horse's body. At this point the horse becomes infected with (or exposed to) the organism. Studies suggest 30-50% of horses in the United States have been infected with *S. neurona*; fortunately, less than 1% of infected horses develop signs of disease.

What causes the variation between *S. neurona* infection and disease remains unclear, Howe noted. He said researchers have suggested that individual horses' immune competency when faced with the parasite and parasite strain virulence might be influential factors, but these remain untested. Regardless of the cause, the discrepancy creates challenges for researchers when developing effective diagnostic measures and when creating new measures for disease prevention, such as vaccinations.



### Diagnostic Testing: Past and Present

Howe relayed that there are several diagnostic testing options available for EPM. Two common tests are the Western Blot and the immunofluorescence antibody test:

**Western Blot** The first commercially available EPM test, the Western blot detects *S. neurona* antibodies either in blood (serum) or in cerebrospinal fluid. A positive Western blot merely means the horse has been exposed to the parasite and has developed antibodies to *S. neurona*. A positive test does not necessarily mean the horse is actively infected. In contrast, a negative test suggests the horse is not infected with *S. neurona*. Howe relayed that drawbacks to this test include subjectivity (a person must decide whether the test is positive or negative as opposed to getting a 'yes' or 'no' answer) and nonquantitative results.

**Immunofluorescence antibody test (IFAT)** This test measures antibody levels against *S. neurona* in horses' serum. Like the Western blot, a positive result simply indicates exposure to the parasite, but it does not necessarily mean the horse is suffering from disease caused by *S. neurona*. He added that the IFAT can also be subjective in its results.

Howe then described relatively new assays used for detecting *S. neurona* infection and disease. These enzyme-linked immunosorbent assays (ELISA) measure antibodies to the surface antigens (SAG) of *S. neurona*. (An antigen is a disease-causing substance that stimulates the immune system.)

Originally, the tests detected antibodies against the primary surface antigen (SAG1). Further developments, however, found that detection of antibodies against SAGs 2, 3, and 4 provide the most accurate indication of *S. neurona* exposure or disease. Howe explained that research results have found *S. neurona* strains had either SAG1 or 5, but all possessed SAGs 2, 3, and 4.

Another advantage to the SAG ELISA is that quantitative data is obtained by measuring optical density (which utilized color change in a solution to determine the amount of antibodies against the parasite in the infected horse). The ability to obtain quantitative data allows researchers to compare antibody levels in the blood versus the cerebrospinal fluid, which can indicate if infection is active in a horse's central nervous system (brain or spinal cord).

### S. Neurona Genome Project

Finally, Howe discussed a new project nearing completion in his laboratory at the Gluck Center: To gain a better understanding of the EPM-causing parasite, Howe and colleagues are sequencing the *S. neurona* genome. He currently estimates the parasite has about 125,000,000 DNA base pairs and between 9,000 and 10,000 genes.

A fully sequenced genome will provide "a resource for discovery and characterization of *S. neurona* antigens and virulence factors" among other benefits, Howe explained. Upon completion, the genome sequence will be available online at [http://compbio.dfci.harvard.edu/tgi/cgi-bin/tgi/gimain.pl?gudb=s\\_neurona](http://compbio.dfci.harvard.edu/tgi/cgi-bin/tgi/gimain.pl?gudb=s_neurona). UK

Erica Larson is the News Editor for *The Horse* and *TheHorse.com*.

## UKVDL RECORDS RISE IN EQUINE LEPTOSPIROSIS CASES

As Kentucky progresses through a near-record rainfall year, the University of Kentucky Veterinary Diagnostic Laboratory (UKVDL) has begun observing equine leptospirosis abortions. Following is a summary of what the UKVDL is seeing in eastern Kentucky:

Microscopic agglutination test (MAT) titer results

on sera (blood serum) submitted to UKVDL through the end of November 2011 show some high titers consistent with wet years in the past (see chart at right).

Five abortions have been confirmed to date either by PCR or fluorescent antibody (FA) testing.

Visit <http://batchgeo.com/map/38340e2345f1c6f5337c9c9e2fd6f447> to see an interactive map of geographic locations of clinics submitting sera for MAT titers 1:200 or greater.

## Leptospirosis Overview

Leptospirosis is a transmissible disease of animals and humans caused by infection by the spirochete *Leptospira*. All the pathogenic leptospires were formerly classified as members of *Leptospira interrogans*; however, the genus has recently been reorganized, and pathogenic leptospires are now identified in 17 species and four genomospecies of *Lep-*

*tospira*. More than 200 distinct leptospiral serovars (strains) have been recognized, and these are arranged in 23 serogroups. Previous studies in Kentucky suggest that leptospirosis was the leading cause of abortion in domestic animals—mostly horses—in 1989, and the third most common bacterial cause of abortion from 1986-1991. In the high-rainfall reproductive season of 2006 more than \$3 million in foals were lost in the Bluegrass alone.

Clinical leptospirosis is often associated with recent exposure, directly or indirectly, to surface water contaminated by rat urine. Horses typically live in an environment that combines a pasture and stable shared with a number of small mammals. In winter most horses are fed roughage, which is almost inevitably contaminated by mouse or rat urine.

Row Labels	Count of Result
>= 1:204800	1
1:102400	4
1:12800	4
1:1600	54
1:200	116
1:204800	1
1:25600	3
1:3200	40
1:400	74
1:51200	5
1:6400	24
1:800	52
<b>Grand Total</b>	<b>378</b>



Announcing the Equine Immunization Support Guarantee, a Pfizer Animal Health program that provides financial support to cover diagnostics and treatment for horses suspected of contracting a disease for which they have been vaccinated. As Pfizer Animal Health's commitment to you, this program can only be offered through a licensed veterinarian.

For details of qualifying vaccines, visit [PfizerEquine.com/ISG](http://PfizerEquine.com/ISG) or contact your representative.

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## (LEPTOSPIROSIS ...)

Cattle, dogs, and horses are thus indirectly exposed to animals that can be leptospire reservoirs.

Definitive diagnosis of leptospirosis has traditionally been very difficult because culture of leptospira takes up to 13 weeks and is often hampered by other bacterial contamination. The gold standard for diagnosing leptospirosis has been the MAT, in which patient sera are reacted with live antigen suspensions of major leptospiral serovars. However, MAT works only with serum, cannot be used with urine or fresh tissues, and it is often difficult to differentiate an active infection from previous exposures. Other diagnostic methods include serological assays such as ELISA, fluorescence antibody, and immunohistochemistry.

However, a new real-time PCR test can detect leptospiral DNA, allowing equine practitioners to diagnose infected animals as well as carrier animals that might be shedding into the environment. Real-time PCR is extremely sensitive, specific, and works with tissue samples regardless of being fresh or putrefied. In addition, urine samples in which infected or carrier animals shed can be tested.

For testing using the real-time PCR test, UKVDL requires a minimum of 10 mL urine and/or 20 grams fresh kidney to be sent in leak-proof containers with enough chill packs to keep specimens cool. The cost is \$20 per animal. Testing specimens in question can confirm whether leptospirosis organisms are present. If organisms are confirmed, an appropriate treatment can be selected and animals shedding leptospire in their urine can be detected. The real-time PCR test shortens the time required to confirm a clinical diagnosis, leading to early prevention of

the spread of leptospira organisms and the minimizing human exposure to these organisms.

Other UKVDL tests for leptospirosis include MAT

titers and fluorescent antibody testing. [UK](#)

*Source: Dec. 7 University of Kentucky Veterinary Diagnostic Laboratory edited bulletin.*

## ENDOMETRITIS IN MARES HORSE COURSE

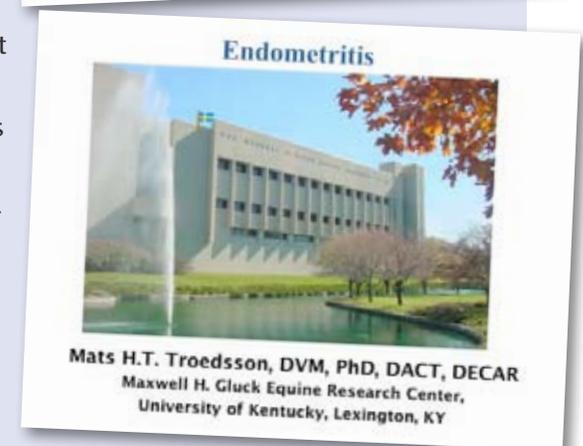
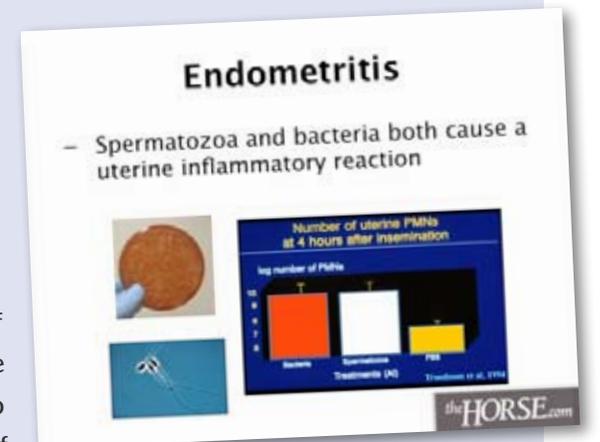
The latest Horse Course from the University of Kentucky's Veterinary (UK) Diagnostic Laboratory and Gluck Equine Research Center (presented by Pfizer Animal Health) is now available for viewing on [www.TheHorse.com/Videos/Horse-Courses.aspx](http://www.TheHorse.com/Videos/Horse-Courses.aspx).

The presentation, "Endometritis in Mares," was led by Mats Troedsson, DVM, PhD, Dipl. ACT, ECAR, chairman of the department of veterinary sciences at the University of Kentucky's Gluck Equine Research Center. Troedsson gave an overview of endometritis (the failure of the uterus to clear foreign contaminants, resulting in inflammation of the inner lining of the uterus), what causes it, and the best treatment options for the condition.

"Mares have a remarkable ability to clear the uterus of any inflammation in a very short time," Troedsson explained. "However, there is a subpopulation of mares—particularly older, multiparous (having foaled two or more times) mares—that fail to clear the uterus of endometritis when challenged. Those are the mares that we, as practitioners, are most often confronted with."

View other archived Horse Courses at [TheHorse.com/HorseCourses](http://TheHorse.com/HorseCourses). Recent additions to the Horse Course library include "Treating Upper Respiratory Diseases" with Laurent Couëtil, DVM, Dipl. ACVIM; "Muscle Power: Muscle Mass in Growing, Athletic Horses" with Kristine Urschel, PhD; and "Equine Malignant Melanoma: We Need to Help the Old Grey Mare" with John Robertson, VMD, MS, PhD. [UK](#)

*Erica Larson is the News Editor for The Horse and TheHorse.com.*



## UK Equine Initiative to Host Equine Showcase and Breeders' Short Course

The University of Kentucky Equine Initiative will host a UK Equine Showcase on Jan. 20 and the 3rd Annual Kentucky Breeders' Short Course on Jan. 21 at the UK Veterinary Diagnostic Laboratory.

The UK Equine Showcase is a program highlighting the university's latest equine research focused on the young horse. The program will run from 1-5 p.m., with a reception following.

The 3rd Annual Kentucky Breeders' Short Course is an in-depth equine reproductive program from 8 a.m.-5 p.m. on Jan. 21, with lunch provided.

Both programs are open to veterinarians, owners, and managers of all horse breeds or anyone with an interest in learning more about equine reproduction and topics concerning the young horse. Continuing Education credit for veterinarians and veterinary technicians is pending approval by the Kentucky Board of Veterinary Examiners.

"The UK Equine Showcase is a great opportunity for those in the industry to learn about the latest equine research that is ongoing at the University of Kentucky," said Ed Squires, PhD, Dipl. ACT (hon.), director of the UK Equine Initiative and executive director of the Gluck Equine

Research Foundation. "The annual Kentucky Breeders' Short Course will focus on equine reproductive efficiency. UK is fortunate to have many experts in equine science who can serve as speakers."

Topics and speakers for the UK Equine Showcase include:

- Common infectious diseases of the young horse, David Horohov, PhD, William Robert Mills chair and professor at the Gluck Equine Research Center
- Cartilage development and maturation, James MacLeod, VMD, PhD, John S. and Elizabeth A. Knight Chair at the Gluck Equine Research Center
- Building muscle in young horses, Kristine Urschel, PhD, assistant professor of equine science in the University of Kentucky's Department of Animal and Food Sciences
- Nutritional needs of the young horse, Laurie Lawrence, PhD (equine nutrition), professor in the University of Kentucky's Department of Animal Sciences
- Vaccination strategies and immunity in young horses, Amanda Adams, at the University of Kentucky Gluck Equine Research Center
- Deworming strategies for the young horse, Martin Nielsen, DVM, PhD, assistant professor in parasitology at the Gluck Equine Research Center
- Pricing of young horses in the Thoroughbred industry, Jill Stowe, PhD, assistant professor

in agricultural economics at the University of Kentucky

Topics and speakers for the Kentucky Breeders' Short Course include:

- Pregnancy rates when breeding with natural mating or fresh, cooled, or frozen semen, Ed Squires, PhD, Dipl. ACT (hon.)
- Causes of fertilization failures, Barry Ball, DVM, PhD, Dipl. ACT, the Albert G. Clay Endowed Chair in Equine Reproduction
- Pregnancy losses during early gestation, Barry Ball, DVM, PhD, Dipl. ACT
- Pregnancy losses during late pregnancy and diagnosis of placentitis, Barry Ball, DVM, PhD, Dipl. ACT
- Factors affecting the incidence of dystocia, Ed Squires, PhD, Dipl. ACT (hon.)
- Performance of foals from high-risk pregnancies, Sydney Hughes, BS, graduate student at the Gluck Equine Research Center
- Endometrial biopsy as an indicator of uterine artery rupture, Neil Williams, DVM, PhD, Dipl. ACVP, associate professor in the Department of Veterinary Science
- Effect of tall fescue on pregnant mares and how to contain fescue, Karen McDowell, PhD, reproductive biology specialist at the Gluck Equine Research Center; William Witt, PhD, a researcher in the plant and soil sciences department at the University of Kentucky; and Ray Smith, PhD, forage extension specialist in the plant and soil sciences department

## (EQUINE SHOWCASE ...)

- Proper nutrition for rebreeding mares, Laurie Lawrence, PhD (equine nutrition)
- Practical biosecurity for horse farms, Roberta Dwyer, DVM, MS, Dipl. ACVPM, professor at the Gluck Equine Research Center

To register, visit [www.ca.uky.edu/gluck/News-ShortCourse2012.asp](http://www.ca.uky.edu/gluck/News-ShortCourse2012.asp). Early bird registration (by Jan. 9) for the UK Equine Showcase as well as the Kentucky Breeders' Short Course is \$45, or \$35 when two or more people from the same organization register at the same time. Attendees can attend both days for \$75. Students are eligible to have their costs waived, but student designated space is limited and on a first-requested, first-served basis. Students interested in attending should e-mail Jenny Blandford directly at [jenny.blandford@uky.edu](mailto:jenny.blandford@uky.edu). **UK**

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

## **NORM LUBA NAMED 2011 FRIEND OF EQUINE INITIATIVE**

Norm Luba was named 2011 Friend of UK's Equine Initiative during the Kentucky Quarter Horse Association's annual meeting and banquet, held Dec. 10 in Lexington, Ky.

Luba, MS, executive director of the North American Equine Ranching Information Council, was recognized for his leadership, vision, and work on behalf of the Equine Initiative. Luba currently serves as the chair of the UK College of Agriculture Equine Advisory Committee and has been involved

in the Equine Initiative since early in its formation and in college equine programming before that.

"Norm brings his interest and knowledge of the horse and the horse industry, plus a strong desire to make our equine programs the best they can be," said Robert Coleman, PhD, PAS, associate director for undergraduate education in equine science and management and extension horse specialist at the University of Kentucky.

"This award was created to recognize our stakeholders for contributions that elevate what we offer and challenge us to provide the best possible programs," said Nancy Cox, PhD, associate dean for research in UK's College of Agriculture, Kentucky Agricultural Experiment Station director, and administrative leader for UK's Equine Initiative. "Norm has provided valuable leadership to developing our undergraduate program, and he led the process to create the College's Equine Advisory Committee and then agreed when we asked him to serve as its initial chair. In that post he has created lively, relevant, and provocative discussions. He represents stakeholder leadership and engagement at its very best."

Luba has been a long-time supporter of equine activities at UK, including presenting at seminars and lecturing in classes and performing policy and procedures work for the state 4-H Horse Program and Horse College. He played a vital role in helping shape the curriculum for the Equine Science and Management undergraduate degree program, bringing his academic experience and knowledge of equine industry needs to the table.



Prior to his role with the North American Equine Ranching Information Council, Luba taught within the University of Louisville's equine business program, served as manager of the University of Maryland Research Center, taught within its equine program, and worked in the Cooperative Extension Program at the University of Maryland.

He has been actively involved in the horse industry most of his professional life. He served as the executive director of the Kentucky Horse Council and developed the Racing Steward Accreditation Program. Luba currently serves on the Kentucky Quarter Horse Association's board of directors, the American Youth Horse Council, the Animal Welfare Council, and the Sales Integrity Task Force. He also actively shows Quarter Horses and is competitive on a national level. Luba earned his bachelor's from

(NORM LUBA ...)

the University of Connecticut and master's from the University of Maryland.

"Although I knew Norm before coming to UK, he has been extremely helpful to the UK equine program," said Ed Squires, PhD, Dipl. ACT (hon.), director of the Equine Initiative and executive director of the UK Gluck Equine Research Foundation. "As chair of the College's Equine Advisory Committee, he has provided valuable leadership in shaping our program."

The Friend of the Equine Initiative was created in 2005 to recognize a member of the public who has provided advocacy, funding, or other extraordinary support for the UK College of Agriculture's Equine Initiative or a college or university employee who

has generated an exceptional relationship with stakeholders that has been manifested in a new program, new advocacy success, or new resources for the initiative.

Past Friends of the Equine Initiative include Dan Rosenberg of Rosenberg Thoroughbred Consulting; northern Kentucky county extension agent trio Don Sorrell of Campbell County, Dan Allen of Kenton County, and Jerry Brown of Boone County; and David Switzer of Kentucky Thoroughbred Association/Kentucky Owners and Breeders Association.

For more information about UK's Equine Initiative, visit [www.ca.uky.edu/equine](http://www.ca.uky.edu/equine).

*Holly Wiemers, MA, is communications director for UK's Equine Initiative.*

## UPCOMING EVENTS

**Jan. 13, 6 p.m.**

Kentucky Equine Networking Association (KENA) Meeting, Networking 6 p.m.; Dinner 6:30 p.m., Clarion Lexington-North, Lexington

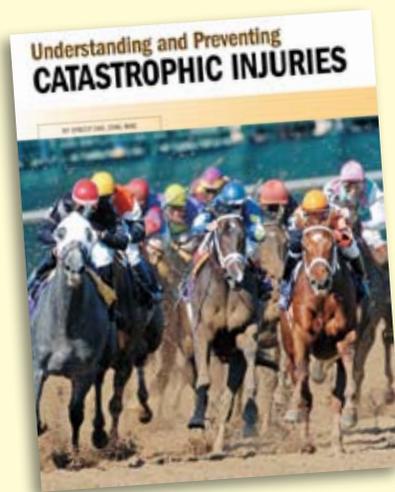
**Jan. 20, 1-5 p.m.**

UK Equine Showcase with reception to follow, Veterinary Diagnostic Laboratory Auditorium

**Jan. 21, 8 a.m.-5 p.m.**

3rd Annual Kentucky Breeders' Short Course, Veterinary Diagnostic Laboratory Auditorium

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