

Kentucky Equine Research Conference 2008

Equine industry professionals from 22 states and 16 countries gathered in central Kentucky for the 2008 Team Member Day and Nutrition Conference presented by Kentucky Equine Research. Nutritionists, feed formulators, mill owners, sales representatives, veterinarians, and academicians listened to presentations focusing on metabolic and gastrointestinal disorders of the horse. Luncheons, receptions, and a historic celebration provided plenty of opportunities for the more than 130 conference attendees to compare notes and exchange ideas with their peers.

Team Member Day:

A LOOK AT THE PAST, PRESENT, AND FUTURE

Kentucky Equine Research founder and president Dr. Joe Pagan welcomed a select group to the Team Member Day. Feed manufacturers that partner with KER are designated as Team Members, and these companies both contribute to, and share in, KER's success and growth. Founded in 1988, KER has carried out numerous studies in equine nutrition and exercise physiology, and has used the resulting information to design feeds and complementary nutritional products that help horses reach their maximum potential. KER's Team Members have been instrumental in producing and distributing these feed products across the country and around the world.

FINDING THE ANSWERS. Pagan reviewed some of the research the company has conducted over the years. Studies have probed a range of topics—nutrient requirements of various classes of horses, effect of time of feeding on physiological parameters in exercised horses, patterns of foal growth, influence of nutrition on developmental orthopedic disease, relationship of birth month to racing success—and have turned up some expected, as well as some surprising, conclusions. Pagan pointed out that KER's slogan, "Research separates the innovator from the imitator," is evident in the production of RE•LEVE®, the first low-starch, high-fat feed developed several years before the current wave of enthusiasm for low-carb rations.

THE WORLD COMES TO KENTUCKY. Jack Kelly, CEO of the 2010 World Equestrian Games, presented a colorful preview of the WEG program. This international competition will be held at the Kentucky Horse Park. As the official nutritionist to the United States Equestrian Federation, KER has been instrumental in providing feed to equine competitors at numerous Olympic, Pan-American, and WEG events over the past dozen years.

GRAIN TRAIN. The next discussion highlighted rising costs on the world grain market, and Team Members were invited to share their insights and strategies for dealing with price increases. The feeling expressed by most experienced manufacturers was that prices do tend to rise and fall; increases will often be passed on to consumers; and this fact of life must be seen more as a circumstance than a problem.



Team Members from around the world were recognized for their years of partnership with Kentucky Equine Research.

HONORS NIGHT. In appreciation of their support and cooperation, Team Member representatives were presented with plaques recognizing their years of association with KER. This was followed by an evening reception at the United States Equestrian Federation offices, where Pagan's staff honored him with a crystal vase commemorating KER's 20 years of success.

Nutrition Conference: Managing Today's Gastrointestinal and Metabolic Diseases

GUT LEVEL. KER's Dr. Larry Lawrence began the nutrition conference program with an explanation of the equine gastrointestinal tract. Beginning with the neonatal foal's ability to absorb antibodies from the mare's colostrum, the digestive tract matures and grows as the young horse nurses, begins to nibble forage, and eventually gets its first taste of grain. Understanding the stages at which various physical and chemical changes occur can help to explain why horses are fed in a certain way.

MORE THAN A SIMPLE STOMACH

ACHE. Colic is an ever-present threat, and even with modern knowledge of risk factors and treatment options, the most carefully managed horse can occasionally develop colic. In fact, a recent study listed only old age and injury above colic as a cause of death in horses. Dr. Nathaniel White of the Marion duPont Scott Equine Medical Center in Virginia discussed colic prevalence, risk factors, and prevention, as well as treatment protocols and post-colic nutrition.

BUFFER ZONE. Dr. Frank Andrews, the section chief of large animal internal medicine at the University of Tennessee, led attendees through an overview of gastric and colonic ulcers, common problems in performance horses. Dietary and environmental management—treatment with buffering agents, limiting use of nonsteroidal anti-inflammatory drugs, reducing inflammation, and decreasing environmental stress—can be important in controlling these conditions and preventing their recurrence.

HOT HOOVES. Laminitis, another age-old threat to equine health and soundness, was reviewed by Dr. Peter Huntington from KER's Australasian office. Although recent research has uncovered important facts related to the causes and pathology of laminitis, this problem continues to cripple horses and limit their usefulness.

Huntington pointed out that genetic research could identify at-risk horses, and therapies such as intracecal buffering are helpful in preventing the shifts in cecal pH that can lead to laminitis.

FRIENDLY FIBER. Dr. Joe Pagan presented an explanation of forage as the foundation for equine gastrointestinal health. As hindgut fermenters, horses require a nearly steady supply of forage to keep gut environment and function in good shape. Horses that are fed large grain meals and given limited access to forage are prime candidates for the formation of gastric ulcers, while horses with plenty of forage benefit from the buffering action of saliva produced as the horses chew. Alfalfa hay in particular provides protein and calcium, natural buffers that reduce the likelihood of ulcer formation.



Conference attendees had time to visit and compare notes about technology, customer service, and rising grain prices.

RESISTANCE MOVEMENT. Anna Firshman of Oregon State University explained insulin resistance, an important component of many equine diseases. This condition is related to equine Cushing's disease, equine metabolic syndrome, and some forms of laminitis. A practical and accurate diagnostic test for insulin resistance could allow treatment and management changes to begin before clinical signs are seen, possibly avoiding the toxic effects on organ function caused by persistently high plasma glucose.

SOME SIMILARITIES, IMPORTANT DIFFERENCES.

Dr. Frank Andrews recapped his and Dr. Nicholas Frank's work on equine Cushing's disease, caused by problems with pituitary function and found most often in older horses, and equine metabolic syndrome, a malady characterized by obesity and laminitis that can affect horses of any age. Horses with equine Cushing's disease may show lethargy, loss of appetite, increased drinking and urination, bulging fat pads above the eyes, and a long, curly hair coat that is slow to shed in the spring. Those with equine metabolic syndrome have the typical "easy keeper" appearance and frequently show hoof rings characteristic of chronic subclinical laminitis. Methods of diagnosis and treatment differ, but both diseases can be managed to maximize health and comfort.



Guests attended an evening reception to celebrate Kentucky Equine Research's twentieth year.

TALE OF THE SCALE. After almost 20 years of studying equine development, KER has established growth curves that show considerable variation among Thoroughbred growth patterns from around the world. Although there is a perception that the biggest yearlings are the most desirable, recent research has shown that yearling size does not necessarily predict athletic success. KER's Dr. Clarissa Brown-Douglas explained the factors involved in managing young horses for a smooth growth curve, avoiding some types of developmental orthopedic disease that can be triggered by grain meals producing a large glycemic response.

WEIGHT WATCHERS. The University of Kentucky's Dr. Laurie Lawrence addressed management of horses that fall outside the moderate body condition score range. Thin horses need to gain weight, a process that involves changing the daily energy balance by increasing caloric intake and possibly reducing energy use (for example, providing shelter in extremely cold climates). For horses that are too fat, an ideal management plan would involve increasing exercise and lowering energy intake. A realistic timeline must be planned, and vitamin, mineral, and protein requirements must be met to ensure the horse's continued health.

HOLD THE SUGAR! Dr. Joe Pagan emphasized the common thread in five different metabolic disorders: equine Cushing's disease, equine metabolic syndrome, recurrent exertional rhabdomyolysis, polysaccharide storage myopathy, and osteochondrosis. All these problems, Pagan said, are either triggered or aggravated by excessive intake of starch and sugar. High-fat, low-starch feeds are helpful in some cases, particularly in tying-up syndromes, but are not recommended for others such as equine metabolic syndrome. Specific feed programs designed

to meet the energy and nutrient needs of horses with each disorder can help alleviate manifestations of disease.

SOMETHING IN THE GRASS. Grass contains nonstructural carbohydrates (NSC). That's the simple part. A closer look reveals the complexity of sugar type, production rate, storage, and availability in different grasses. Add variables like environmental stress, growth rate, maturity, and seasonal variation. Finally, factor in the horse's sensitivity to high levels of NSC intake, and it's easy to see the difficulty in setting up ironclad guidelines for safe pasture turnout. Kathryn Watts of Rocky Mountain Research & Consulting in Colorado provided plenty of food for thought on this subject.



Industry professionals associated with Brooks Performance Feeds traveled from Ontario, Canada to attend the Team Member Day and the nutrition conference.

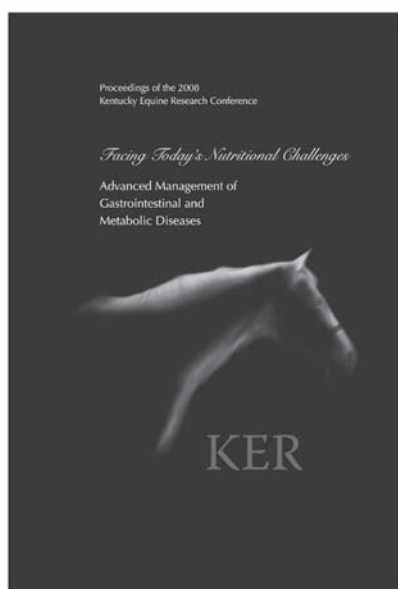
So, what did attendees take home from the 2008 nutrition conference presented by Kentucky Equine Research in its twentieth year? It is hoped that those who attended will have gained some nutrition-related answers, but more questions are also inevitable. Those questions are the basis for continuing studies, eventually leading to a better understanding of equine nutritional management.

THE ROLEX KENTUCKY THREE-DAY EVENT, one of only a handful of four-star events in the world, was held at the Kentucky Horse Park on April 24-27, 2008. The competition was an FEI Qualifying Competition and U.S. Equestrian Federation Selection Trial for the upcoming Olympic Games that will be held in the fall of 2008.

Veteran competitor Phillip Dutton claimed victory on his Irish Sport Horse gelding Connaught. Kim Severson piloted another Irish Sport Horse gelding, Tipperary Liadhnan, into the fifth-place spot. Karen O'Connor and her diminutive mount Theodore O'Connor, a Sport Pony gelding, finished in sixth place, while Dutton also had a tenth-place finish with Woodburn, a New Zealand Thoroughbred gelding. Congratulations to these riders from their sponsor, KER Team Member Pennfield Feeds. Dutton and O'Connor are also sponsored by Kentucky Equine Research, which extends congratulations to all riders as well as best wishes for continued success.



Sponsored rider Phillip Dutton piloted Connaught to a first-place finish at the Rolex Kentucky Three-Day Event.



Couldn't attend the nutrition conference, but still want to catch up on the latest information?

All twelve lectures are contained in the 2008 conference proceedings.

This 150-page spiral-bound volume can be purchased by going to

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and clicking on the blue proceedings cover.

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