

# Kentucky Equine Research Sponsors International Symposium

The 6th International Conference on Equine Exercise Physiology (ICEEP 6), sponsored in part by Kentucky Equine Research, Inc. (KER) and USA Equestrian, was held in Lexington, Kentucky September 22-28. The symposium drew the world's top equine sport medicine scientists, and capped a series of conferences that included the 12th annual KER Nutrition Conference and a lecture series titled Equine Sports Medicine 2002 hosted by the University of Kentucky.

ICEEP was established in Oxford, England in 1982 as an information exchange forum for leading scientists in the field of equine exercise physiology. After the first meeting, it was decided there should be subsequent conferences to allow researchers the opportunity to share results of scientific investigations and to develop collaborative relationships. Since the first gathering, conferences have been held in Sweden, Australia, Japan, and the United States.

KER researchers and staff played a prominent role in ICEEP 6. President Dr. Joe Pagan served as a member of the national organizing committee that was responsible for procuring the conference venue and overseeing local activities. KER was also instrumental in preparing the nearly 600-page hardbound proceedings. Gemma Cowley, a research associate at KER in 2001 and 2002, coordinated the acquisition of papers from authors and the dissemination of those papers to reviewers in the spring and summer of last year. Before acceptance of the papers into the proceedings, they were scrutinized by at least two reviewers. Cowley worked with more than 130 professionals across the globe during the review process. Electronic transfer of manuscripts facilitated prompt communication between authors and reviewers, and the proceedings was produced in advance of the conference for the first time in ICEEP history. A completely searchable CD version of the proceedings, compliments of KER, was distributed with each bound copy.

In addition to his service on the national organizing committee, Pagan presented the results of two studies conducted at the KER research facility in Versailles, Kentucky. One of the studies illustrated the effects of fat adaptation on carbohydrate and fat oxidation in conditioned horses during low-intensity exercise. A

fat-supplemented diet was found to dramatically reduce the production and utilization of glucose, and decrease the respiratory exchange ratio. In addition, whole-body carbohydrate oxidation rate was lowered while an increase was noted in the rate of body-wide lipid oxidation. These metabolic changes, which were apparent after five weeks of fat supplementation, are advantageous during prolonged exercise such as endurance riding, when delayed use of carbohydrates as a source of energy would defer fatigue.

The second study compared the metabolic responses of Thoroughbreds and Arabians during high- and low-intensity exercise. As expected, Thoroughbreds had higher aerobic and anaerobic capacities when compared to Arabians, which were found to be better suited for long-distance riding due to their efficient use of fat to drive exercise. The metabolic variances discovered during the study may reflect the well-documented differences in muscle fiber types between the breeds.

ICEEP 6 marked the fourth time Pagan has participated in the symposium; he first presented research at the 1986 conference in San Diego, California. Since that time, all of his presentations have resulted from research carried out at the KER facilities in central Kentucky.

Lexington was chosen as the site for ICEEP because of its renown as the epicenter of

Thoroughbred breeding. KER staff members organized a number of extracurricular activities for the conference participants and their guests including trips to local horse farms, the Kentucky Horse Park, the Red Mile (a harness racing track), and medical facilities such as Hagyard-Davidson-McGee Veterinary Clinic, Kentucky Equine Sports Medicine and Rehabilitation Center, and the KER research facility. Guests were also taken to local historical attractions such as Fort Harrod, Shakertown, and the Labrot and Graham Distillery. University of Kentucky staff provided tours of the Maxwell H. Gluck Equine Research Center on the university campus.

USA Equestrian hosted a dinner for ICEEP attendees at its new facility at the Kentucky Horse Park. Rood and Riddle Equine Hospital entertained conference participants one evening with dinner at its clinic in Lexington.

The next ICEEP is slated for 2006 and will be held in France. ☺☺

