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Patented Pain Relief

Researchers team up to treat cattle lameness



The CVM's Dr. Butch KuKanich, left, teams up with former faculty member, Dr. Hans Coetzee (now at Iowa State University), to alleviate chronic pain in cattle related to lameness and other problems.

A U.S. patent was recently awarded for technology created by researchers at in the College of Veterinary Medicine that improves the health and welfare of beef cattle and other ruminant animals suffering from lameness and following castration, dehorning and other painful but necessary management procedures.

U.S. Patent No. 8,791,105, "Methods for Alleviating Chronic Pain and Improving Performance of Cattle Undergoing Dehorning or Castration," was awarded to the Kansas State University Research Foundation, a nonprofit corporation responsible for managing technology transfer activities at the university.

The patent is for research conducted while at Kansas State University by former faculty member Dr. Hans Coetzee, now a professor of clinical pharmacology at Iowa State University, and Dr. Butch KuKanich,

associate professor of anatomy and physiology in the College of Veterinary Medicine.

The patent covers administering meloxicam alone or administering a combination of meloxicam and gabapentin to help alleviate acute and chronic pain and improve the performance of cattle. Researchers found that combinations of meloxicam and gabapentin improved the welfare of cattle by reducing the severity of lameness. Meloxicam alone improved weight gain after dehorning and reduced the incidence of bovine respiratory disease after castration.

"Once meloxicam was orally administered to beef cattle prior to these common procedures, the cattle gained more weight and had lower incidence of bovine respiratory disease because it allowed them to be more comfortable and less stressed," Dr. KuKanich said.

A significant benefit of this patented technology is that it reduces reliance on antibiotics to treat and control diseases in cattle. This reduces the risk of antibiotic resistance selection and has positive implications for both human and animal health.

The patent is available to license.

Currently, the Kansas State University Research Foundation has been awarded four patents in 2014 for inventions by university researchers.

Himalayan hike helps herds and horses



Second-year student Jessy Prado watches one of the herds her team just treated continue down a mountain pass in the Himalayas. She was there in May on a Christian veterinary mission.

each animal by name and losses are devastating,” Jessy said. “The most common ailments we treated were the simple ones – starvation, dehydration and malnutrition. We also saw a lot of pneumonia, bacterial infections, orf, broken legs and saddle sores. Occasionally we saw bear and leopard bites.”

Eggs from backyard chickens pose potential consumption problems

A recent trend in the United States has grown out of a desire for a safe food source, but a Kansas State University pharmacologist warns that what you don't know could hurt you or others. More and more Americans are raising chickens in their backyards, keeping them as pets and relying on them as a safe source of fresh eggs. Dr. Ronette Gehring, regional director for the Midwest for the Food Animal Residue Avoidance Databank, FARAD, says that owners need to be aware of potential drug residues in the eggs.

“Owners must be aware that any drug they administer will result in residues in the eggs,” Dr. Gehring said. “It's important that if owners buy

medications over the counter to treat their flock, they closely follow the directions on the label. This includes only using the drug if it is specifically labeled for chickens laying eggs and only for the diseases listed on the label, at the exact dose, dosing interval and duration of treatment given in the instructions.”

FARAD only gives extra-label drug use advice to veterinarians. Through this resource, the veterinarians can let owners know when it will be safe to consume their chickens' eggs again. Dr. Gehring said that sometimes owners will have to clean coops and water dishes after chickens have stopped receiving drug treatments as residues can remain in that environment.



Owners are encouraged to visit with their veterinarians. More information is available at the FARAD website: www.farad.org.

It's hard to imagine encountering snow in May, but thanks to a special opportunity, second-year student Jessy Prado trekked to the Himalayas and worked with animals in very high altitudes where snow is common.

“When I saw there was a backpacking trip to the Himalayas being put together, I had to be a part of it,” Jessy said. “I was incredibly grateful to receive an International Travel Scholarship as well as the Christian Veterinary Medicine Fellowship Travel Award. Those scholarships really made this trip a success – they allowed our team to purchase a lot more medicine for use than was previously expected.”

As part of the mission, Jessy worked with a specially assembled team.

“My team consisted of six veterinarians, two students and one of the veterinarian's sons,” Jessy said, “We traveled to this specific area to work with nomadic herders during their annual migration deeper into the Himalayas. After a few days of orientation and acclimation, we spent our trip camping around 9,000-10,000 feet up in the mountains.”

Jessy said the annual migration is incredibly hard on the people and animals alike. Her team hiked about 10 miles a day, but the nomads can journey up to 500 miles. On their hike, the team worked with a wide range of animals and medical conditions.

“The people rely on their sheep, goats and horses as almost an exclusive source of income – they know

BCI gives State Fair attendees realistic birthing simulation via a new artificial cow

The term “hands-on” has recently reached a whole new level at the Beef Cattle Institute (BCI) at Kansas State University. The center, housed at the College of Veterinary Medicine, purchased a dystocia simulator cow and calf to help teach and demonstrate the birthing process. Visitors to the Kansas State Fair in Hutchinson are already getting their own in-depth experience where the new simulator has been displayed to the public.

Developed by Veterinary Simulator Industries and the University of Calgary in Calgary, Canada, the simulator pair was purchased with the initial goal to create a simulation lab for teaching students working towards their veterinary degrees.

Dr. Dave Rethorst, director of outreach for the BCI, coordinated the first demonstrations of the simulator cow, nicknamed “Bossy,” and her calf for the state fair.

“At the fair it wasn’t so much as to give a demonstration as it was to let youth have an opportunity to pull a calf,” Dr. Rethorst said.

Dr. Rethorst and a group of K-State veterinary students set up the cow and calf at the fair and have allowed children to



Dr. Dave Rethorst pulls a calf with help from fourth-year student Daina Iman.

identify the structures of the calf. The next step is for children to pull the calf with the straps. Youth anywhere from ages 4 to 20 have been lined up to try their hands at pulling a calf from the simulator cow while their parents and grandparents excitedly take photos and videos of the experience.

Video: Student Ambassadors

Taking a tour of the College of Veterinary Medicine at Kansas State University is an exciting opportunity to learn about veterinary medicine for both potential students, alumni, and other visitors. Providing this sneak peak into college is just one of the responsibilities of the college’s student ambassadors.



Incoming student Michelle Chen gets first-year tips from ambassadors Melissa Juby and Christian Eckert, both second-year students.

Second-year student places in AAVN case-writing competition

Second-year student Jeff Laifer received second-place for his submission to the American Academy of Veterinary Nutrition (AAVN) Student Case Writing Competition. Jeff said the first-place winner was an internal medicine resident at Ohio State University.

“I saw the case, titled ‘Nutritional Management of Renal Tubular Acidosis and Calcium Phosphate Urolithiasis in a Dog with Hypercalcemia,’ two summers ago while working for Dr. Laura Eirmann, a veterinary nutritionist at the Oradell Animal Hospital,” Jeff said. “The case originated at the Animal Medical Center in New York City, but was referred to Dr. Eirmann for the nutritional management of this complex case. As this was my first attempt at writing a case report, professor Dr. Thomas Schermerhorn mentored me on the style of writing a case report and gave some really helpful feedback.”



Second-year student Jeff Laifer takes second-place at a symposium in Nashville.

HPSP students take oath to start year



K-State's four Army Veterinary Corps Health Profession Scholarship Program recipients took their oaths in August. From left: Donna Springer, coordinator of student programs, and students Kathleen Stewart, Kaitlin Foley, Lisa Crevoiserat, Taylor Boles, with K-State MPH Director Dr. Michael Cates, retired brigadier general, who led the oaths.

UPCOMING EVENTS

Sept. 12: Annual Visit by President Schulz and Provost Mason

Sept. 19: American Association of Bovine Practitioners Annual Conference, K-State Alumni Reception, 8-10 p.m., Hyatt Regency Albuquerque, Pavilion 1

Sept. 20: SCAAEP Fall Conference, 8 a.m. – 5 p.m., Frick Auditorium, Mosier Hall

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