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China's Classroom



CHINA'S CLASS

In China, agriculture is a hands-on way of life and acupuncture a common practice, students learn

A full education involves more than textbooks and lectures.

With that ideal in mind, 12 University of Pennsylvania School of Veterinary Medicine students took off on a grand adventure to China under the tutelage of six Penn Vet professors and staff. The visit aimed to give students a real-life tour of Chinese agriculture and a point of comparison to methodology of US agricultural systems.

Upon arrival in China, students traveled to Hangzhou's Zhejiang University. Along the way, the density of the human population of China, as well as the importance of improving the country's agricultural production to meet the growing need for animal protein, was realized. In Hangzhou, students visited farms to evaluate feeding and management systems, attended and presented seminars and toured campus laboratories.

"At their farm visits, students found that cows in China were not unlike those in the US," said Dr. Zhengxia Dou, associate professor of Agricultural Systems, "and that, as in the US, herd size and management styles varied greatly."

Students noted the absence of large tractors and other equipment, the reliance of hand labor and differences in forage harvest strategies, which appeared to compromise forage quality on the Chinese farms.

"In the US, corn silage is harvested quickly at optimum readiness by tractors and other equipment to chop the silage to optimum length and pack it to eliminate oxygen during the fermentation process of silage preservation," said Dr. Bob Munson, staff veterinarian, Center of Animal Health and Productivity.

In China, however, corn forage is purchased from small farms and is delivered green to the dairy where it's chopped and deposited in the trench silo. Silo filling is done by foot. Without the weight of heavy tractors, packing does not allow for optimum fermentation and preservation of forage quality.



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Excess moisture, insufficient content of corn grain in the delivered feeds and inconsistent chop length also contribute to silage quality problems. Nevertheless, there are opportunities to improve dairy herd nutrition – and consequently milk production – through improved forage cropping and harvest management.



Students also learned about unique academic programs available, such as research projects at the agricultural school that involve genetic manipulation of silkworms to produce naturally colored silk. In the vet school, students attended demonstrations and received hands-on practice of acupuncture in farm animals from Dr. Songhua Hu.

Next up was a stop in Beijing to China Agricultural University (CAU). At CAU, students attended a lecture by Professor Zhao Deming about veterinary public health issues in China. Evidence of this lecture was felt first-hand; one farm visit was canceled because of concern about foot and mouth disease, and because of concern of Swine Flu, some meetings with Department of Agriculture officials were also canceled.

Highlights of Beijing activities included a visit to a calf-to-slaughter purebred beef raising operation and associated CAU Laboratories for Ruminant Nutrition and Metabolism and Beef Research. This facility is a joint private/academic venture to promote the scientific understanding of beef production. Besides facilities for breed development, growing, finishing, processing and freeze-packing, there is a modern, fully equipped laboratory for applied research and development for the beef industry, complete with taste panel facilities.

“Veterinary medicine involves more than isolated diagnosis and treatment of sick animals,” said Dr. Jim Ferguson, section chief, Nutrition, Animal Health Economics and professor of Clinical Nutrition in the department of Clinical Studies. “And students learned that important lesson on this trip, as well as the lesson that success in the veterinary profession requires understanding of the social and cultural issues important to the clientele whom they hope to serve.”

About the Program

In the summer of 2009, students at the University of Pennsylvania School of Veterinary Medicine accompanied six faculty/staff members on a trip to China to visit food animal production facilities as part of their training. The trip was supported by a USDA International Science and Education grant and a Hewlett Award for Innovation in International Offerings. The same award was granted again for summer 2010 where a new group of students will be taken on this educational tour. Further information about the trip can be found at: <http://cahpwww.vet.upenn.edu/china/index.html>.

Student Participants

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Katie Brinkley V'11
Hope Coleman V'12
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Nathan Kapp V'11
Kaitlyn Lutz V'11
Jessica Matjik V'11
Gil Patterson V'11
Laurel Redding V'11
Kate Schulz V'10
Erin Stough V'12

Faculty/Staff Participants

Dr. Zhengxia Dou
(PI, Penn Hewlett Award)
Dr. Jim Ferguson
(PI, USDA grant)
Dr. Dave Galligan
Dr. Bob Munson
Dr. Charlie Ramberg
Dr. Zhiguo Wu

Hosting Chinese Institutions

Zhejiang University
China Agricultural University
Northwest A&F University
Yangzhou University