

# Dairy Production Immersive Knowledge Experience (D-PIKE) and Swine Production Immersive Knowledge Experience (SPIKE)

## A.S. Leaflet R2251

Bruce Leuschen, DVM;  
Locke Karriker, DVM, MS, DACVPM;  
Alex Rameriz, DVM, MPH, DACVPM;  
Pat Halbur, DVM, PHD, chair,  
Veterinary Diagnostic and Production Animal Medicine

### Summary and Implications

D-PIKE and SPIKE are programs designed to develop an intense experience for veterinary students that have an interest in either dairy or swine production medicine. Students are housed in a learning community environment to facilitate discussion pertaining to their daily experiences. The program is a ten week effort to bring the respective industry to the students from a ground up approach.

### Introduction

In an effort to bring an innovative approach to teach production medicine to students interested in the dairy and swine industry, Iowa State University's College of Veterinary Medicine and the Department of Veterinary Diagnostic and Production Animal Medicine (VDPAM) designed this program. Students in veterinary schools often do not have a strong background on farms and seek opportunities to gain experience that will enhance their understanding of the dairy and swine industries. Also, students complete 2-3 years of veterinary curriculum before they receive opportunities to experience production medicine. D-PIKE (Dairy Production Immersive Knowledge Experience) and SPIKE (Swine Production Immersive Knowledge Experience) are programs that combine the efforts of private industry production units, private veterinary practices, associated industry, and VDPAM to put students in a learning community environment. The inaugural program started in May of 2006.

### Materials and Methods

D-PIKE and SPIKE are similar but distinct programs. In 2006 the D-PIKE program was in NE Iowa and the SPIKE program was in SW Iowa. A description of the D-PIKE program will follow.

Eight students, four dairy farm enterprises, a veterinary clinic, several allied industries, and VDPAM were the foundation for the D-PIKE program. The students included one undergraduate student, a first year veterinary student (VM1), four VM2 students, and three VM3 students. The students participated on the farms in the various phases of

production for two week rotations. Emphasis on stages of production included: calf management, milk quality and the milking center, transition and sick cow management, nutrition, reproduction, and dry cows and parturition. A rotation with the veterinary clinic involved visits to various dairy farms and assisting with procedures on the farms. Seminar speakers addressed these various aspects of the production cycle. Topics also included embryo transfer and dairy economics. These speakers included people with expertise in the topic and came from private industry as well as university personnel. The students were also given a short course and became certified in artificial insemination.

The four dairy farms selected for the program included: NE Iowa Dairy Foundation Dairy Center (associated with the Northeast Iowa Community College and ISU), which has a 250 cow freestall operation and an 80 cow grazing operation. Also participating were a 1000 cow Holstein operation, a 300 cow Holstein operation, and a 150 cow Brown Swiss operation. All three private operations were high performing herds that also markets genetics.

A tour to three other dairy farms that are innovative in their enterprise structure demonstrated the variation in opportunity to the students.

Tours to three milk processing plants and a private farm processor completed the production phase of the dairy industry. The students saw the end phase of milk processing: fluid milk products, dry milk products, cream cheese, cheese and ice cream. The students also toured an ethanol plant.

The SPIKE program was based in SW Iowa and mirrored the activities of the D-PIKE program. Students participated in daily activities at boar studs, sow farms, wean-to-finish facilities, and ancillary services such as feed milling and the records bureau. Additionally, students visited the World Pork Exposition, a modern processing plant, and the research, production and distribution facilities of one of the world's largest animal biologics companies.

### Conclusions

The 2006 D-PIKE and SPIKE programs were very successful inaugural attempts to introduce the dairy and swine industry to students. The programs were designed to enhance the educational curriculum incurred by students in the College of Veterinary Medicine in that the students now have a wealth of on farm experience to relate to. Future programs will build on the momentum of the 2006 program and continue to give students an opportunity that will impact their education as well as their careers.