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State Fairs: A Means of Exposing America's Youth to the Veterinary Profession?

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State and county fairs have existed for a long period in the United States and many parts of the world. One of the first recognized state fairs in the US was held in 1841 in New York.¹ That fair's purpose was the hosting competitive exhibitions for livestock, homemade goods, and farm produce. These events served as entertainment for rural communities where access to such venues was limited. Fairs also were an opportunity for farms to exhibit their produce and livestock. Over the years as more of the population moved away from agricultural production, fairs are a method of keeping urban communities connected to their rural roots. Recently, livestock shows have become a prominent business centered around the core values of hard work, manual labor, educational development, nurturing animals to grow, and to teaching a grass-roots work ethic.

Public education about the source of milk and meat is an ever present challenge in today's world as only 2% of the population have any direct contact with agriculture.² Birthing centers offer a unique insight for many consumers to witness first hand where their food comes from and a glimpse at how producers provide for and care for the animals under their care. Veterinary presence in these centers allows for open discussion between the public and veterinarians as to the safety of food. It also provides opportunity to educate the public about current topics in the news media and provide answers to many questions about food products, the human/animal bond, and the veterinarian's role in the safety of their dinner. Informed representatives are able to discuss public concerns on a wide range of topics including zoonotic disease, infectious and contagious disease, food safety, and animal welfare.

Kansas State Fair and Kansas State University College of Veterinary Medicine Program

Kansas State University has operated a "birthing center" for over 20 years at the Kansas State Fair. The birthing center is designed such that multiple species of animals either give birth at the fair or extremely young animals are exhibited. This provides a strong incentive to the public to attend these events.

Objectives for faculty and students:

The exhibition also creates an opportunity for veterinary faculty and students to interact with the public. Veterinary students serve as role models for children to aspire to and faculty representatives provide information to parents regarding the process for admission, methods of improving their child's competitiveness for the limited number of seats available in the veterinary classes, and provide answers to questions about career opportunities. Little data is available to assess the effectiveness of these programs, but state fairs do offer the opportunity to increase the awareness of the veterinary profession in the state. Vital partners in this process are the state veterinary medical associations. In Kansas, the KVMA has representatives in the same room as the birthing center. This offers an opportunity for Kansas State and the KVMA to work in partnership with each other to present a unified vision for the veterinary profession in the state.

Prior Experience of Current Veterinary Students:

In an attempt to gain insight into the exposure of veterinary students to state fairs prior to entering veterinary school, students were asked to provide answers to the following questions:

1. What state did you grow up in?
2. Do you remember going to the State Fair, Seeing a Veterinary Exhibit or Birthing Center ?
3. At what age do you remember this (earliest memory)?
4. Did the Veterinary Exhibits have an influence on your decision to become a veterinarian?

Out of the 436 students to whom the survey was directed, 106 (24%) completed the form. Most students reported that they grew up in Kansas (n=35), but several other states were represented, including:

- California (n=11),
- Colorado (n=2),
- Connecticut (n=2),

Florida (n=3),
Illinois (n=3),
Indiana (n=1),
Kentucky (n=1),
Louisiana (n=2),
Maryland (n=1),
Missouri (n=3),
Montana (n=2),
North Carolina (n=3),
North Dakota (n= 6),
Nebraska (n=6),
Nevada (n=1),
New Jersey (n=1),
New Mexico (n=1),
New York (n=6),
Ohio (n=1),
Pennsylvania (n=2),
South Dakota (n=2),
Texas (n=3),
Utah (n=1),
Virginia (n=3),
Vermont (n=1), and
Washington (n=1).

Approximately 30% of students indicated that they remembered going to the fair and seeing veterinary exhibits or a birthing center. Other students commented that they were unaware of birthing centers being present at state fairs and many students had never attended a state fair. Of

the 35 students from Kansas, 17 (49 %) remembered going to the state fair and the veterinary birthing center. Several students noted that the birthing center was their favorite part of the fair. Students indicated that they had memories of the state fair beginning in early childhood. Of those students who provided a specific age at which they first remember the fair, they indicated that they were between 5 and 16 years old.

Specific responses to the query regarding the influence that the state fair exhibits had on their becoming a veterinarian were provided on 30% of the completed surveys. One student indicated that the veterinary exhibit at the state fair had a specific role in the decision to be a veterinarian. Most of these students (20/33, 61 %) said that the exhibits had a positive effect on their decision to become a veterinarian. Most indicated that the exposure re-enforced or strengthened their decision and several students mentioned the exposure to current veterinary students as a positive role model. All of the other 12 (36 %) students indicated that they were well on their way to becoming a veterinarian when they attended the state fair.

The student responses provide some perspective on the exposure of the general public to state fairs. In this case, the students represented a biased population of people that are highly attracted to a career based on the care and welfare of animals. Despite this, only about one in three students reported having gone to state fairs during their youth. When looking at students from Kansas only, this increased to half of the students. This is understandable in that Kansas is a strong agricultural state with a relatively modest population. The data suggest that veterinary exhibitions at state fairs have a strong impact on children already interested in the profession by strengthening their desires and providing positive role models.

Teaching objectives to the public:

State Fairs can be utilized by veterinary schools as a way of connecting with youth oriented toward a career involving animals. The concept behind these activities is that by exposing youth at an early age to the multitude of career options in veterinary medicine, these youth would then be more likely to enter the profession. An added motive is to increase exposure to the youth involved in livestock exhibition in the hopes that these students would be more likely to embrace a career in rural veterinary practice. Equally important to the purpose of veterinary exhibits and present at State Fairs is the exposure of parents and school teachers to the career opportunities that are available in the profession, especially with rural communities and food animal practice.

The birthing center at the Kansas State Fair is one of the most visited attractions within the fair itself. The 2009 attendance to the KSF was in excess of 350,000 people over a period of 10 days.³ A large proportion of attendees visited the birthing center. This astounding population exposure offers the opportunity for the veterinary college to influence the general public by showing firsthand the involvement of veterinarians in the care of animals and the protection of safe, humane production of food stuffs. (<http://www.kansas.com/2009/10/09/1005798/kansas-state-fair-attendance-income.html>) Additional exhibits that have been added in the recent years

have added to the overall educational value of the birthing center. Live births include dairy cows and ewes. Repeat visitors can watch as newly hatched chicks and recently weaned piglets develop over the course of the 10 days of the fair. An alpaca and cria are present to expose people to a breadth of livestock with which veterinarians interact. These exhibits serve to engage youth and adults by involving veterinary students and faculty in discussions regarding the gestation of animals, the roles of pets versus food sources, and textile product production.

Several interactive activities include an electronic matching game where visitors can test their knowledge about the names of baby animals and to identify bones by their proper names. An elaborate comparative anatomy poster helps people to compare human skeletal anatomy with that of a horse. A life-sized functional milking doe allows children to experience, firsthand, how milk is expressed from the udder. Several short interactive discussions are held at scheduled times throughout the day to educate visitors about animal health and care. A continuously looped video provides information about the veterinary school, admissions, and a veterinary student's daily life. The most important component of the exhibits is the interaction between the attending veterinarians and veterinary students with the public. Many questions and concerns are addressed by the staff of the center during one-on-one discussions with visitors.

Biosecurity Concerns:

Participation in livestock shows, exhibitions, and fairs remains popular. However, these activities represent a potential risk for exposure to infectious and contagious diseases from a large number of farms in a short period of time, given the close proximity and frequent episodes of direct contact. In a survey of biosecurity practices among farms attending California exhibitions, data revealed that 7% of participants took no biosecurity action prior to arrival at the show.⁴ Biosecurity practices utilized during exhibition included:

- Avoidance of shared equipment (61 %),
- Preventing physical contact with other animals (50 %),
- Use of hand sanitizers (38 %),
- Preventing visitors from touching animals (37 %),
- Disinfecting pens prior to use (23%), and
- Disinfecting boots and equipment (9%).

Contaminants at the fairgrounds may be easily moved amongst various exhibited livestock. The practice most commonly done after the fair was:

- To wash clothes and tools used at the show (67 %),
- Disinfection of equipment (40 %),

Disinfection of the truck and trailer (37 %),
Quarantine show animals (26%), and
Disinfection of boots and shoes (14%).

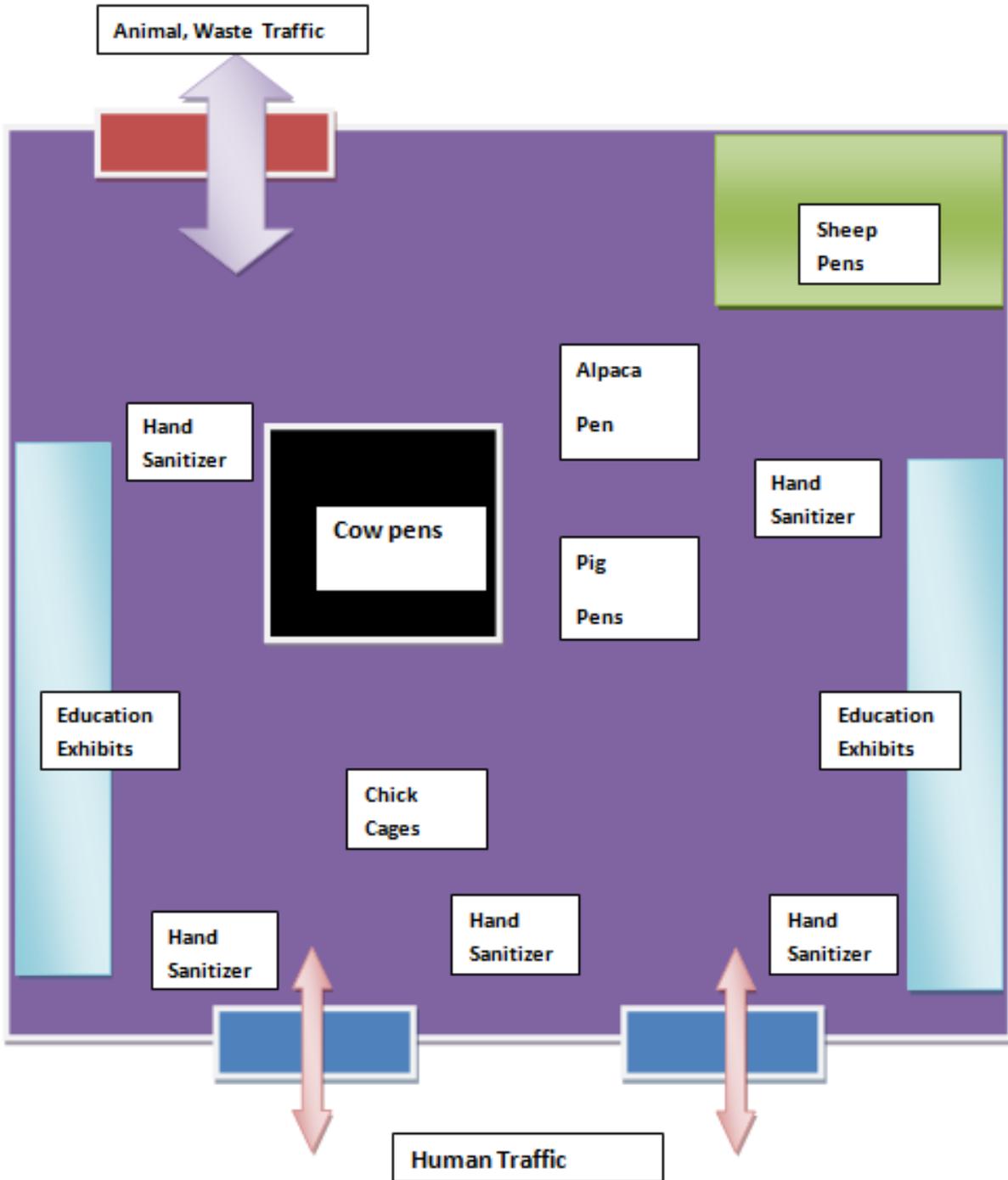
This data suggests that exposure of the home farm from contaminants at the fairgrounds is possible. For example, an outbreak of malignant catarrhal fever was identified in cattle after having been exhibited at a state fair.⁵ In that instance, spread of the disease was attributed to exposure to facilities that were used to house sheep that were unknowingly infected with Ovine herpes virus 2 (OHV-2). In a survey of livestock being exhibited at state and county fairs, E coli 0157:H7 was isolated from fecal sample collected at 31 of the 32 fairs (97%).⁶ This study also showed that E coli 0157:H7 could be recovered from the facilities 10 to 11 months after the fair even though the facilities had laid unused over that period. These studies illustrate that adherence to biosecurity standards should be encouraged, that the potential exposure to diseases of human health concern is high, and that organisms of human and livestock disease concern can persist in the environment long after livestock have left. Veterinarians can play a role in increasing awareness of urgency for biosecurity, help devise appropriate protocols, and educate the public about proper precautions in the prevention of spread of disease.

The Kansas State Birthing Center complex is a single, open building with two public entryways and a rear animal and waste traffic-way ([Figure 1](#)). All waste, feed, and animals are moved in and out of the building through the rear entrances. All human traffic is directed in and out of the facility through the front entrances. This minimized cross-contamination. Also, all human contact with the animals is observed and multiple hand sanitizing stations are present at the exit portals. Literature cautioning the public about disease and hygiene are prominently displayed. In this manner, the public is educated regarding the risks of disease, but not alarmed of the potential of infection. It is a given that the potential for exposure to zoonotic pathogens at state fairs cannot be ignored. Core concepts⁷ in prevention of the exposure of people to potential pathogens include:

1. Wash hands – personal hygiene stations, sanitation
2. Prohibit food, drink, and pacifiers in the animal areas
3. Educate visitors about the risk and proper prevention
4. Maintain separation of humans, animals, and waste

State Fairs and birthing centers offer a unique opportunity for veterinary colleges to interact with a receptive population of potential students and the general public. Further investigation as to the impact of veterinary birthing centers at State Fairs may be helpful in directing resource utilization and recruitment of future veterinary students.

Figure 1. Kansas State Birthing Center Complex.



End Notes: Laflin, Shelie and David E. Anderson. "State Fairs: A Means of Exposing America's Youth to the Veterinary Profession?" [Online Journal of Rural Research & Policy](#) (5.7, 2010).

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Dr. Shelie Laflin is an expert in cow-calf and small ruminant herd health and medicine in the Department of Clinical Sciences in the College of Veterinary Medicine at Kansas State University. She is Board Certified by the American Board of Veterinary Practitioners - Food Animal Specialty. Dr. Laflin's focus is veterinary education and she serves as the coordinator of many outreach activities including the Birthing Center at the Kansas State Fair. She earned her DVM at Kansas State University and completed a Large Animal Internship at Colorado State University. Dr. Laflin also helps manage a cow-calf ranch that has been in continuous operation since 1900 raising pure bred Angus cattle.



David E. Anderson ([back to top](#))

Dr. Anderson was raised in North Carolina in the small farming town of Oak Ridge. He earned both a BS degree in Animal Science and a DVM from North Carolina State University. He then completed an intensive rotating internship in large animal medicine and surgery at the University of Georgia and a Residency in Food Animal Medicine, Surgery, and Reproduction at Kansas State University. Dr. Anderson became a board certified specialist in surgery (Diplomate ACVS) in 1995. While at Kansas State University, he earned a MS degree in Clinical Sciences focusing on bovine surgery bone physiology and fracture repair. Dr. Anderson became Head of Food Animal Medicine and Surgery at Ohio State University where he developed techniques in minimally invasive surgery of ruminants and founded the International Camelid Institute. The ICI is an information repository and continuing education center with participants from 17 countries around the globe. Currently, Dr. Anderson is Head of Agricultural Practices at Kansas State University in the Department of Clinical Sciences in the College of Veterinary Medicine. He continues development of novel surgical treatments of injuries that limit welfare and productive use of livestock. His research focus is in surgery of food animals with special emphasis on pain and welfare. In 2009, Dr. Anderson founded the International Academy of Farm Animal Surgery to provide a method for international exchange of information among veterinarians. The IAFAS has over 300 participants in 19 different countries.

