

Feedlot Sessions

Moderators: Colin Campbell
Jim Furman

Animal Health, Management, and Foodborne Pathogens in Beef Feedlots: Results of the NAHMS Feedlot '99 Study

David A. Dargatz, DVM, PhD; Bruce A. Wagner, MS; Guy H. Loneragan, BVSc, MS; Lindsey P. Garber, DVM, MS; George W. Hill, MS; Nora E. Wineland, DVM, MS

USDA:APHIS Centers for Epidemiology and Animal Health, 555 S. Howes, Ft. Collins, CO 80521

Introduction

The USDA's National Animal Health Monitoring System (NAHMS) has been conducting benchmark studies of the livestock industries since the late 1980's. Through 2001 there have been studies of swine (n=3), dairy (n=2), beef cow-calf (n=2), beef feedlot (n=2), catfish (n=1), layers (n=1), sheep (n=1) and equine (n=1).

A stratified random sample of feedlot operations with at least 1000 head capacity in the 12 leading cattle feeding states¹ was selected for participation in the Feedlot '99 study. Cattle from feedlots with 1000 head or more capacity in these 12 states accounted for 81.9% of fed cattle marketings for 1999. Operators of selected feedlots were contacted for a series of personal interviews to collect information on health and management of cattle in their feedlot. In addition, operators were offered the opportunity to participate in activities that required the collection of water, feed or feces.

Cattle Health

Operators reported that 14.4% of all cattle placed on feed developed bovine respiratory disease (BRD) complex. More cattle (15.5%) in larger feedlots (8000 or more head capacity) developed BRD than in smaller feedlots (8.7%). For large and small feedlots 2.0% and 1.1% of cattle developed digestive problems in large and small feedlots respectively. Bullers accounted for 2.3% and 1.4% of placements in large and small feedlots respectively. Overall 1.3% of cattle placed on feed died before

harvest. Another 0.3% of placements were marketed early (realized).

Health Management

At least 65% of operators believed the following pre-arrival practices were very or extremely effective in reducing sickness and death loss in calves placed in the feedlot: 1) introduction to the feedbunk, 2) vaccination against respiratory disease, and 3) castration and de-horning. These data and those of others would suggest that there are opportunities to market the increased value of calves that have been processed in this manner. However, frequently feedlot operators are unaware of pre-arrival processing of cattle placed. Over half (56.5%) of the feedlots were unaware if the last group of cattle placed had received mineral supplementation. A smaller, but a significant percentage were unaware if the last group had received vaccinations against respiratory disease (30.7%), clostridial vaccinations (35.2%), an anthelmintic (36.2%), had been implanted (34.7%), or had been introduced to the feedbunk (30.9%).

As expected virtually all (98.0%) cattle placed in feedlots were vaccinated for respiratory disease. Surprisingly, 78.0% of cattle placed received a vaccination for one or more clostridial diseases. Less than one in five animals (18.8%) received an antimicrobial on arrival. According to the NAHMS Feedlot '99 study arrival processing procedures were changed based on arrival weight (56.5% of feedlots), source of the cattle (49.2%), preconditioning status (39.9%) and sex (37.1%).

¹AZ, CA, CO, ID, IA, KS, NE, NM, OK, SD, TX, WA

Biosecurity

In the wake of disease outbreaks around the world there has been a heightened interest in biosecurity practices for all types of livestock operations. However, at the time of the Feedlot '99 study (late 1999), only 18.3% of feedlots restricted movement of people on the feedlot for biosecurity reasons. While 44.8% of feedlots had an 'aggressive' control program for rodents few feedlots characterized their control programs as 'aggressive' for birds (8.3%), cats (4.6%), canids (18.2%) or other small mammals.

Communication

As noted above feedlot managers are often not receiving information on the pre-arrival processing status of animals placed in their feedlots. Furthermore, 38.7% of feedlot operators seldom if ever returned information to the sources for cattle regarding occurrence of disease, performance or carcass quality. Only 24.7% of operators returned such information almost all the time. It was more common for larger feedlots (42.3%) to return such information than for smaller feedlots (17.9%). While feedlots routinely received information about carcass characteristics it was much less common for them to receive information about the presence of injection site blemishes, hide defects, pregnancy status or liver condemnations from the harvest plant.

Food Safety

Food safety has grown as an issue of concern for consumers and hence for producers. In a previous study of the beef feedlot industry the NAHMS program showed a sample level prevalence of *Salmonella* and *E. coli* O157 of 5.5% and 1.6%, respectively. These pathogens were identified on 38% and 63% of the feedlots, respectively. In the current study **producers were** again encouraged to allow fecal sampling to characterize the prevalence of these pathogens, evaluate their antimicrobial susceptibility profiles and to **evaluate** risk factors for high prevalence pens or operations.

Conclusions

In general, the health of feedlot cattle in the U.S. is good. Feedlot managers recognize and use management strategies to insure against health problems and the associated economic losses. However, there appears to be some overall production efficiency gains to be made by the beef industry through improved communication among segments of the industry and implementation of appropriate preventive strategies.

Further information on the NAHMS Feedlot '99 study is available by contacting;

NAHMS
555 S. Howes
Ft. Collins, CO 80521
(970) 490-8000
nahmsweb@aphis.usda.gov
www.aphis.usda.gov/vs/ceah/cahm