

SALMONELLA SHEDDING BY FEEDLOT CATTLE IN THE UNITED STATES

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Up to 25 fecal samples were collected from each of 2 pens in a convenience sample of 100 feedlots from 13 states. The feedlots had at least a 1000 head capacity and were participating in a survey of health and management. The pens of cattle most recently arrived and longest since arrival were selected for sampling. Overall, 38% of the feedlots and 5.5% of the samples were culture positive for *Salmonella*. Shortest on feed pens (average time in the feedlot = 8 days) had the lowest positive sample prevalence (3.5%) compared to longest on feed pens (7.4%) (average time in the feedlot = 180 days). The five most common *Salmonella* serotypes isolated (*anatum*, *montevideo*, *muenster*, *kentucky*, and *newington*) were not the same as the most common *Salmonella* isolates associated with human or cattle illness.

BACKGROUND

Recently, increased attention has been focused on animal production units and the prevalence of potential foodborne pathogens. With the advent of Hazard Analysis Critical Control Point (HACCP) regulations for meat packing plants there will be more emphasis on reducing the level of potential foodborne pathogens carried into the plants by animals presented for slaughter. *Salmonella* is one of the organisms targeted for HACCP type procedures. However, little information is available on the number of presumed healthy animals shedding *Salmonella* and what serotypes they are likely to be shedding. The purpose of this study was to determine the prevalence of positive samples for *Salmonella* and the serotypes of *Salmonella* shed by cattle in feedlots varying numbers of days after arrival.

MATERIALS AND METHODS

A convenience sample of 100 feedlots was selected from those participating in the 1994 National Animal Health Monitoring System (NAHMS) Cattle on Feed Evaluation (COFE). Within each feedlot fecal samples were collected from the floor of two pens of cattle, those that had been in the feedlot the shortest amount of time and those that had been in the feedlot the longest amount of time. Up to 25 samples of 30 grams of feces were collected in each pen. Fecal samples were cultured using media selective for *Salmonella* spp. Following the isolation of *Salmonella* organisms the isolates were serogrouped and serotyped.

RESULTS

Overall *Salmonella* spp were recovered from 5.5% of the samples collected. The sample prevalence of *Salmonella* varied by time on feed (3.5% for short-fed pens and 7.4% for long-fed pens). *Salmonella* spp. were recovered from 38 of the 100 feedlots. The isolates represented 26 serotypes. The five most common serotypes identified were *S. anatum* (27.9% of isolates), *S. montevideo* (12.9%), *S. muenster* (11.8%), *S. kentucky* (8.2%), and *S. newington* (4.3%). Shedding of *Salmonella* spp serotypes commonly associated with human illness by cattle in this study occurred infrequently.

BIBLIOGRAPHY

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