

Haskell County Animal Hospital

Animal Health Update

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Trends in mortality ratios among cattle in US feedlots (Summary of JAVMA scientific article)

- Data from 1994-1999, including 121 feedlots and 21.8 million head
- Average mortality ratio was 12.6 deaths/1,000 head entering yard
- Average increased from 10.3 in 1994 to 14.2 in 1999
- Respiratory deaths accounted for 57.1% of deaths
- Digestive deaths accounted for 23% of deaths
- Other causes accounted for 20% of deaths
- December had highest number of respiratory deaths
- May had lowest number of respiratory deaths

There was a 38% increase in mortality from 1994 to 1999. This increase was in respiratory deaths as there was no significant change in digestive or other deaths from 1994-1999.

The risk of respiratory deaths increased significantly during 1995, 1997, and 1999, compared to data for 1994. The risk of digestive or other deaths did not vary statistically during 1995 through 1999 (figure 1).

There appeared to be little difference between the yearly mortality ratios of beef heifers and beef steers that died of respiratory tract disease between 1994 through 1996 (figure 4). However, the mortality ratio of beef heifers that died of respiratory disease disorders increased after 1996. When analyzed in 2 time-periods, there was no evidence that beef heifers were at increased risk of respiratory deaths during 1994 through 1996, compared to beef steers. However, the risk that beef heifers would die of respiratory disease was higher than the risk for beef steers from 1997 through 1999 (figure 4).

The reason for this increase in respiratory deaths over time in the present study is unclear. Many factors could have attributed to this increase, such as a change in the source of cattle, a change in pre-arrival animal health management, an increase in transportation stress, commingling of animals, a change in environmental conditions, and a change in dietary management of new arrivals. These factors, alone or in combination, are generally expected to compromise immune function.

Other factors that may have contributed to the increase risk of respiratory deaths include the purchase of a greater proportion of lightweight animals, changes in treatment protocols,

decreases in the ratio of animal health employees to feedlot inventories, and changes in skill levels and experience of feedlot personnel.

What may have caused the disproportionate increase of risk of respiratory deaths among beef heifers, compared to beef steers, from 1997 through 1999? The authors of the study speculate that because it coincided with a reduction in the US cattle herd inventory that a greater number of heifers were culled from herds at a younger age, compared with periods of herd expansion when more heifers would be kept for breeding purposes. This explanation is supported by information regarding numbers of animals entering feedlots; heifers as a proportion of the total number of beef animals entering feedlots increased from 34.1% in 1994 to 41.4% in 1998.

Another possibility for increased respiratory deaths in heifers may be Atypical Interstitial Pneumonia (AIP). We know that AIP occurs primarily in heifers. At this point in time the exact cause of AIP is unclear but researchers are getting closer to identifying the underlying cause.