

Behavior of feedlot cattle affects voluntary oral and physical interactions with manila ropes

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Abstract :

Providing cattle with access to manila ropes has shown promise as a means of monitoring zoonotic bacteria in pens of feedlot cattle. Studies were conducted to determine the impacts of climate, animal age and BW, number of ropes, duration of placement, and previous rope access on efficacy of ropes as a sampling technique for feedlot cattle. Eight pens of commercial finishing cattle (average 196 ± 19 animals per pen, 536.7 ± 22.9 kg) were monitored for a total of 7 d in October of 2003 (commercial study). One rope was tied on the pen railing adjacent to the feed bunk in each pen, and the proportion of animals within the pen contacting the rope was recorded. In a second study, 80 cattle housed in 8 pens (each 270 m^2 ; 10 animals/pen) were monitored for 1 d/wk using video cameras (video study). Video images were collected for 8 consecutive weeks immediately after weaning (average BW = 252.7 ± 30.6 kg) and for 6 wk at the end of the finishing period (average BW 541.2 ± 42.8 kg). In the commercial study, the proportion of cattle contacting the rope per pen increased over the first 6 h to 70% ($P < 0.05$), although approximately 50% of the cattle contacted the rope within 2 h after placement. A 40°C reduction in ambient temperature on d 6 caused cattle to cease contact with the ropes, although after 6 d of acclimation to reduced ambient temperature, interactions with ropes recovered to 47% of previous values. In the video study, weaned calves required 2 wk of acclimation to the feedlot environment before contact with the rope was maximized. Contact with the rope was most frequent 3 to 8 wk after entry into the feedlot and decreased ($P < 0.05$) as cattle approached slaughter weight. It is likely that ropes will be most effective at monitoring zoonotic bacteria in pens of cattle during the mid-feeding period where the pen environment is stable and cattle are inquisitive but not highly reactive.

Key Word :

bacteria monitoring, behavior, feedlot cattle, rope

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