

FINAL RESEARCH REPORT

Project: Causes of Buller Behavior in Feedlots

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This research was a follow-up of a simulated feedlot study on the possible role that the sense of smell might have on buller behavior in feedlots. Last year's report summarized the results of that preliminary study. This present report summarizes the results of experiments conducted in a commercial cattle feedlot at Caprock Industries, Dalhart, Texas.

The staff at Caprock was exceptionally cooperative in providing the cattle, facilities and personnel support needed to conduct these experiments. They made available over 640 feedlot cattle and the necessary facilities.

In three groups (150 riders and 10 buller per pen) we tested the idea that cautery of the duct openings which lead to the chemosensory organ, the vomeronasal organ, would decrease the ability of riders to smell sexually stimulating pheromone that was presumed to be given off by bullers. Such decrease in stimulus would presumably decrease bulling. Statistically, bulling incidence was less in the pen in which all riders were cauterized. However, the magnitude of bulling was still high and thus cautery does not seem to be a practical solution to the bulling problem.

In a fourth group of 150 riders and 10 bullers, we tested the idea that cauterized bullers would resist domination by riders to be ridden less, based on our prior observations that cautery of normal steers made them more aggressive. Indeed, the cauterized bullers in that pen were subjected to less riding than were the non-cauterized bullers in the same pen.

Several observations suggested that aggression is a key element in bulling behavior: 1) most (over 30%) of the steers withdrew from social contesting and thus both riders and bullers could be viewed as being more aggressive, 2) the clear dominance of riders did not go without challenge, inasmuch as bullers also mounted riders as well as other bullers, 3) mounting by bullers was greatest in the pens that contained cauterized riders, 4) bullers were more aggressive than riders in the conventional measures of aggression (head butting, body blocking, etc.), and 5) the amount of bulling was much greater during the periods of greatest social stress (such as just after the herds were formed and in one pen, just after 50 new steers were added to the pen).

These results lead us to advance a new hypothesis about bulling: namely, that it is a ritualized "game" based on social hierarchy contesting.

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