



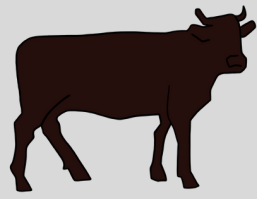
Clayton Livestock Research Center

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Mission Statement

To provide science-based research to improve the health and performance of newly received cattle, and to support the Department of Animal and Range Science's mission of providing premier programs to those we serve by focusing on education, research, and outreach.



Research at the station focuses on improving the health of newly received lightweight calves..



The research pens at the station hold a capacity of 960 head and are constructed from pipe, with fence-line concrete bunk.



The use of irrigated pasture to alleviate stress for newly received cattle and reduce costs of gain is being researched.

MEETING THE NEEDS OF NEW MEXICO

A majority of the cattle in New Mexico are sent to feed yards in the High Plains. Albeit not correct, the perception exists that cattle from New Mexico are not as healthy as cattle from other parts of the country. Several factors contribute to the morbidity and mortality of feedlot cattle. In general, cattle undergo stress during the transportation period. *Mannheimia haemolytica* is a bacteria that is naturally present in the nasal passages. When cattle are stressed (either by natural marketing conditions and/or viral challenges) the pathogens will proliferate and if the animal can't fight off the organism, it proliferates and ends up in the lungs.

Cattle then contract bacterial pneumonia, which is a major cause of sickness. In addition to shipping cattle from New Mexico to the feedlots, several producers in the region purchase cattle to import into New Mexico. These cattle have the same health problems as cattle exported out of the state. The Clayton Livestock Research Center continues to focus efforts on improving the health and performance of newly received cattle. These efforts are local, regional and national in scope.

Other areas of research have been initiated to evaluate the performance of Criollo cattle crosses on performance and carcass characteristics. The specific subtype (Ramuri Criollo) that is being evaluated has grazing patterns whereby the cows distribute better on rangelands. However, calves from these old-world Spanish cattle are generally less valuable during marketing than traditional beef breeds. Fewer value results, in part, because of the lack of information on performance and carcass characteristics.

HISTORY OF RESEARCH

Several finishing studies are in various stages of progress at the CLRC, including looking at implants to enhance feed efficiency and growth rate, grain processing methods to increase starch utilization and alternatives to commingling steers and spayed heifers. After cattle finish growing programs in the state, virtually all are finished in feedlots. These cattle are either sold or ownership is retained by producers during finishing. Cattle producers in New Mexico will benefit from research evaluating management programs during the finishing phase.



ACES Pillars for Economic and Community Development

- Food and Fiber Production and Marketing
 - Water Use and Conservation
 - Family Development and Health of New Mexicans
 - Environmental Stewardship
- Foundational Education and Training

The College of Agricultural, Consumer, and Environmental Sciences is an engine for economic and community development in New Mexico, improving the lives of New Mexicans through academic, research and Extension programs.

2021 Impacts

- Morbidity and mortality from a bovine respiratory disease of newly-received feedlot cattle continue to be a problem for the feedlot industry. The objective of this study was to evaluate the effects of utilizing a novel breathing treatment containing a non-ionic surfactant (Pluronic-F68) on the performance and morbidity of high-risk calves. The Pluronic-F68 solution did not improve the performance or reduce the morbidity of newly received heifer calves; however, further research with a different concentration and/or duration of fogging may be warranted.
- Preconditioning is a calf health management strategy that combines many health interventions at the cow-calf level and is designed to prepare calves for the immunological challenges and stressors inherent in beef cattle production beyond the ranch of origin. Investigation into the effects of preconditioning on the health and performance of stocker calves received on winter wheat pasture and modeling the prevalence of *M. haemolytica* and *P. multocida* serotypes during arrival at the wheat pasture allowed the CLRC to collect ninety days of performance data. More information on this study can be found at: claytonsc.nmsu.edu/documents/clayton-livestock-research-center_annual-report_2020_final.pdf

Ongoing Research

- Research on the evaluation of different bunk management and roughage levels for finishing beef cattle can validate a nutritional recommendation for finishing cattle. This research can also demonstrate that roughage level x bunk management should be considered when formulating feedlot diets. During the years 2020 and 2021, the CLRC is being used to demonstrate that roughage level should be adjusted according to the bunk management to optimize intake and rumen fermentation characteristics of finishing beef cattle.
- Criollo cattle have not traditionally been used in production systems because they get a lower price at auction. The evaluation of Criollo-crossed calves on finishing performance and carcass characteristics will contribute to the New Mexico issue of alternative breed evaluations. In collaboration with the USDA NIFA, this research project will take place between 2020 and 2024.



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