



CLAYTON LIVESTOCK RESEARCH CENTER

NM
STATE



Executive Summary

The Clayton Livestock Research Center was established on 320 acres of Kiowa National Grassland, Cibola National Forest, and located 7 miles east of Clayton, NM on Highway 56/64/412. The New Mexico Legislature first appropriated funds in 1972 for the construction and operation of the Center. A special use permit was approved by the Cibola National Forest in 1973 for construction and approved by Cibola National Forest in 1975. Construction began shortly thereafter.

The research focus at the Clayton Livestock Research Center has been to improve the health of newly received lightweight calves. These cattle may originate in New Mexico or the Southwestern states and be brought to New Mexico for grazing. These cattle then go on to finish in feed yards in the high plains region. The health of New Mexico ranch calves shipped outside the state for placement on grass or into the feed yards has been a long-standing priority of the research station.

Research pens, with a capacity of approximately 960 head are constructed from pipe, with fence-line concrete bunk. The center recently replaced waters with Richie heated waters. Cattle handling equipment in an enclosed barn includes a working-chute system, scales for weighing individual animals. It was upgraded to a "Bud Box" design for truly low-stress handling conditions. A loading chute and scales for weighing trucks or groups of cattle are near the processing barn. An evaporation pond and a debris basin are located east of the cattle pens to contain run-off. A metal, 40 x 120-foot shed contains a machine-repair shop and feed storage area. The office laboratory building provides office space, a conference room, as well as laboratories for nutrition research.

One of the important factors at the Center is a center pivot irrigation system on 120 acres. The use of irrigated pasture to alleviate stress for newly received cattle and reduce costs of gain will be researched.

Construction of the feed mill was completed in December 1978. It provides storage of feed ingredients, contains a steam-flaker and dry-roller for grains, and mixing of experimental diets. The roughage boxes were recently upgraded with the assistance of the College of Agriculture and Environmental Sciences (ACES).

Guidance for research direction and cooperation from New Mexico Cattle Growers has long been the backbone of research conducted at the Clayton Livestock Research Center. Our goal is to improve the profitability of the cattle industry and specifically New Mexico cattle.

The focus of the Clayton Livestock Research Center (CLRC) is to conduct research on improving the health and performance of newly received beef cattle and nutrition and management of cattle to harvest. The center also has an irrigated pasture and has a small area of native grass. The irrigated pasture (120 acres) has traditionally been planted in small grains. A new irrigation well (approximately 550 feet deep) was replaced in 2020 after the existing well collapsed. This well pumps approximately 800 gpm. There have been proposals with other science centers (Farmington and Tucumcari) to evaluate alternative forages on the irrigated circle.

The CLRC was opened in 1978 and to remain viable over the next 40 years, we will need to seek funding for deferred maintenance at the center. Another major obstacle at the center is labor. Funding has been kindly provided by the state and we have started to increase our federal (USDA NIFA CAP grant) and in the form of industry support. Infrastructure to allow personnel of the center to teach distance education courses has been completed. Currently, two courses are taught via distance education including a stocker/feedlot course and a dairy production course. With this new technology, graduate students should be able to take Animal and Range Science graduate courses via distance technology. This will help provide an educational opportunity for the students.

Currently, our irrigated pasture is planted to wheat (TAM 204) and Criollo crossed cattle are grazing the pasture. Additionally, we have Criollo and Brangus cows from the Chihuahua Desert Research Center (College Ranch). These cows were transferred to the research center due to limited forage in southern New Mexico. Two studies were conducted in fall 2020 evaluating a feed additive on receiving performance and management of newly received calves to reduce personnel distance due to COVID 19.

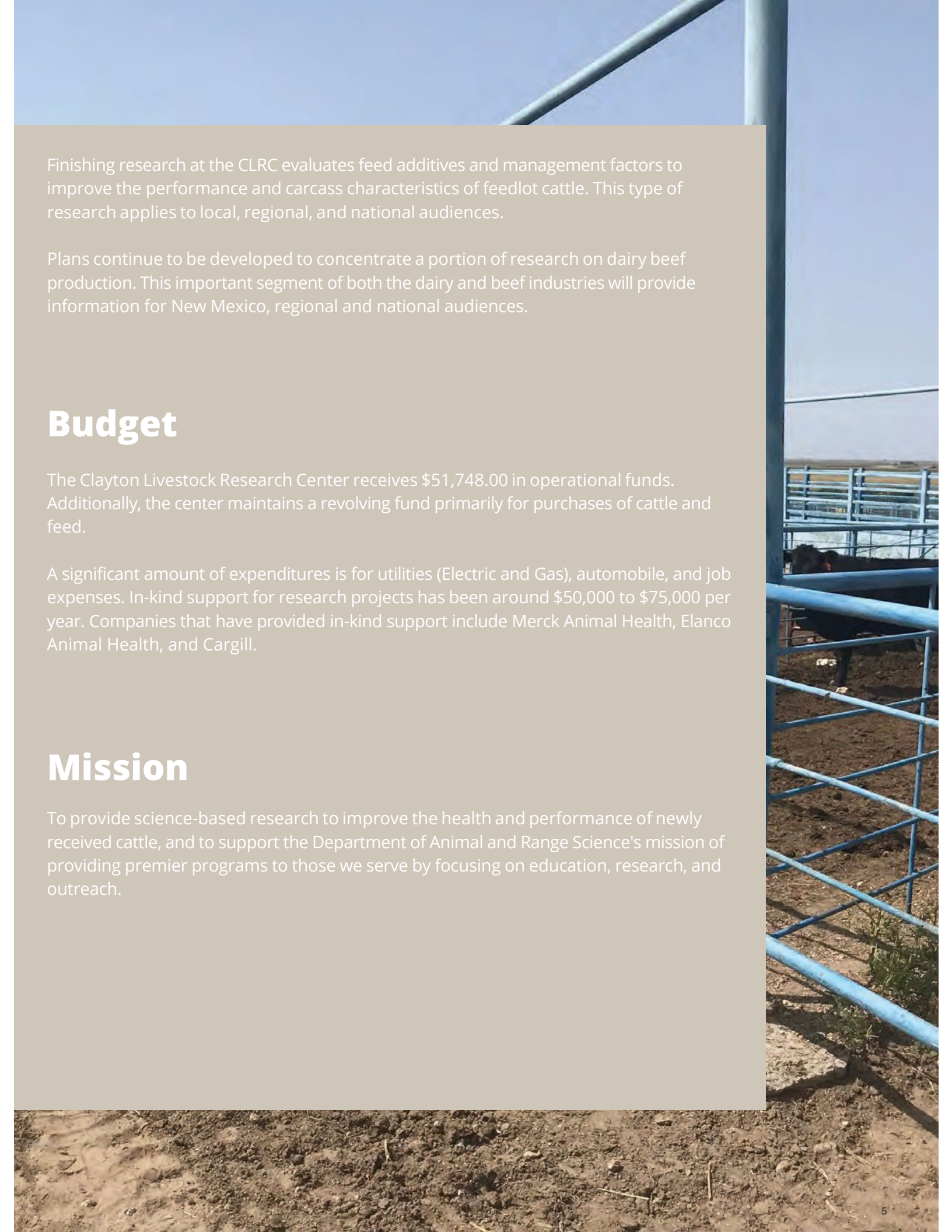




Meeting The Needs Of New Mexico

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. Our research is evaluating feedlot performance and carcass characteristics of Angus, Red Angus, and Brangus crosses. Cattle originate from ranches in California, Utah, and southern New Mexico. This project is relevant to New Mexico and on a regional scope for producers interested in evaluating alternative breeds on semi-arid lands.



Finishing research at the CLRC evaluates feed additives and management factors to improve the performance and carcass characteristics of feedlot cattle. This type of research applies to local, regional, and national audiences.

Plans continue to be developed to concentrate a portion of research on dairy beef production. This important segment of both the dairy and beef industries will provide information for New Mexico, regional and national audiences.

Budget

The Clayton Livestock Research Center receives \$51,748.00 in operational funds. Additionally, the center maintains a revolving fund primarily for purchases of cattle and feed.

A significant amount of expenditures is for utilities (Electric and Gas), automobile, and job expenses. In-kind support for research projects has been around \$50,000 to \$75,000 per year. Companies that have provided in-kind support include Merck Animal Health, Elanco Animal Health, and Cargill.

Mission

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.

Agricultural Experiment Station

What Is the Agricultural Experiment Station?

NMSU's Agricultural Experiment Station is the principal research unit of the College of Agricultural, Consumer and Environmental Sciences. All research faculty in the college have appointments in the Agricultural Experiment Station.

Mission

The Agricultural Experiment Station is not a physical site, but rather a system of scientists who work on facilities on the main campus in Las Cruces and at 12 agricultural science and research centers located throughout the state. The Agricultural Experiment Station system also interacts with other university research units and various state and federal agencies to provide opportunities for research that will benefit the citizens of New Mexico.

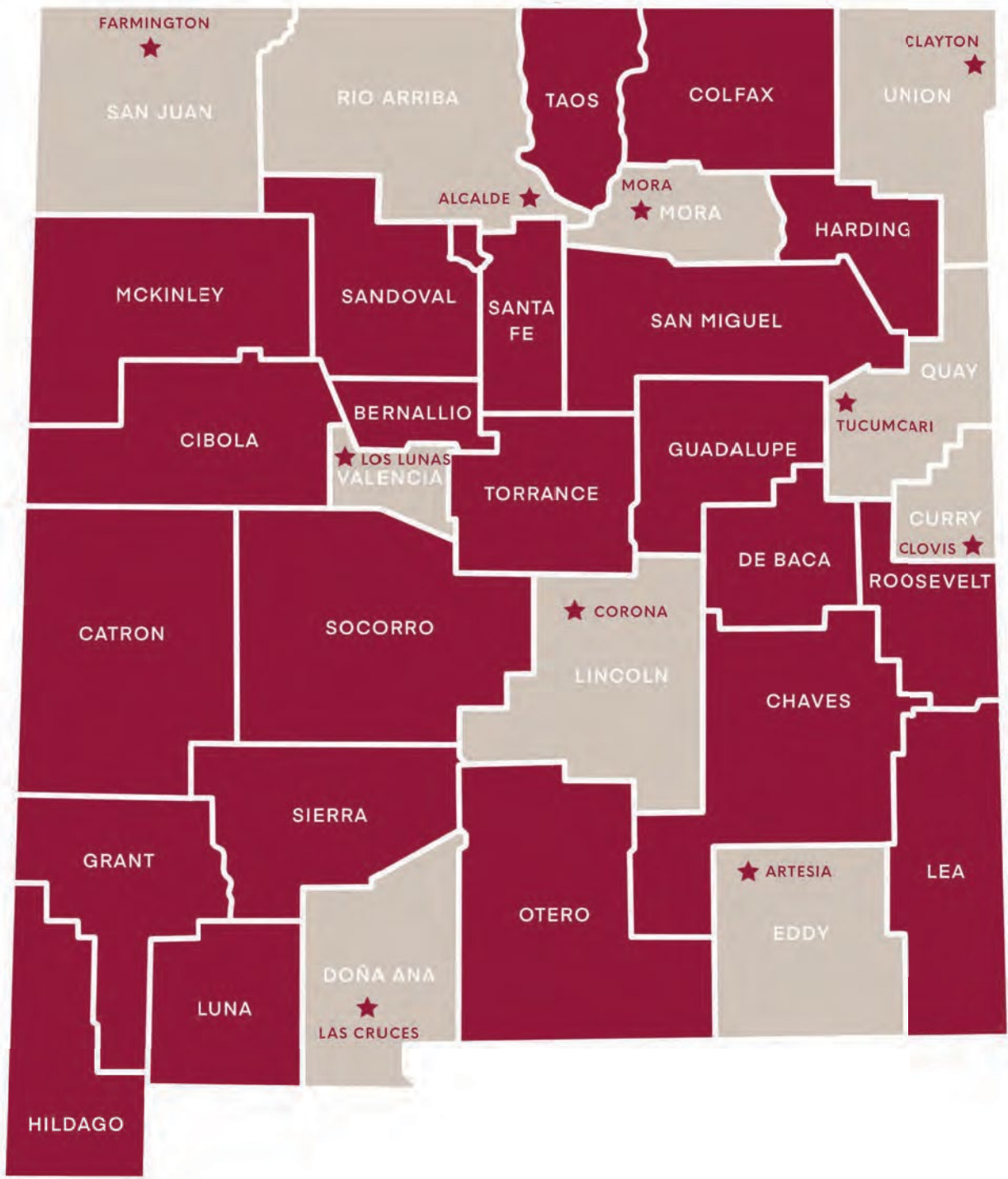
The Agricultural Experiment Station supports research designed to:

- ◆ Enhance agricultural profitability.
- ◆ Stimulate economic development using natural resources.
- ◆ Improve the quality, safety and reliability of food and fiber products.
- ◆ Sustain and protect the environment with ecologically sound practices.
- ◆ Manage and protect natural resources.
- ◆ Improve the quality of life for the people of New Mexico.

AES Research Focus includes, but is not limited to:

Agricultural water use efficiency, endangered/ sensitive species management, cattle genetics to improve grazing, improve forage quality, range management improved crop selection, soil-borne disease prevention, food safety and nutrition, product development and value-added agricultural products, medicinal plant uses, and water quality and treatment.

NMSU Agricultural Experiment Station



★ Station Locations

Clayton Livestock Research Center

Fiscal Year: 2020
Fiscal Period: 30-Jun-20

Department	Acct Type	Account Index Desc	Revenue YTD	Expense Budget	Expense YTD	Budget Balance Available YTD	Fund Balance Dr/(Cr)
Clayton Livestock Res Ctr	NOVEL STRATEGIES TO INCREASE SUSTAI	FEEDLOT BREED COMPARISON DUFF		\$762,039.00	\$2,159.24	\$759,879.76	
		Total Restricted Funds		\$762,039.00	\$2,159.24	\$759,879.76	
Clayton Livestock Res Ctr	RESTR MAIN CURR USE GIFTS	CLAYTON LIVESTOCK RESEARCH CENTER	\$48,856.06	\$0.00	\$76,704.89	(\$76,704.89)	\$0.00
Clayton Livestock Res Ctr	RESTR MAIN CURR USE GIFTS	RIDENOUR LAB ANIMAL NUTRITION/FEED	\$0.00	\$0.00	\$37,593.00	(\$37,593.00)	(\$12,282.00)
		Total Gift Funds	\$48,856.06	\$0.00	\$114,297.89	(\$114,297.89)	(\$12,282.00)
							* See note
Clayton Livestock Res Ctr	SALES & SERVICE	CLAYTON REVOLVING ACCOUNT	\$402,133.34	\$205,000.00	\$694,793.93	(\$489,793.93)	\$718,148.84
Clayton Livestock Res Ctr	SALES & SERVICE	CLAYTON CATTLE YARDAGE FEES	\$0.00	\$6,000.00	\$0.00	\$6,000.00	\$11,959.49
		Total Sales and Service Funds	\$402,133.34	\$211,000.00	\$694,793.93	(\$483,793.93)	\$730,108.33
							* See note
Clayton Livestock Res Ctr	STATE APPROPRIATIONS	CLAYTON RESEARCH CNTR-SALARY		\$539,308.33	\$454,742.88	\$84,565.45	
Clayton Livestock Res Ctr	STATE APPROPRIATIONS	CLAYTON ADMIN		\$51,748.00	\$65,617.10	(\$13,869.10)	
		Total State Appropriated Funds		\$591,056.33	\$520,359.98	\$70,696.35	

Note: " () " In the Fund Balance column indicates a positive number

AES RESEARCH

NMSU's Agricultural Experiment Station research publications provide information to help improve production techniques and efficiencies for farmers, ranchers, dairies, and other agricultural producers.



Forestry



Agronomy



Dairy



Weather and Climate



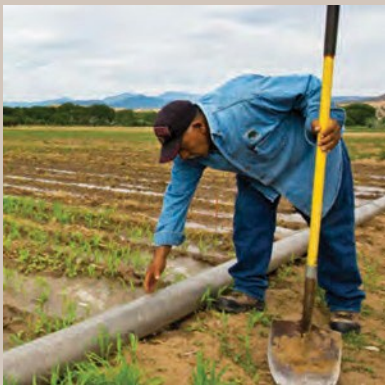
Horticulture



Task Force Reports



Livestock and Range



Water



Economics

EFFECT OF PLURONIC-F68 FOG SOLUTION ON PERFORMANCE AND MORBIDITY OF NEWLY-RECEIVED HEIFER CALVES

Investigators: C.A. Sowers, V.N. Gouvea, M.L. Barnes and G.C. Duff

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 performance and morbidity of high-risk calves. All procedures were approved by the New Mexico State University Institutional Care and Use Committee. Two hundred and forty Angus/Angus-cross heifer calves (BW = 177 ± 1.35 kg) were transported in two truckloads from Delhi, LA to the Clayton Livestock Research Center in Clayton, NM. Heifers were allowed a 21-h rest during which time, feed, and water were available prior to processing.



Figure: Stock trailer used to fog cattle. Cattle were placed in the trailer for 10 minutes and a fog mixture was administered. After fogging, cattle were returned to their feedlot pens.

Heifers were individually weighed and received a subcutaneous IBR-BVD-PI3-BRSV-Mannheimia-Pasturella vaccine (Vista Once SQ, Merck, Madison, NJ), a subcutaneous clostridial vaccine (Covexin 8, Merck, Madison, NJ), an injectable dewormer (Dectomax, Zoetis, Florham Park, NJ), and given a Synovex-H (Zoetis, Florham Park, NJ) implant. Heifers were then sorted into 16 pens by chute (processing) order and pens were randomized into one of two treatments: a novel breathing solution containing Pluronic-F68, glycerin, and water (FOG; n = 8 pens/treat and 15 heifers/pen) and control (CON; n = 8 pens/treat and 15 heifers/pen). For fogging, heifers were held in an enclosed stock trailer for 10 min during which time FOG pens received a breathing treatment. CON heifers were held in the trailer before treatment administration of FOG heifers. The person responsible for identifying signs of morbidity was blinded to treatment assignments. Heifers had ad libitum access to feed (RAMP, Cargill, Minneapolis, MN) and water throughout the 45-d study. Data was analyzed as a completely randomized design using MIXED (continuous) or GLIMIX (binomial) models of SAS 9.4. The average daily gain was similar between treatments (P = 0.91). No differences were found in dry matter intake (P = 0.14) nor in feed efficiency (P = 0.58). There were no differences (P = 0.74) in final body weights. Morbidity was similar at first, second, and third antimicrobial administration regardless of treatment (P = 0.34). The number of antimicrobial treatments required or the management of BRD was similar between treatments (P = 0.72). There was no difference (P = 0.44) in mortality between FOG and CON groups. The Pluronic-F68 solution did not improve 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.

EFFECTS OF PRECONDITIONING (VALUE-ADDED PROGRAMS) ON HEALTH, PERFORMANCE, MANNHEIMIA HAEMOLYTICA, AND PASTURELLA MULTOCIDIA IN CATTLE RECEIVED ON WHEAT PASTURE

Investigators: J. M. Brooks, Master of Science, Animal Science. G C. Duff, Chair

Bovine respiratory disease (BRD) is the deadliest and costliest disease in the North American and global cattle industries despite more than a century of extensive research, numerous collaborations, and hundreds of millions of private and government dollars allocated to reduce the prevalence of the disease in beef calves as they progress across beef production segments. Many health interventions have been advanced to mitigate BRD in calves including low-stress handling, proper nutrition, judicious use and timing of antimicrobials and vaccines, early disease detection methods, accurate health records, improved communication between production segments, and prevention of market failure, among others. Preconditioning is a calf health management strategy that combines many of these 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. Early studies investigating the effects of preconditioning showed little to no advantages in calf health, performance, and value realized by producers. After adjusting for advancements made in technology, science, and economics, more recent studies consistently show improved calf health, performance, and value of preconditioned (PRECON) calves compared to nonpreconditioned (NONPRE) calves and commingled (COMM) calves. However, much of this research focuses primarily on cattle received in feedlots or compares preconditioning programs to each other (i.e., dry lot versus pasture preconditioning programs) with a paucity of peer-reviewed literature focused on the effects of preconditioning on stocker cattle received on winter wheat pasture.

Furthermore, understanding the dynamics of bacterial pathogens in the nasopharynx of calves assists researchers and veterinarians design more efficacious antimicrobial products and treatment protocols but much of the research concerning the prevalence of primary BRD bacterial pathogens *M. haemolytica* and *P. multocida* is largely focused on feedlot calves or through post-mortem lung examinations of calves at the abattoir. Therefore, the objective of the present study was to investigate 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. At the commencement of the study, PRECON (n = 70) and NONPRE (n = 75) steers were purchased from the Cattlemen's Livestock Commission Company in Dalhart, Texas, and transported the same day 51 miles to the winter wheat pasture at the New Mexico State University Clayton Livestock Research Center (NMSU CLRC) during early November 2018. Upon arrival, steers were penned, provided *ad libitum* access to forage and water, and allowed to rest. On Day 0, during processing, weights and deep nasopharyngeal swabs (NS) were collected and steers were randomly allocated to PRECON (n = 50), NONPRE (n = 50), and commingled (COMM, n = 45) treatment groups then turned out to wheat pasture in three separate paddocks with a common water source. Weights and NS were collected again on Day 2, and weights were collected on Day 90 and Day 112 (end of study). Steer health and performance were modeled over time. Overall morbidity and mortality rates were 36 and 13 percent, respectively. Morbidity rates were higher in PRECON (42 percent) and COMM (44 percent) steers compared to NONPRE (24 percent) steers while mortality rates were similar for all treatments. More NONPRE (n = 44) steers were retroactively identified as healthy compared to PRECON and COMM steers. Due to technical errors and reduced production of the wheat pasture, performance data were only analyzed from Day 0 to Day 90. COMM steers had significantly greater weight gains compared with PRECON (P = 0.04) and NONPRE (P = 0.02) steers while no differences were observed between PRECON and NONPRE steers (P = 0.97). Nasal swab DNA was isolated from samples collected on Day 0 and Day 2. Samples were analyzed using PCR to detect *M. haemolytica* and *P. multocida* and associated serotype distributions by treatment groups across Day 0 and Day 2 samples and by calf health status. For *M. haemolytica*, serotypes of interest included A1, A2, A6 and were detected in 5.56, 35.07, and 2.78 percent of all DNA samples. NONPRE steers had the greatest frequency of A2 while A1 was greater in PRECON and COMM steers on Day 0 and Day 2. Serotype A1 was greater in unhealthy steers (62 %) compared to healthy steers (37 %). DNA samples positive for A1 were analyzed using qPCR.

Healthy steers had decreased concentrations of A1 compared with unhealthy steers on Day 0 but concentrations were similar on Day 2. *P. multocida* was greater in healthy (68%) steers compared to unhealthy (32 %) steers but *P. multocida* serotype A:3 was not detected in any of the DNA samples submitted for analysis. More research is needed to provide insight into the effects of preconditioning and serotype distribution of *M. haemolytica*, and *P. multocida* for stocker calves received on winter wheat pasture.

NOVEL STRATEGIES TO INCREASE SUSTAINABILITY OF BEEF PRODUCTION SYSTEMS IN THE WESTERN UNITED STATES

Investigators: Duff, G, Gouvea, V., Gifford

PROJECT OVERVIEW

Evaluation of performance of Criollo crossed calves on finishing performance and carcass characteristics.

NEW MEXICO PROBLEM

Evaluation of alternative breeds. Cows are smaller than traditional breeds and distribute their grazing over wider areas.

RESEARCH IMPACTS

Criollo cattle have not traditionally been used in production systems primarily because they get a lower price at auction.

ASSOCIATED LONG-TERM PROGRAM OF RESEARCH (HATCH)

Finishing cattle performance

FUNDING AMOUNT/ SOURCE/ DURATION

\$8,937,554 / USDA NIFA / 2020 to 2024

EVALUATION OF SUMMER DORMANT FESCUE FOR GROWING CATTLE IN NEW MEXICO

Investigators: Laurialt, L, Duff, G, Lombard, K

PROJECT OVERVIEW

Evaluation of potential new forage varieties for livestock producers in New Mexico.

NEW MEXICO PROBLEM

Evaluation of alternative forage sources for New Mexico producers.

RESEARCH IMPACTS

Alternative forages may increase production capacity for livestock producers.

ASSOCIATED LONG-TERM PROGRAM OF RESEARCH (HATCH)

Forages

FUNDING AMOUNT/ SOURCE/ DURATION

\$50,000 (not funded) / New Mexico AES / 2020 to 2024

EFFECTS OF ROUGHAGE LEVEL AND BUNK MANAGEMENT ON INTAKE, NUTRIENT DIGESTIBILITY, AND RUMINAL METABOLISM OF FINISHING BEEF CATTLE

Investigators: Gouvea, V., Duff, G.

PROJECT OVERVIEW

Evaluation of different bunk management and roughage levels for finishing beef cattle.

NEW MEXICO PROBLEM

The results from this project will validate a nutritional recommendation for finishing cattle, and demonstrate that roughage level x bunk management should be considered when formulating feedlot diets.

RESEARCH IMPACTS

We expect to demonstrate that roughage level should be adjusted according to the bunk management to optimize intake and rumen fermentation characteristics of finishing beef cattle.

ASSOCIATED LONG-TERM PROGRAM OF RESEARCH (HATCH)

Feeding management and diet formulation

FUNDING AMOUNT/ SOURCE/ DURATION

\$7,000 (not funded) / Texas Cattle Feeders Association / 2020 to 2021

METHODS TO REDUCE LABOR NEEDS IN DIAGNOSING AND TREATING BOVINE RESPIRATORY DISEASE IN FEEDLOT CATTLE

Investigators: Gouvea, V., Duff, G.

PROJECT OVERVIEW

Evaluation of alternatives to operate with limited or staggered personal during the COVID pandemic.

NEW MEXICO PROBLEM

Improve the working conditions during the COVID-19 pandemic without affecting animal health or growth performance.

RESEARCH IMPACTS

Using remote drug delivery devices to treat sick calves would allow for social distancing and operating with limited personal to improve the working conditions, without affecting animal health or growth performance.

ASSOCIATED LONG-TERM PROGRAM OF RESEARCH (HATCH)

Management and health of newly received feedlot calves

FUNDING AMOUNT/ SOURCE/ DURATION

Internally funded / Start-up package

EFFECTS OF DIETARY FAT AND ROUGHAGE LEVEL ON INTAKE, GROWTH PERFORMANCE AND IMMUNE FUNCTION OF HIGHLY STRESSED, NEWLY RECEIVED FEEDLOT CALVES

Investigators: Gouvea, V., Duff, G.

PROJECT OVERVIEW

Evaluation of different diets for newly received feedlot calves.

NEW MEXICO PROBLEM

Growth performance, morbidity and mortality from bovine respiratory disease.

RESEARCH IMPACTS

Adjusting the diet formulation could increase dry matter intake and increase growth performance during the arrival on the feedlot.

ASSOCIATED LONG-TERM PROGRAM OF RESEARCH (HATCH)

Nutrition and health of newly received feedlot calves

FUNDING AMOUNT/ SOURCE/ DURATION

Internally funded / Start-up package

EFFECTS OF SUPPLEMENTATION WITH A BIOACTIVE PHYTO-COMPOUND ON INTAKE, GROWTH PERFORMANCE, AND IMMUNE FUNCTION OF HIGHLY STRESSED, NEWLY RECEIVED FEEDLOT CALVES

Investigators: Gouvea, V., Duff, G.

PROJECT OVERVIEW

Evaluation of alternative feed additives for newly received feedlot calves.

NEW MEXICO PROBLEM

Growth performance, morbidity and mortality from bovine respiratory disease.

RESEARCH IMPACTS

Feeding phytomolecules to newly received calves, could enhance immune response and lead to a reduction of mass medication during the arrival on the feedlot.

ASSOCIATED LONG-TERM PROGRAM OF RESEARCH (HATCH)

Nutrition and health of newly received feedlot calves

FUNDING AMOUNT/ SOURCE/ DURATION

Internally funded / Start-up package

EVALUATION OF FEED ADDITIVE ON RECEIVING CATTLE PERFORMANCE

Investigators: Gouvea, V., Duff, G.

PROJECT OVERVIEW

Evaluation of alternative feed additives for newly received feedlot calves.

NEW MEXICO PROBLEM

Growth performance, morbidity and mortality from bovine respiratory disease.

RESEARCH IMPACTS

Feeding essential oils to newly received calves, could increase dry matter intake and increase growth performance during the arrival on the feedlot.

ASSOCIATED LONG-TERM PROGRAM OF RESEARCH (HATCH)

Nutrition and health of newly received feedlot calves

FUNDING AMOUNT/ SOURCE/ DURATION

\$49,500 / BIOMIN America Inc. / Dec 2020 to April 2021

UNCOVERING THE EFFECTS OF MATERNAL SUPPLY OF METHIONINE DURING MID-GESTATION ON PLACENTA METABOLISM AND OFFSPRING PERFORMANCE IN BEEF CATTLE

Investigators: Batistel, F., Gouvea, V.

PROJECT OVERVIEW

Gestation is a key period of plasticity during which the maternal diet can alter the placenta and fetus physiology, and these effects can persist through the life of the offspring.

NEW MEXICO PROBLEM

Increase profitability of cow-calf operation.

RESEARCH IMPACTS

Maternal nutrition will stimulate placental nutrient transport from the maternal to fetal side, and also offspring growth rate during early life.

ASSOCIATED LONG-TERM PROGRAM OF RESEARCH (HATCH)

Cow-calf nutrition

FUNDING AMOUNT/ SOURCE/ DURATION

\$76,000 / Utah Agricultural Experiment Station / 2020 to 2022

Clayton Livestock Research Center

Full-time staff

Glenn Duff, Ph.D.

Professor and Superintendent; Animal Health and Management

Vinicius (Vinnie) Gouvea, Ph.D.

Assistant Professor, Animal Health and Management

Carolina (Carol) Braga Brandani, Ph.D.

Post Doctoral Research Associate; Animal Management and Soil Health

Michael (Mike) Barnes, B.S.

Farm/Ranch Manager, Maintenance

Michael (Mike) Barnes, B.S.

Farm/Ranch Manager, Maintenance

Consuelo (CiCi) Sowers, M.S.

Farm/Ranch Manager, Livestock Manager

Devon Dillon

Farm/Ranch Supervisor, Livestock

Activities

Several research activities and field days were planned for 2020 but were canceled due to COVID 19. These activities included an Artificial Insemination School (in conjunction with Extension), an open house specifically designed for local high school students (in collaboration with the USDA Forest Service and Fish and Wildlife), and plans were to host a field day at the center.

Before COVID 19, the center hosted the local Rotary Club for a meeting at the Center. Many of the club members were introduced to the center for the first time. The history of the center was discussed and participants were provided with a tour of the facilities. In early December, a virtual on-farm tour was presented for the USDA NIFA SAS CAP grant. There were approximately 80 participants in the program. A short virtual tour of the center was presented along with a short presentation on the wheat variety, cattle requirements, soil health, and the regional aquifers. Feedback was positive for the program.

Cooperators/Collaborators

People

Mr. Leonard Laurialt, Superintendent, Tucumcari Agricultural Science Center
Dr. Kevin Lombard, Superintendent, Farmington Agricultural Science Center
Dr. Andres Cibils, Professor, Animal and Range Sciences, NMSU, Las Cruces
Dr. Clint Loest, Professor, Animal and Range Sciences, NMSU, Las Cruces
Dr. Sergio Soto-Navarro, Professor, Animal and Range Sciences, NMSU, Las Cruces
Dr. John Richeson, Associate Professor, West Texas A & M University
Dr. Brent Auverman, Resident Director, Texas Agri-Life, Amarillo
Dr. Jackie Rudd, Professor, Texas Agri-Life, Amarillo
Dr. Sara Capik, Assistant Professor, West Texas A & M University
Dr. Fernando Batistel, Utah State University

Institutions

New Mexico State University, Las Cruces
Agricultural Science Center Tucumcari
Agricultural Science Center Farmington
Jornada Experimental Range USDA Las Cruces
West Texas A & M University
Texas A & M University
Utah State University
Texas Cattle Feeders Association (TCFA)
Companies
Zinpro
Cargill
Merck Animal Health
Biomin



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