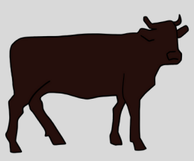
Corona Range and Livestock Research Center

coronasc.nmsu.edu • 575-849-1015

Mission Statement

The primary mission of the Corona Range and Livestock Research Center (CRLRC) is to enhance the understanding of woody brush invasion, hydrology, cow-calf production, and big game management and to discover innovative solutions to improve economic development in rangeland-bound communities.



The CRLRC is the only research center that focuses on how the microbiome of the gut and the reproductive tract influences grazing animals.

Research programs, as well as graduate student studies, are a major part of the research centers activities.

Outreach activities through field days, workshops, and information/technology transfer are emphasized.

The Corona Range and Livestock Research Center (CRLRC) is a collaborative effort between animal, range, and wildlife scientists; economists; land and wildlife agency personnel; and ranchers striving to enhance the understanding of woody brush invasion, hydrology, cow-calf production, and big game management, and to discover innovative solutions to improve economic development in rangeland-bound communities.

CRLRC is a working ranch laboratory utilized by scientists to study practices and effects at basic and applied scientific levels in a real-world setting. Most of the projects are multi-departmental and/or multi-institutional collaborations that investigate physiological or ecological differences and changes associated with applied treatments. Since 1988, CRLRC has been an integral part in training 52 graduate students and has been associated with over 260 published manuscripts.

Located at the CRLRC, the Southwest Center for Rangeland Sustainability (SWCRS) is providing educational events to clients nationwide. Over 2,500 clientele have attended SWCRS events since its opening in January 2012.

NATURAL RESOURCE MANAGEMENT

- Evaluating regrowth of juniper saplings targeted by grazing goats as a control mechanism
- Effects of goats as a control mechanism as it relates to water dynamics concerning sapling size/density
- Using hydrogels to enhance restoration of rangelands in a monsoon driven dryland system

RANGE LIVESTOCK PRODUCTION

- Evaluating the efficacy of killed vs. modified live vaccines on calf performance and serum titer levels
- Using growth implants on beef heifer calves and the effect on sale weight and reproductive ability
- Developing strategies to increase the longevity of breeding heifers by increasing ovarian egg potential

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

- CRLRC researchers are investigating the differences in nutrient metabolism between cows raised in the same environment on the same diet but naturally maintain vastly different body condition. This work will provide producers with selection criteria for cattle that are better able to cope with harsh environmental conditions.

- A strong vaccination program is key to any successful operation. Selection of the appropriate type of vaccine can be difficult with the myriad of options out on the market. A long-term project is looking at the antibody response in cows and their calves to two types of bovine respiratory disease vaccines. This work will provide guidance to producers looking to increase their calf crops ability to mount an immune response later in life.

- Proper fetal development is key to the longevity of replacement females born on a ranch. Research at CRLRC has demonstrated that supplemental rumen protected arginine (an amino acid) fed to cows during the first trimester of pregnancy can improve the growth performance of her calves after weaning. Heavier calves provide greater opportunity for more income if sold or potentially decrease the time it takes for the heifer to achieve puberty and conceive earlier in the breeding season throughout her life-time.

Ongoing Research

- Bovine viral diarrhea virus (BVDV) is responsible for losses of $1.5-2.5 billion in the beef and dairy industries. These financial losses include pregnancy losses as well as poor performance of persistently infected animals that will also shed the virus and spread BVDV throughout the herd. Researchers have identified that regular vaccinations of the cowherd contribute greatly to reducing instances of BVDV. However, of the vaccination choices provided, there are inconsistencies in the frequency of use and protection, which end up costing producers more if their animals are not as well protected against the pathogen.

- Studying reproductive function in heifers has found improvements in heifer fertility by supplementing bypass protein and post- artificial insemination breeding management. Continuing research studies timing and level of supplementation on preg- nancy rates.

The CRLRC has entered a public/private partnership, along with multiple area landowners in wind energy development. This will include 39 wind turbines to be installed and provide a significant income over the next 30 years to provide needed capital for enhanced research funding opportunities, as well as associated staff, facilities and repairs.

Corona Range and Livestock Research Center
New Mexico State University
PO Box 392 Corona, NM 88318
Phone: **(575) 849-1015**
Fax: **(575) 849-1021**
Web: **coronasc.nmsu.edu**
New Mexico State University Agricultural Experiment Station