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.

**Research Partners**
- Ajinomoto, Inc.
- Clayton Livestock Research Center
- Hi-Pro Feeds
- Merck Animal Health
- Montana State University
- Texas A&M AgriLife Research, San Angelo
- NMSU Agricultural Science Center at Tucumcari
- University of Tennessee
- USDA–ARS Meat Animal Research Center
- USDA–ARS National Animal Disease Center
- Zinpro Performance Minerals, Inc.
- Zoetis

**Outreach Partners**
- ADM Alliance Nutrition
- Colorado State University
- Dow AgroSciences
- Hi-Pro Feeds
- Paul’s Veterinary Supply
- Purina Mills
- Texas A&M AgriLife Extension
- United States Beef Academy
- Zoetis
SELECTED CRLRC ACCOMPLISHMENTS AND IMPACTS

- Research has shown that cows grazing dormant forages experience seasonal diabetic effects. Continued investigation into this phenomenon could lead to significant impacts in reducing supplemental feed costs and increasing reproductive function in cows and heifers, resulting in more pounds weaned.
- NMSU’s Angus breeding program has developed seed stock at the leading edge of the lowest predicted calf birth weights, as well as measuring well outside the PAP score range.
- Research into the effects of feeding bypass arginine have shown improvement in progeny performance on dormant rangeland through enhanced pancreatic function, as well as potential increases in dam reproductive function.
- Research has shown an initial acclimation to increases in dietary sulphur, which results in changes in rumen kinetics. Ongoing research will look at the effects of changes in water source and supplemental feeding and how to manage for maximum performance.
- Reducing the cost of estrus synchronization programs has been demonstrated with similar success to current high-input practices.
- 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 pregnancy rates.
- CRLRC commercial cows continue to lower the standard for body condition needed to conceive. NMSU researchers continue to investigate the mechanisms that tell the cow to initiate cyclicity.
- CRLRC cow efficiency is gaining world interest with animal scientists across the globe wanting to study the Corona commercial cow genome.
- Research has shown that using growth promoting implants on heifers at branding does not negatively impact fertility.
- Scientists have found that rumen microbiome changes with diet quality. Further study will lead to a better understanding of supplementation needs.
- The Corona SAMM crossbreeding program focuses on increasing pounds of lamb weaned per ewe while continuing to maintain or improve wool quality.
- Ground juniper is a viable feedstuff for ruminants. In cooperation with Texas A&M University, work is being conducted to determine the optimal rate at which ground juniper can be added to ruminant diets.