

Ranch Update



Shad Cox
CRLRC Superintendent

We have had a little snow off and on this December and it is surely appreciated, I hope that you have had a shot of precipitation as well. The growing season precipitation was well below normal and worse than any of my previous years here at the ranch. We caught some bands of scattered showers and storms in different areas on the ranch and those, along with an early September half-inch shower that covered a good percentage of central NM left us with a bit of winter feed. At present, we are down to around 180 cows and 200 head of sheep. After estimating forage across the ranch, it is our feeling that we can hold on till the end of July or early August, then hopefully the bottom drops out of the sky and we can continue in the business.

The Corona Station is unique in that we have to cover over 90% of our operating expenses through our various enterprises in livestock and wildlife. Currently, we generate income through sales of commercial calves, registered Angus bulls & heifers, lambs, wool, livestock protection dogs, mule deer and antelope. We further look for added value opportunities where we can. In the past we have always tried to add value to cull cows through out-of-season breeding, weight gain and market strategy, as well as, retained ownership of our calf crop. Currently, due to low forage levels we are not retaining cull cows,

but are retaining ownership of our calf crop with the help of the Clayton Livestock Research Center and the Tucumcari Agricultural Science Center, as well as, retaining ownership and dry-lotting our lamb crop, to sell later on the fat market.

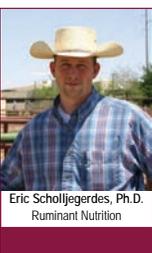
During long-term drought, it is very hard to count on the resources you need to successfully maintain a research program and opportunities for research are not easy to commit the resources available. Creativity is a major part to developing research projects around the resources you do have without the commitment to long-term follow up of livestock here at the ranch. Currently, we have three long-term projects that are being conducted; two current and one that is on hold. The first is following a core group of cows that are being strategically supplemented with a key amino acids throughout the year and measuring its effect on cow and future calf performance. The second is investigating the use of satellite imagery and correlating it with cow/calf and ewe/lamb performance, and last behavioral characteristics of cattle are being investigated to find trends in production performance and heritability of those characteristics. Cooperating with the Clayton Livestock Research Center has given us the opportunity to retain ownership of our calves while participating in a calf health study (summarized below), as well as, cooperating with the Tucumcari Agricultural Science Center has given us the opportunity to retain ownership on our heifer calves by utilizing irrigated pasture for grazing trials, then the culls can be marketed and the replacements can be brought back for a short continuation of heifer development supplementation. And last, some wether lambs will be used to study the effects of amino acid supplementation in the feedlot and all of our replacement ewe lambs will be fed in drylot to observe the effect differing percentages of SAMM breeding has on growth and performance.

As you can see, we are continuing to investigate important issues in range livestock production, plus we will continue to provide excellent outreach, such as our SWCRS Rancher's Roundtable (more information on back) and new and exciting programs will held throughout 2013.

In closing, I hope to see you soon at one of our Rancher's Roundtable discussions or somewhere across the state. Don't forget the Rancher's series held throughout the northeast part of NM and the Southwest Beef Symposium this month in Lubbock. If you would like further information about the CRLRC or SWCRS, please feel free to contact me at (505)849-1015 or shadcox@nmsu.edu.

Shad

Calf Health Research: a collaborative project between Corona and Clayton Research Centers



Eric Scholljegerdes, Ph.D.
Ruminant Nutrition

It has been observed that New Mexico calves are often purchased at a discount by feedlots outside of the state due to the perception that these calves have a higher incidence of illness once they arrive at the feedlot.

However, it is not clear as to why calves from NM are more susceptible to illness than calves from other Southwestern states. It has been suggested that perhaps this is simply a historical perception of NM calves,



and feedlots may simply watch these calves with more diligence than those from other states. It is also thought that NM calves are just naive and subsequently have not had adequate immune system exposure to many of these diseases despite the fact that they were well vaccinated on the ranch (i.e. didn't seem to respond to vaccination program). Therefore, early this fall, researchers

from the research centers at Clayton and Corona began a project investigating calf vaccination history and health and the potential use of a blood test to predict the incidence of illness in feedlot calves. The objective of this research is to determine if this blood test will work to predict susceptibility to BRD in the feedlot at arrival and determine if calves who were well vaccinated along with adequate nutritional upbringing are just as susceptible to BRD in the feedlot as calves that were not. Calves from ranches throughout New Mexico, including Corona, with known vaccination and nutritional history were shipped to the research feedlot in Clayton. Calves were processed 24 h after they arrived and blood samples were collected on arrival, d 28 and 56 of the feeding period. Blood samples will be analyzed for antibody titers for the bovine respiratory complex (BRD). The four major viruses that make up BRD are Parainfluenza-3 (PI3), Bovine Viral Diarrhea (BVD), Bovine Respiratory Syncytial Virus (BRSV), and Infections Bovine Rhinotracheitis (IBR). Antibody titers will provide insight into the number of antibodies circulating in each calf and may indicate which calves are more likely to get sick. However, antibody titers alone may not be enough at this point, as a high titer may indicate that calves have either been well vaccinated or are currently fighting an infection. Therefore, comparisons will be made

between actual health data and BRD titers. In addition, a set of blood samples will be sent to collaborators at Montana State University for genetic testing. This analysis may provide insight into why certain calves



respond to vaccine or illness compared to others, which may serve as a genetic selection tool in the future. At the writing of this newsletter, the animal work is almost complete and laboratory analysis will begin this spring.

For more information contact your county extension office or Eric Scholljegerdes directly at (575)646-1750 or email: ejs@nmsu.edu.

Recent CRLRC Publications

- **Relationship between body condition score at calving and reproductive performance in young post-partum cows grazing native range.** J.T. Mulliniks, S.H. Cox, M. E. Kemp, R. Endecott, R. Waterman, D. VanLeeuwen, and M.K Peterson. 2012. *J. Anim. Sci.* 90:2811-2817
- **Effects of supplements with increasing glucogenic precursor content on reproduction and nutrient utilization in young post-partum range cows.** Rachel Endecott, S. Cox, Christy Rubio, Clint Löst, Dean Hawkins, M. Petersen. *Livestock Science* 145:109-118.
- **Pre-breeding β -hydroxybutyrate concentration influences conception date in young postpartum range beef cows.** J. T. Mulliniks, M. E. Kemp, R. L. Endecott, S. H. Cox, E. J. Scholljegerdes, T. W. Geary, and M. K. Petersen. 2012. *Proc. West. Sec. Am. Soc. Anim. Sci.* 63: 10-15
- **Effects of dried distillers grains fed for programmed rate of body weight gain in beef heifers grazing native rangelands prior to breeding on growth and reproductive performance.** N. P. Miller, R. C. Dunlap, S. H. Cox, M. M. Marricle, D. M. Hallford, and E. J. Scholljegerdes. 2012. *Proc. West. Sec. Am. Soc. Anim. Sci.* 63: 288-291.
- **Metabolizable protein supply alters pregnancy and subsequent retention rate during heifer development while grazing dormant winter forage.** J. T. Mulliniks, D. E. Hawkins, K. K. Kane, S. H. Cox, L. A. Torell, E. J. Scholljegerdes, and M. K. Petersen. 2012. *Proc. West. Sec. Am. Soc. Anim. Sci.* 63: 306-310.
- **Assessment of serum IGF-1 and b-hydroxybutyrate concentrations on reproductive performance prior to calving and breeding in young beef cows grazing native range.** Mulliniks, J. T., A. J. Roberts, R. C. Waterman, T. W. Geary, E. J. Scholljegerdes, and M. K. Petersen. 2012. *Proc. West. Sec. Am. Soc. Anim. Sci.* 63: 185-188.
- **Influence of protein type and level on nitrogen and forage utilization in cows consuming low-quality forage.** Sawyer, J. E., J. T. Mulliniks, R. C. Waterman, M. K. Petersen. 2012. *J. Anim. Sci.* 90:2324-2330.
- **An assessment of behavioural syndromes in rangeland-raised beef cattle.** Wesley, R. L., A. F. Gibils, J. T. Mulliniks, E. R. Pollak, M. K. Petersen, E. L. Fredrickson, and D. M. Hallford. 2012. *Appl. Anim. Behav. Sci.*

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Event Reminders

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For more information or directions to the CRLRC contact:

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Directions to SWCRS: Two miles north of Corona on Hwy 54 turn east (bottom of overpass) on University Road (CO20) and travel 8 miles to ranch entrance. Then follow signs to SWCRS.

SWCRS Rancher's Roundtable

We provide a panel of experts, you provide the questions to get the answers that are important to your management decisions.

January 29th

Herd Health and Marketing

10:00 am to 3:00 pm, Lunch Provided

No Prior Registration or Fee

More information at www.corona.nmsu.edu

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Southwest Grazing Land Innovations



CORONA

Rangeland and Livestock Research Center