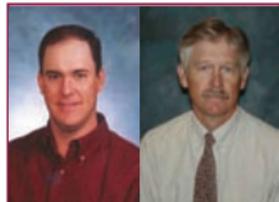


MINERALS IN NEW MEXICO FORAGES



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In 2001 and 2002 a statewide forage mineral survey was conducted by NMSU to evaluate forage mineral profiles by geographic region. The results indicated that dormant forage samples

were almost always deficient in phosphorous, potassium, magnesium, copper, and zinc. Selenium concentration was also highly variable. One of the sampling locations was located at the CRLRC. The average of dormant forage samples from this location that were collected in the late winter supplied less than 37% of the gestational mineral requirement for phosphorous, potassium, magnesium, sodium, and sulfur; and less than 50% of the requirement for manganese and zinc. All other minerals were present in sufficient concentration. When compared to the statewide survey averages, the samples from the CRLRC were slightly lower in the content of macro minerals, were lower in zinc and

manganese, but higher than average in copper content.

The CRLRC approach

Vegetation diet samples have been collected with ruminally cannulated cows at CRLRC. The mineral content of their diet was compared to the requirements for cows, calves, yearlings and heifers. The difference was used to determine the amount of mineral needed in a self fed salt mineral mix. After a couple of years the cattle were biopsied at the liver to determine animal mineral status. If the liver storage was determined to be adequate to meet production goals then the formula remained unchanged for that mineral. Daily intake per cow is continually monitored.

The foundation of a balanced range nutrition management plan is to supply needed minerals. We do this with a self-fed salt/mineral mix that is projected to be consumed at 2 ounces per day per cow averaged over an entire year. .

On a yearly basis, cow intake of our mineral is 1.8 ounces per head per day. (For example the average yearlong intake for 2004 mature cows was 1.91 oz/

hd/d.) This amount has been very consistent year after year even though there is extreme variation within a year. The results of our liver biopsies in cows and yearlings indicates that our mineral mix minimizes the loss of production that could occur do to the low concentration of minerals found in grazed forage diets (phosphorus, magnesium, copper, manganese and zinc).

CORONA RANCH Mineral Composition

Calcium, maximum	11.5 %
Phosphorus, minimum	8 %
Magnesium, minimum	2 %
Potassium	2 %
Copper	2000 ppm
Zinc	1000 ppm
Manganese	2500 ppm
Selenium	13 ppm
Vitamin A, units/lb	120,000

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