

will be a pasture in good initial condition and one in fair initial condition. Fecal indicators will be used to monitor seasonal changes in cattle nutritional status. These indicators will include fecal nitrogen and phosphorus concentrations. This study is scheduled to last at least 10 years. Periodically more intensive evaluations of cattle nutritional status will be made using fistulated animals for diet quality information and animals harnessed with fecal bags for intake evaluation. Changes in cattle weights will also be monitored seasonally throughout the study. This will allow examination of the relationship between cattle performance and nutritional status.

EFFECT OF STOCKING RATE ON ANIMAL PERFORMANCE UNDER SEMIDESERT CONDITIONS

J. A. Winder, R. F. Beck, J. L. Holechek, R. P. McNeely,
C. C. Bailey and R. C. Wills

(Key Words: Stocking Rate, Beef Cattle, Rangeland)

In June of 1992, a long-term experiment was initiated to evaluate the effect of grazing intensity on plant and animal performance. Four pastures at the College Ranch are being used in this study. Two of these pastures are currently stocked at a rate of approximately 100 acres per animal unit; the remaining 2 pastures are stocked at approximately 77 acres per animal unit. Data on the first calf crop weaned off this project are summarized below.

	<u>Weaning steers</u>	<u>Weights heifers</u>	<u>Conception rate (1992)</u>
100 acres/AU	486	490	80%
77 acres/AU	473	484	72%

More performance data will be available as this project continues. Vegetative sampling has been initiated to describe changes attributable to differences in stocking rate. Those data will be available in future proceedings.

BROOM SNAKEWEED GERMINATION FOLLOWING FIRE

D. B. Carroll, K. C. McDaniel, P. N. Berry and C. R. Hart

(Key Words: Range Weed Control, Fire Control, Germination)

Use of prescribed burning for the management of broom snakeweed has gained increased attention on New Mexico rangeland. Our study is monitoring broom snakeweed seedling numbers after March and June 1990 and 1991 fires to small plots (20 by 26.5 m) established on the NMSU Corona Ranch. The herbicide picloram was also applied in March both years to separate plots at a rate of .375 lb/ac. String marking nine permanent meter squared plots within

each of these snakeweed control plots are used to count seedlings. Observations are taken monthly from mid-March to mid-November and newly emerged seedlings are tagged with colored wire. This allows us to follow each seedling separately over time in order to determine survival or environmental circumstances under which the plant died.

Snakeweed germination was nearly 3.5 times higher in 1992 (234 total) compared to 1991 (65 total). Spring rainfall (April-May) was below normal in 1991 (1 inch) but well above average in 1992 (6 inches) which explains why more seedlings were observed in 1992. Most seedlings (71%) emerged in April or May both years and the greatest percentage (70%) emerged in summer burns. Seedling survival, irrespective of treatment, through the first growing season was only 44% in 1991 compared to 86% in 1992.

The figure below on the left shows seedling germination by month averaged across treatments. The figure on the right shows seedling numbers observed each year by treatment.

