ALFALFA SUPPLEMENTATION OF BEEF CATTLE GRAZING WINTER SAGEBRUSH-STEPPE RANGE FORAGE

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Several studies have been conducted or are planned in the near future to evaluate the efficacy of wintering beef cattle on rangelands in the Northern Great Basin. This research directive is designed to evaluate alternatives to traditional winter management of beef cattle, as well as, alternatives to managing private and public sagebrush-steppe rangelands. The overall objectives are: 1) to determine if grazing cattle during the winter months represents a viable alternative to traditional hay feeding management systems; 2) to evaluate winter grazing as an alternative use of public rangelands within multiple use goals and 3) to define supplementation strategies optimizing cattle performance with efficient use of dormant range forage resources.

Our research is currently in the second year of a two year study evaluating graded levels of supplemental alfalfa on beef cattle performance and utilization of the dormant range forage resource. In year 1, 48 head of mature gestating Hereford X Angus cows were stratified by age and body condition, and, allotted randomly within stratification to one of the following treatments: 1) control, no supplement; 2) 1.5 kg supplemental alfalfa pellets; 3) 3.0 kg supplemental alfalfa pellets and 4) 4.5 kg supplemental alfalfa pellets. In year 2, 72 mature gestation Hereford x Angus cows were allotted in the same manner and to the same treatments as year 1. For both years, cows were gathered daily at 0900 to 1200 hours and individually fed there corresponding treatment supplements. Individual feeding of the cows began in early November and continued through February 21 (year 1) and January 15 (year 2). The second years study was shortened due to a lack of available forage and concern over the health of the unsupplemented control cows. Weight gains and body condition of the cows were monitored on a 28 day basis throughout the winter grazing period. Additional cow weight, body condition and calf weights were (year 1) and will be (year 2) obtained at calving, just prior to breeding and mid-summer.

In addition to cow performance measures, esophageal steers have been used to monitor diet quality throughout the winter grazing period. Four consecutive days of collections have been made at the beginning of December, January (for year 1 and 2) and February (Year 1, only). Forage intake is being estimated by dosing chromic oxide sustained release boluses to determine fecal output and an internal marker estimate of digestibility. Intake estimates correspond to the same time periods as the esophageal collections during both years. In addition, vibracorder and digital pedometers were used to estimate the influence of graded levels of alfalfa on time spent grazing, pattern of grazing and distance traveled.

Results from these studies will be presented in the 1991 Range Field Day to be held at the Squaw Butte Range Station, June 25.

Research tentatively planned for the winter of 1991-92 will evaluate both long stem alfalfa hay verses sun-cured alfalfa pellets and feeding daily verses alternate days. The treatment structure will be a 2x2 factorial contrasting the following treatments:

1). Long stem alfalfa hay fed on a daily basis
2). Long stem alfalfa hay fed on a alternate day basis
3). Sun-cured alfalfa pellets fed on a daily basis
4). Sun-cured alfalfa pellets fed on a alternate day basis

The alfalfa supplements will be derived from the same cutting of alfalfa and, on a alternate windrow basis, harvested as sun-cured pellets or long stem alfalfa hay. All cows will be fed the equivalent of 5 pounds of supplement per day. Cows will be gathered daily and individually fed their corresponding treatment supplements. Measures of interest will be the same as those described in the previous study.