

Yearlong tops seasonal grazing in extended rangeland study

BY
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TO MEET rising costs, taxes, and "people pressure," the livestock operator must make the best possible use of his land. In many cases, he may need to increase yields through larger investments in management of both land and livestock. Investing more dollars doesn't, however, necessarily mean more beef production. Preliminary results of a recent study illustrate this point: Simple, inexpensive, moderate, yearlong grazing produced more cow and calf gains than did more intensive, moderate seasonal grazing.

This paper summarizes cow and calf weights under four different methods of grazing over an 8-year period at the U.S. Forest Service's San Joaquin Experimental Range in Madera County, California. The Experimental Range is in the lower Sierra Nevada foothills in the annual-plant type, where precipitation averages 19 inches annually.

Three distinct forage seasons occur each year in the annual-plant type of California: (1) an inadequate green forage season which starts after the first fall rains, (2) an adequate green forage season which starts as temperatures rise in spring, and (3) a dry forage season which includes the hot summer months. Two of the methods tested—repeated-seasonal and rotated-seasonal grazing—used no fertilization and were based on these natural forage seasons. In the repeated-seasonal method, cattle always grazed a specific range during the same forage season each year—and then were moved to other ranges in the other forage seasons. In rotated-seasonal grazing, the season of grazing was different for each range each year—the rotation was on a 3-year

cycle. These "seasonal" grazing methods were compared with yearlong continuous grazing of unfertilized ranges and yearlong continuous grazing of ranges fertilized every 3 years with 60 lb. per acre elemental sulfur.

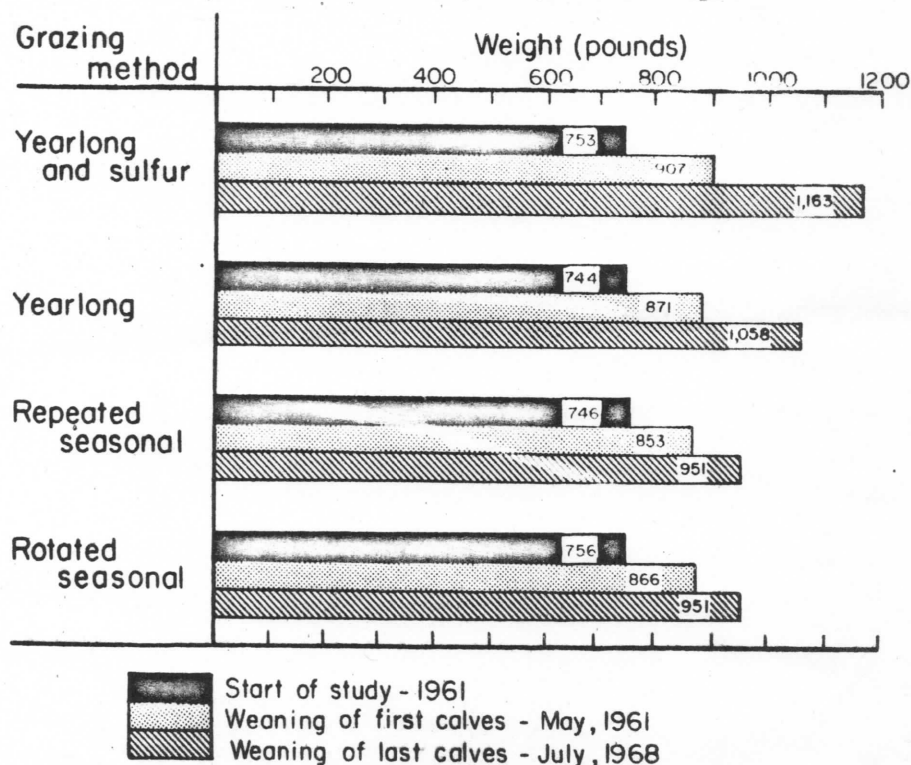
Ranges used in this study varied from 200 to 250 acres, with those for the seasonal treatments split into three parts. Forage use usually was not uniform over the entire ranges, but this lack of uniformity is normally the case with much larger units—even when watering and salting facilities are numerous. Moderate-forage use was the objective on all ranges. Thus, with the experimental replications used, results reported here should apply to well-

managed larger areas used in many ranch operations.

The study cows used were Herefords brought to the San Joaquin Experimental Range as yearlings in April 1959. All heifers were raised under the same conditions and dropped their first calves in November and December of 1960. In January 1961, the heifers were divided into balanced weight groups and assigned to treatment ranges for the rest of the study (fig. 1). Additional non-study Hereford cows and calves were put in and taken out of the treatment ranges as needed throughout the study to give the moderate level of forage use desired. Supplementation,

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Figure 2.—Growth and average body weights of cows were greatest under yearlong continuous grazing at the San Joaquin Experimental Range.

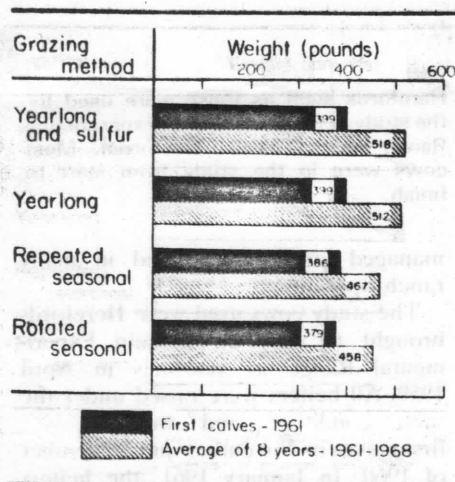


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mainly a partial daily feed of alfalfa hay during the inadequate green forage season, was consistent for all the treatments each year. Therefore, cattle weight differences can be attributed to



differences in grazing methods used over the 8 years.

By the time the first calves were weaned in May 1961, study cows grazing on yearlong units weighed more than those grazing on the seasonal

units (fig. 2). This early, small difference in cow weights turned out to be a hint of larger differences to come. And this "spread" widened rapidly. When the 1964 calf crop was weaned, study cows on the yearlong sulfur-fertilized units averaged over 150 pounds more than those utilizing the seasonally-grazed units. Those on yearlong unfertilized units were intermediate. This rather large difference in cow weights was highly consistent for the rest of the study period. At calf weaning time in 1968 the cows on the sulfur-fertilized yearlong units were 200 lb. heavier than those on the repeated or rotated seasonally grazed units. Also, the cows on yearlong unfertilized units were over 100 lb. heavier than those on seasonally-grazed ranges.

The calves produced by the study cows over the 8-year period also showed definite responses to the grazing methods. The first crop in 1961 showed only slightly heavier weaning weights for the yearlong methods, but in subsequent years a spread somewhat similar to that shown for the cows developed. Calves from both yearlong treatments averaged over 50 lb. more in body weight at weaning than those from either seasonal grazing method for the entire study period (fig. 3).

About equal calf crops were pro-

duced under the four methods - better than 90% calves weaned. The calves, like cows, were all treated the same except for differences in grazing. Creep-feeding was not used. On an individual calf-gain basis, differences between yearlong sulfur-fertilized and yearlong unfertilized treatments were slight. But sulfur fertilization considerably increased the number of cows and calves that had to be carried to get moderate forage use. In summary, body weight performance of both cows and calves over an 8-year study period showed considerable and consistent advantages of continuous yearlong over seasonal grazing. **wlj**

