Supplements On Fall Range

By WALLACE M. JOHNSON

Range Conservationist, Rocky Mountain Forest and Range Experiment Station

SUPPLEMENTAL feeding of yearling heifers on fall range at the Manitou Experimental Forest during the fall season of 1953 increased weight gains 22.4 pounds per head, increased market values 75 cents per cwt., and resulted in $3.93 more value per animal after cost of feed had been deducted.

Forty head of yearling heifers obtained from four local ranchers were used in the test. Individual animals graded from common to good. The heifers were sorted into two uniform groups based on weight, ownership, and as nearly as possible, quality. After an all-night shrink, they were weighed and each group put on a separate range on August 27. Both lots of cattle grazed the ranges from that date until October 15. One lot was supplemented for the entire 50-day period, while the other lot grazed without supplements.

Forage on the two ranges was similar. Most of the available forage consisted of the native bunchgrasses, Arizona fescue, mountain muhly, and little bluestem, but both ranges contained small areas of crested wheatgrass. Grazing by both groups of heifers was concentrated on the crested wheatgrass which the heifers seemed to prefer to the native bunchgrasses. Ample forage was available in both areas. At the close of the period, October 15, the crested wheatgrass areas were utilized an average of 65% and the native bunchgrass 20%.

The supplement fed, furnished by the Colorado Milling and Elevator Co., was pellets of the following approximate composition:

Protein	22.0%
Fat	2.5%
Fiber	10.0%
Nitrogen-free extract	40.0%
Ash	10.0%
Added minerals, including phosphorus and calcium	5.0%

The supplement was fed at the rate of 2 pounds per head daily for the entire 50-day period. No difficulty was experienced in getting the heifers to take the supplement. By the third day, all but two animals were eating. One of these never did take the supplement. The other took it intermittently during the feeding period.

Results of feeding the supplement were reflected in greater weight gains and higher market values (table 1). The heifers that received the supplement gained an average of 89.6 pounds per head during the 50-day period in contrast to 67.2 pounds of gain on those not fed. Both gains are well above those made by heifers on native bunchgrass ranges during this season. Other studies at the Manitou Experimental Forest have shown that yearling heifers on moderately grazed ranges average a total gain during September and October of 41.3 pounds per head.

At the end of the feeding period market appraisals were made by a qualified cattle buyer. The fed heifers were appraised at $15 per cwt. and the majority were graded as choice. The unfed heifers were appraised at $14.25 and the majority were graded as good, with some choice individuals. Thus there was a definite up-grading in quality as a result of supplementary feeding plus increased monetary value. The fed heifers were thriftier, more vigorous, and carried more "bloom" or condition than the unfed heifers.

Feeding the supplement increased the value $3.93 per head over and above the cost of the feed. In these comparisons no costs of doing the feeding were considered. Only the cost of the feed itself was deducted.

These results indicate that feeding supplements to market animals while on fall range may have definite possibilities for increasing income to the ranch. In the present test only one type of feed and one level of feeding were considered.

Septic Tank Failure

FAILURE of individual sewage disposal systems is generally due to faulty design, says O. J. Trenary, Colorado A & M extension service agricultural engineer.

Many septic tanks are too small and so material cannot stay in long enough to properly digest.

A general recommendation is a minimum of 500 gallons actual working capacity and an additional 250 or 200 capacity per family member over two.

If disposal lines are in tight soil, they should be bedded in medium-fine gravel and may have to be flanked by drainage tile placed at a lower level.

A common mistake is burying the disposal tile too deep. Recommended depths vary between 18 and 24 inches, depending on the soil. There is no danger of freezing if the system is continually in use.

If garbage disposal units drain into the septic tank system, the capacity should be increased approximately 50% over normal, Trenary says.

"Use of detergents in wash waters draining into the tank is not considered detrimental to digestion under normal household conditions, although the tendency to keep materials in suspension may result in serious carry-over into the disposal system unless the outtake pipe extends about half-way down into the tank liquid depth," he explains.

Studies indicate that septic tanks placed in operation during cold weather may be seeded to advantage at the rate of about 6 gallons of digested sludge per person in the household. The addition of yeast to sewage in an attempt to improve digestion has proved of little value.

It is best to discharge water softener salt solutions elsewhere than in the septic tank system.

Table 1.—Summary of results of fall feeding of supplement on grass range—Manitou Experimental Forest, 1953

Treatment	No. of animals	Avg. initial weight	Avg. final weight	Avg. gain	Market value	Value per head	Cost of feed per head	Net value	Value of feeding supplement
		Lbs.	Lbs.	Lbs.	$/cwt.	$	$	$	$
Fed 2 lbs. supplement per day	20	616.8	706.4	89.6	15.00	105.96	4.00	101.96	3.93
No supplement	20	620.7	687.9	67.2	14.25	98.03	0	98.03	.....