

Supplemental Feed for Ewe Lamb

range-grown replacements given supplemental feed less costly than those on unsupplemented forage

D. T. Torell and William C. Weir

Ewe lambs grown out—grown to maturity—with supplemental feeding in a recent trial at the Hopland Field Station in Mendocino County cost \$9.11 per animal as compared with \$9.20 per head for animals run on the range without supplemental feeding.

Two of the problems confronting the livestock man who grows out his own replacement ewes on California range are closely related: 1, the loss of weight which almost inevitably comes between weaning in the spring and the following February—the period when the nutritive value of the range forage is low—and 2, the increased infestation of parasites which comes with the green feed after the fall rains begin. In their weakened condition from the loss of weight, the lambs are more susceptible to the parasitic attack. These problems can be minimized, however, by supplementing the weaned lambs with a self-feed mix of salt, cottonseed meal, and barley to take care of the nutrient deficiencies and phenothiazine to help control the internal parasites.

A trial initiated in July of 1953 was designed to study the economy of supplementing flock replacements. On June 29, a month after weaning, 172 white-face ewe lambs were divided into two

groups by weight, with 86 animals in each group.

The lambs were placed in two pastures which were fairly equal insofar as size and forage cover type were concerned, and the two groups were rotated between the two pastures approximately every 28 days so as to equalize the pasture effect. One group was run on the range without supplement, while the other group was self-fed a mixture of salt, cottonseed meal, and barley in varying proportions. Both groups were given phenothiazine to combat parasitism. The unsupplemented group received its phenothiazine in its salt at the rate of 1 to 9. The supplemented group was given phenothiazine in the self-fed mix at a rate of about one half gram—approximately 1/900th of a pound—per head per day.

The lambs remained on experiment until January 6 when they were put on improved dry-land range. During this time, treatment of the two groups was as nearly alike as possible except for the supplemental feeding.

The percentage of salt in the supplemental feed mixture was varied in order to hold the daily consumption between one-fourth to one-half pound per day. Since the consumption rate of supplemental feed is probably affected by a

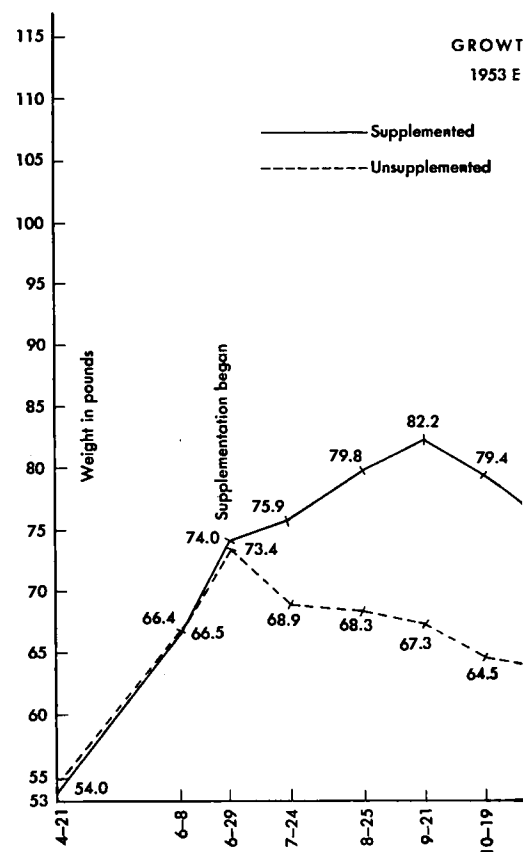
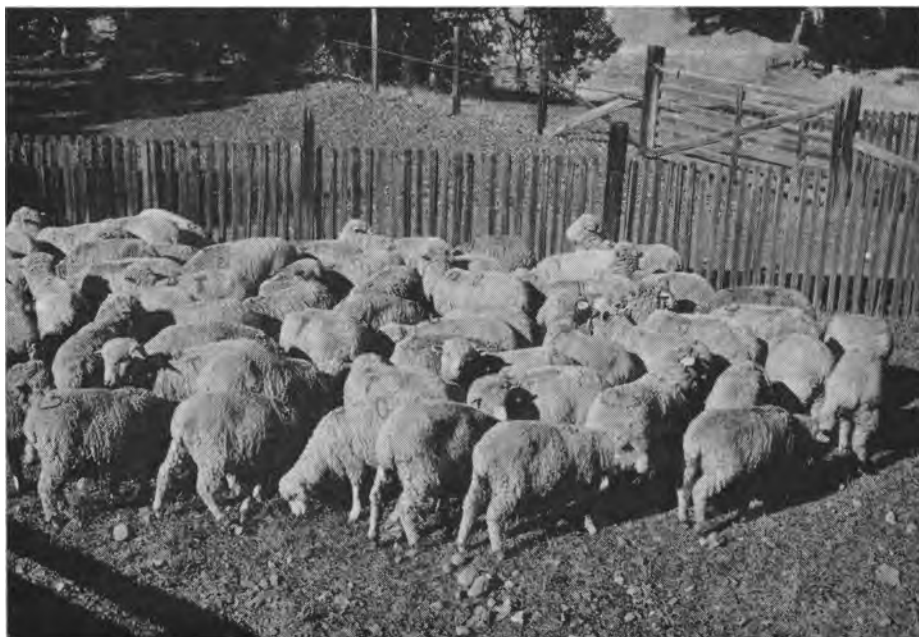
number of factors such as climatic conditions, the lambs' preference for various feeds, and the nutritive content of natural range feeds, the varying of salt content in the mix did not completely control the fluctuation of the amount consumed. It did, however, aid in keeping the consumption more stable and at a more desirable rate than had been experienced with a fixed percentage of salt.

The ratio of cottonseed meal to barley in the mix was varied to supply the lambs

Supplement Consumed by R

	June 29 to July 24	July 25 to Aug. 25	Aug. 26 to Sept. 21
	(Per Head)		
Salt073 (14%)	.150 (20%)	.113 (23%)
Cottonseed meal .	.217	.300	.193
Barley217	.300	.193
Total507	.750	.499

Unsupplemented ewe lambs at October 19 weighing.



with the nutrients most lacking in the range forage, because when the native grass is dry, it is deficient in both protein and carbohydrates. Therefore, equal amounts of cottonseed meal and barley were fed to more nearly balance the ration. However, when the fall and winter rains had sprouted the grass seeds and the new growth was available to the animals, more barley was added to supply carbohydrates. New grass growth is extremely high in water content and the sheep cannot eat enough to keep their energy supply sufficiently high to maintain their weight. Of the nutrients available in new grass growth, the highest percentage is protein. Therefore, a feed supplement is necessary, and the most efficient use can be made of energy feed such as barley, milo, or corn.

The influence of supplemental feed was strikingly reflected in the difference in average body weights of the two groups of lambs. From June 29—when supple-

mentation began—the unsupplemented group experienced a steady decline in weight, whereas the weights of the supplemented group increased. By the latter part of September, just before the fall rains, the unsupplemented group had lost an average of six pounds, whereas the supplemented group had gained nine pounds, making a difference of 15 pounds in the average weight of the two groups.

The additional vigor and growth of the supplemented lambs were advantageous, as only two lambs died during September and October, while 10 of the unsupplemented lambs died during the same period. During the trial, death attributed to malnutrition accounted for 13 losses in the unsupplemented group, whereas only four lambs in the supplemented group died. Probably the best explanation for the high death rate at this time of the year is that the fall rains which start the new growth also leach out the nutrients in the available dry feed. The fresh green feeds are high in water content and low in nutritive value, and under these conditions the animals are actually starving to death. Their poor condition is further aggravated by the increased parasite infection after the ground becomes wet from the fall rains. Since the lambs are already weak, the parasites are probably fatal to the unsupplemented lambs, while those lambs on the higher plane of nutrition have enough reserve condition to tide them over until the green feed gains sufficient strength to provide necessary nutrients.

On January 5, the lambs were taken off the experiment and were run together, without supplement, on improved dry-land pastures. The feed in those pastures was superior to the native range and was also gaining more strength—less

Cost Analysis, 1953 Ewe Lambs June 29 to January 6

	Supple- mented	Unsupple- mented
Range cost at \$0.0267/day for 190 days	\$5.07	\$5.07
Supplement cost at \$0.015/day for 190 days	2.85	...
Total feed cost	7.92	5.07
Other costs per live yearling at end of trial:		
Dead sheep replacement	1.03	3.56
Feed consumed by dead sheep	.16	.57
Total cost	9.11	9.20
Income from wool at .70/pound	5.88	4.83

water and more dry matter. Therefore, both groups gained weight.

The 17-pound lead which the supplemented group had held over the unsupplemented group when the feeding trial was completed on January 5 was reduced to a 10.5-pound lead in 35 days' time, and on April 17, after the wool had been removed, the margin had narrowed to 6.5 pounds.

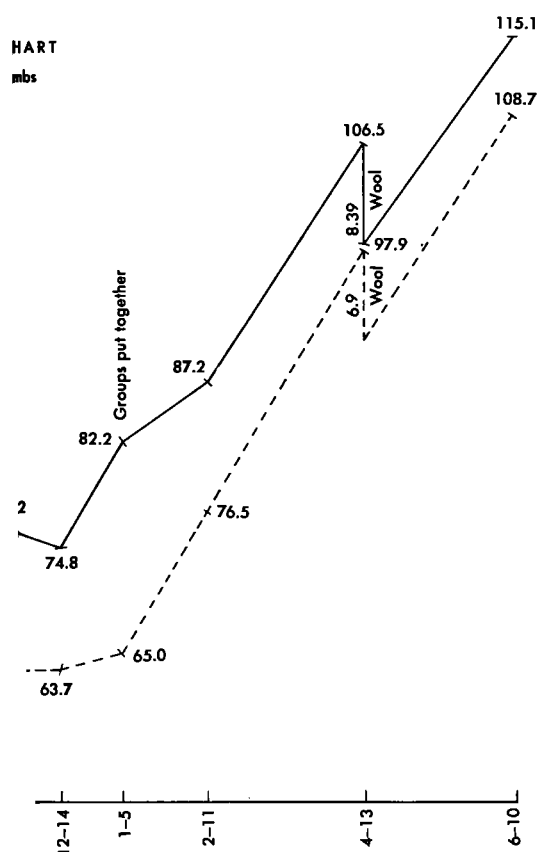
Supplementing the one group for the 190 days cost \$2.85 per sheep. However, this cost was more than offset by higher wool production of 1.5 pounds per animal and by the survival of 11% more lambs in the supplemented group than in the unsupplemented group. Also to be considered is the range feed which the lambs that died had eaten and which was therefore wasted.

From this data it can be concluded that it is impractical not to supplement replacements on the range during the dry summer months and through the

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Experiment Ewe Lambs, 1953-54

Sept. 22 to Oct. 19	Oct. 20 to Nov. 18	Nov. 19 to Dec. 14	Dec. 15 to Jan. 5	June 29 to Jan. 5
Per Day)				
Lbs				
.088 (25%)	.051 (19%)	.065 (13%)	.058 (12%)	.089 (18%)
.131	.106	.120	.103	.173
.131	.106	.310	.308	.221
.350	.263	.495	.469	.483



Supplemented ewe lambs at October 19 weighing.



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POPULATION

Continued from page 2

terms and concepts commonly used—whether in reference to farmers, farm laborers, or farm people—seldom have precise meanings. Therefore, the question of who should be counted as farm people or as being in agriculture depends on the definitions that are used.

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The third and last article in this series of reports will be published in the January 1955 issue of California Agriculture.

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early part of the winter since it appears that these added nutrients will keep the lambs in good enough condition to enable them to slide across the lean-feed periods without losing their lives. The cost of such feeding is returned in increased wool production, body weight, and number of sheep saved.

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