

Improved Pastures for Lambs

in comparative trials improved pastures produced 133.7 pounds of lamb per acre, unimproved range produced 18.4 pounds

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Improved, fertilized pastures at the Hopland Field Station produced approximately seven times as much lamb per acre in 1955 as did the unimproved range. The increased lamb production was due in part to the much earlier and more abundant range forage produced in the fertilized pastures.

As an indication as to how beneficial the improvement of range pastures can be, the sheep days per acre—from December 23, 1954, to May 24, 1955—on improved pastures were 206.6 for ewes and 308.6 for lambs while on the unimproved range they were 37.0 for ewes and 34.0 for lambs.

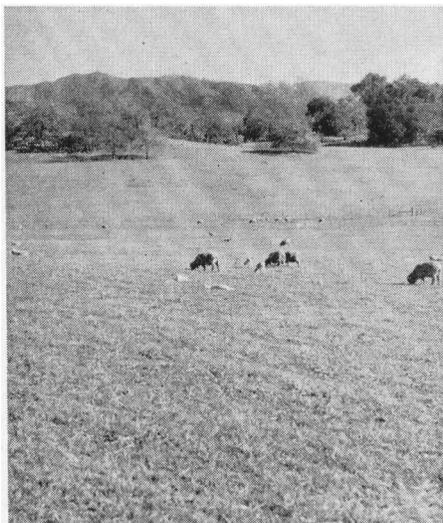
The improved pastures produced 133.7 pounds of lamb per acre as compared with 18.4 pounds produced by the unimproved ranges. Improvement of the pastures, then, resulted in a gain of 115.3 pounds per acre.

In the north coast area of California most of the lambing occurs about January 1, at a time when there is a shortage of range feed. The new forage is so immature and the water content so high that the lactating ewe cannot eat enough to provide the nutrients necessary to produce sufficient milk for proper lamb growth. This feed situation exists until about the middle of February, the actual time depending upon weather conditions. Furthermore, the old, dry feed from the previous year—leached by winter rains—has a low nutrient value.

To obtain maximum lamb gains under these conditions, the ewes must be given feed supplements in the form of hay, grain, and other concentrates, or the range must be improved by seeding to more productive varieties of forage and fertilized—where necessary—to increase the production of the forage.

During the 1954-55 season, the ewes at the Hopland Field Station lambled in the central lambing barn, and then—with their lambs—were hauled by truck to various pastures. There were 54 ewes with twin lambs and 56 ewes with single lambs that were rotated among three improved pastures. The remaining ewes with single lambs were put out on unimproved range.

The improved pastures totaled 68 acres of land formerly used for many years to produce cereal hay. In the fall of 1952 the land was cultivated and



Ewes and lambs on improved pastures, spring 1955, at Hopland Field Station.

seeded to a mixture of hardinggrass, tall fescue, rose, subterranean, crimson clovers, narrowleaf trefoil, burnet, and alfalfa. In the fall of 1954, 300 pounds per acre of 16-20-0—nitrogen, phosphorus, potassium—fertilizer were applied by airplane to the seeded pastures.

A semidrought condition developed during January and February of 1955 and the feed stopped its rapid growth. Therefore, 37 ewes with single lambs were removed from the experiment for a period of 35 days, from February 24 to April 1.

Ewes running on the unimproved range received feed supplement in the form of a self-fed salt mix of barley and cottonseed meal. When their lambs started eating solid feed, they too consumed much of the mix. When supplemental feeding of the ewes was discontinued on March 17, creeps were constructed for the lambs and ground milo was available for them until weaning on May 24. The sheep in the improved pastures were provided with no supplement,

but salt and phenothiazine at a 9:1 ratio were available.

For the purpose of comparison, 160 lambs were chosen from the unimproved range group with birth dates corresponding with birth dates of the lambs in the improved pasture group. Likewise ewes of the same type of breeding were used.

The lambs were weighed on May 5, at shearing, on May 24, at the weaning of the unimproved range group, and again on June 21 at the weaning of the improved pasture group. The average daily gain for the single lambs in the improved pasture group was slightly higher than the other two groups during the period from birth to May 5. From then on, the lambs on unimproved range continued to gain at approximately the same rate whereas the lambs on the improved pastures gained more slowly.

The slower rate of gain could be due to one or more of the following factors: 1, added benefit in the unimproved pasture by creep feeding, 2, differences in digestible nutrients of the two types of forage, or 3, a less efficient program of pasture management at that particular time in the improved pastures.

The value of weaning the lambs before the grass becomes too mature and starts to dry was apparent from this study. Since the improved fields contained a considerable number of perennial plants, the lambs were not weaned at the normal time but left on these pastures. Under this management system, the lambs lost weight which indicates that either there were not enough of these plants or that the nutritive value was too low at that time of the year to sustain lamb gains.

Nevertheless, at weaning time—June 21—the single lambs in the improved pasture group outweighed the twins in that group by only 5.6 pounds. The ewes with twins had produced 85% more lamb than did the ewes with single lambs. The heavy twin lamb weight can probably be attributed to the abundance of green feed that was available to the ewe right after she lambled and the good quality of feed available to the lamb when it reached the age where it was taking a significant amount of forage.

The weights of the single lambs in the improved pastures and unimproved

1955 Lamb Weights

Group	Birth	Body weights		
		5/5	5/24*	6/21
Improved (twins)	7.8	68.1	71.2	70.3
Improved (singles)	9.7	73.5	76.6	75.9
Unimproved (singles)	11.5	71.6	78.3	

* 2.5 pounds average of wool removed per lamb is added to the actual weight.

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LAMBS

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range were approximately the same. This would indicate that ewes with single lambs on unimproved range could get enough nutrients to produce the required amount of milk for the lambs under this type of management or—perhaps—that the supplemental creep feed for the lambs on the range offset the more nutritious forage in the improved pastures.

Another important consideration is the comparative carrying capacity of the two types of pastures. Since the animals in both groups were taken out of a pas-

ture when it appeared that either the pasture or the animals might suffer, the utilization of both types of pasture would be fairly comparable. Some fields had more feed left in them after the lambs were weaned than others.

The results of these trials confirm the contention that a program of range pasture improvement by seeding and fertilization will provide an abundance of highly nutritious early feed for lactating ewes and their lambs. Ewes can be maintained, without supplementation, on a diet sufficiently nutritious to provide the necessary milk supply to support their lambs. Twin lambs can be grown out

without creep feeding, to sizes which compare favorably with single lambs. The increased carrying capacity resulting from this pasture improvement will relieve the burden carried by the unimproved range, making a more effective program of over-all range management possible.

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