



Rates of gain of market lambs on three different feeding regimes

Adapted from Chet Parsons
University of Vermont Extension
St. Albans, Vermont

Shelburne Farms, in Shelburne, Vermont, is a nonprofit organization dedicated to educating the general public about Vermont agriculture. The operation includes a herd of cows that supply milk to their cheese mak-

ing operation. These cows are intensively grazed on pastures located on the farm. The crude protein of the pastures ranges between 21% and 29%, and the total digestible nutrients ranges between 66% and 79% for the entire grazing season.

Shelburne Farms also has a flock of sheep that serves not only as an educational tool, but provides the

Inn at Shelburne Farms with fresh, locally-grown lamb. They have traditionally finished the weaned lambs in confinement with concentrates. In an effort to take advantage of their high quality grass, they agreed to participate in a study to compare lambs finished in their traditional manner to lambs finished totally on grass and lambs finished on grass with a shelled corn supplement.

Market lambs at Shelburne Farms were weaned, weighed and wormed. Three groups were randomly selected. One group was confined in a shelter and fed a lamb concentrate ration, hay, minerals and water. The other two groups were placed on high quality pasture. Both groups had minerals, water, and shade available at all times.

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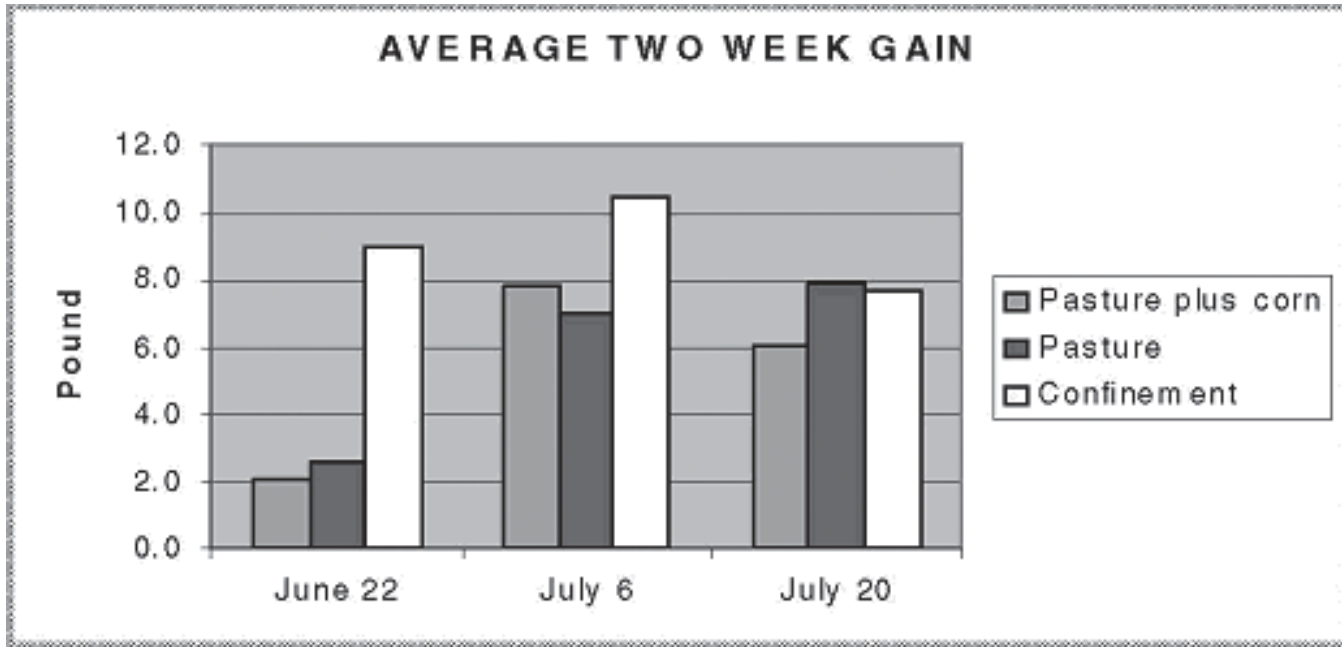
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Figure 1.



One group received only grass while the other had free-choice whole shelled corn in addition to the grass.

The lambs on pasture were intensively grazed in paddocks that were approximately 75 ft. square, using portable electric fencing. The lambs were moved to new paddocks every three days. All lambs were weighed every two weeks and the rate of gain for each two week period was calculated.

Initially, the lambs grown in confinement and fed concentrates gained much faster than the lambs on pasture (Figure 1.) By the second weighing, four weeks after the start of the study,

the lambs on pasture were gaining at a rate similar to the ones on concentrates. At the end of the study, the lambs that were confinement reared on concentrates had gained significantly more weight than lambs in either of the pasture-raised groups, as a result of their greater growth rate at the beginning of the trial. Lambs raised on pasture only had total weight gains that were slightly higher than those of the lambs that were raised on pasture and supplemented with corn (Table 1), but this difference was not statistically significant.


Observations would suggest that the lambs receiving the whole corn

Table 1. Total mean weight gain per sheep in pounds

Grain Fed	39.8
Pasture Only	31.6
Pasture Plus Corn	29.0

were not accustomed to it at the beginning of the study, and it took some time for them to accept it. It was also observed that when the lambs eating corn did start eating it, they would eat their fill and lay in the shade the rest of the day while the lambs on just pasture grazed most of the day.


Costs associated with finishing the lambs in confinement included the cost of the concentrate (\$429.31), labour



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(\$157.50) and a yardage fee (\$22.80). The cost associated with the two groups of lambs on pasture included labour (\$337.50), pasture (\$100) and the cost of the whole shelled corn for the group that received it (\$87.41).

The cost per pound of gain was considerably more for the lambs in confinement. The added corn increased the cost of the lambs on pasture that received it by \$0.23 per pound (Table

Table 2. Cost per lb of gain

Grain Fed	\$1.44
Pasture Only	\$0.55
Pasture Plus Corn	\$0.78

2.). The lambs reared in confinement cost more to produce, but were ready for market much sooner than the ones on grass. If time is a factor, producing lambs this way maybe worth the added cost. In this situation, it meant that the Inn at Shelburne Farms was supplied with lamb at least a month earlier than it would have been if they relied on the grass fed lambs.

All the lambs in this study were used at the Inn at Shelburne Farms. To evaluate the taste of the three different groups, the chef at the Inn prepared three different cuts (shoulder, loin, and shank) from three different lambs, one from each of the test groups.

A taste test panel included a food editor and a cookbook author. Panel members did not know which cut came from which lamb.

Members of the panel differed on the lambs they chose as the best-tasting, resulting in no significant taste difference between test groups. With grass-raised meat becoming popular among discerning consumers, this study indicates that sheep producers can raise high quality lamb at reduced cost on high quality pasture.

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Jim Morgan
P. O. Box 778D
Fayetteville, AR 72702-0778
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