



Date: February 23, 1995

From: Hollow Road Farms

Re: SARE Project # FNE94-56

The purpose of the project was to evaluate the feasibility of raising lambs on dairy goats in order to minimize the cost of lamb milk replacer.

Hollow Road Farms milks 250 dairy sheep and has therefore, in any given twelve month period, approximately 500 lambs to raise artificially. It is our experience that one of the most significant detriments to sheep dairying in the country is the upper price limits the market will bear for baby lambs (approximately \$3.75-\$4.50 per lb. dressed weight) Raising lambs artificially creates a cost often in excess of this realizable market price; given the excess supply of baby lambs in the Northeastern United States, it is not possible to raise prices, even with aggressive marketing. Therefore, lowering the cost of farm inputs was thought to be the only successful approach.

Hollow Road Farm set up a group of 15 lambs to be raised on dairy goats and a control group of 15 that were raised on milk replacer. Both groups were weaned from their natural mothers at 3 days, and both began with an equal number of healthy male and female lambs. The experiment was conducted over a 45 day period in October-November, and again, with identical parameters, in January-February in order to eliminate any seasonal bias.

The quantitative results of the study were as follows:

1. The costs of raising the lambs on milk replacer exceeded the costs of the goat-raised lambs by approximately 100%. Each lamb required approximately one, 25-lb bag of milk replacer (which bag costs approximate \$25) One dairy goat, however, at a cost of \$100, was able to raise approximately 4-5 lambs when her milk was provided to the lambs in a bucket. Therefore, milk inputs for the goats-lambs were approximately \$20-25 vs. \$25 for the milk-replacer-lambs. It is essential to note, however, that as the goats' lactation lasted between 150-180 days, it would have been theoretically possible to raise at least two, possibly three groups of 4-5 lambs. Therefore, the total

cost per lamb raised would have been one half to one third the cost of the artificially raised lambs.

2. In so far as we use a \$12 per hour rate as a proxy for farm labor, the costs of the milk-replacer lambs exceeded that of the goat-raised lambs by approximately \$144, or twelve hours per lamb in the first two weeks. Thereafter, labor costs were equal.

3. We estimate that the goats cost approximately \$.64 per day to feed, which increased the costs of the goat raised group; however, we had a higher death loss in the artificially raised group, (one in each seasonal group) vs. none in either of the goat-groups; this opportunity cost (approximately \$64 computed as 16 lb. at \$4.00) more than offsets the costs of feeding the dairy goats.

Our qualitative conclusions were as follows:

1. The dairy goats represented no problems in handling, since our farm is relatively large and has facilities for other species, however our fencing was insufficiently high and had to be improved.

2. Our hope had been to graft the lambs onto the dairy goats and this was marginally successful, but of the six goats, only three could be said to be enthusiastic foster mothers; the fourth was marginal, and the last two we milked in the parlour with the sheep, then fed the goats milk out of buckets to the lambs. Our sense was that where the goats were willing to be nursed, the lambs were brighter, but we detected no difference in weight gain between the lambs that received goat's milk from the mother goat and those which received it from the bucket. There is a marginal labor benefit in having the lambs grafted onto the foster goat, but that mother then can only raise two lambs. With bucket feeding, four to five lambs was easily manageable.

3. The study was not comprehensive enough to track rate of weight gain for each group, since the differences reflected more the individual lamb's growth, and not the methodology. It would be important to see if the lambs in either group gained weight faster, but we noticed no difference in our small samples and none at the end of the study..

Conclusion:

The methodology is successful, but depends upon finding good goats with adequate milk and receptive attitudes to adopting lambs and/or being milked with sheep. There were no noticeable health problems whatsoever in the lambs, but it is important to be cognizant of health problems that might be introduced when bringing new animals, and especially a new species onto the farm.

We vaccinated the goats as we did the sheep, and experienced no health problems.