

4.6 Artificial rearing of lambs

Orphans, lambs from multiple births, mis-mothered lambs, lambs born to ewes with nonfunctional udders or low milk yields, weak lambs in their first week of life, or lambs born as twins to yearling ewes may be taken away for artificial rearing. Lambs should be removed from the ewes for artificial rearing on the first day if they have sucked adequate colostrum. Otherwise the lambs are fed colostrum from a bottle equipped with a teat. All lambs are first put in a pen for 2-4 days (the starter pen) where they are trained to nurse from the nipple bar. The trained lambs are then grouped by size and moved into the regular pens. Problem lambs remain in the starter pen for a few more days before being transferred to the regular pens.

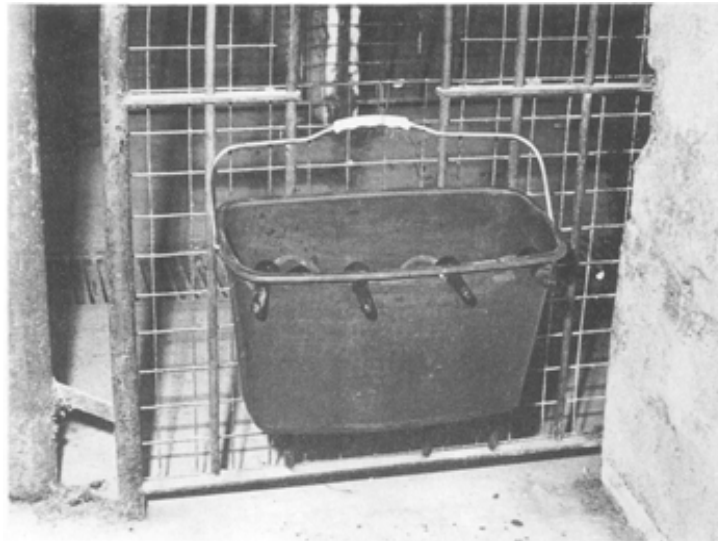
There are two types of artificial rearing units. In the first type the artificial rearing unit is equipped with a variable number of individual pens. Each pen is 0.6 m x 0.3 m (0.18 m²) in size and is fitted with a milk feeder, water container and solid feed troughs. Hand feeding is practised. In the second type the lambs are kept as a group in pens. Milk is distributed through a pipeline system to individual nipples in the pen (large units) or, more frequently, the nipples are supplied from hard plastic containers filled daily.

The latter system is called the LAMB-BAR (Photographs 16-17) . It consists of a number of rubber suckling teats (nipples) each connected through a plastic tube with the liquid milk replacer. The upper side of the plastic

tube should be inserted into the rubber drinking nipple. The lower side of the plastic tube is provided with a non-return valve so that after the first and following actions of the lamb, the proper vacuum in the tube will be maintained until the liquid milk replacer arrives in the mouth of the lamb. The non-return valve maintains the column of milk in the tube, and there is no return flow of the fluid. When the rubber nipple is properly fitted to the plastic tube there is practically no loss of milk by leaking. The lower end of the plastic tube (with the non-return valve) should be inserted into the drinking pail near the bottom. The nonreturn valve is needed the first week only.



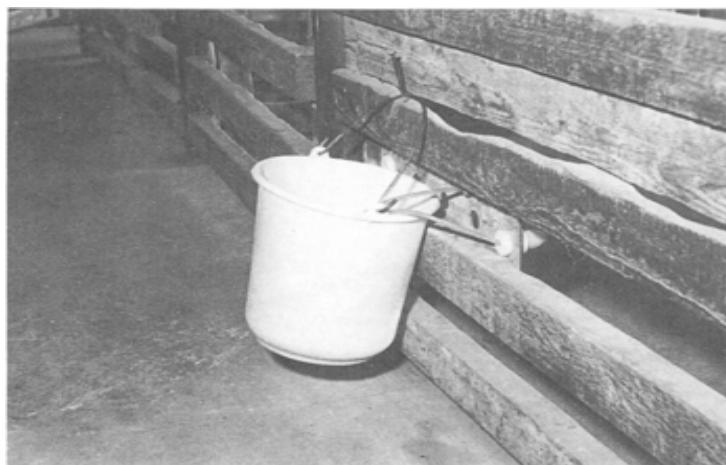
15. Milk replacer is reconstituted to give a dry matter of 20 percent



16. Lamb-bar - Portable plastic container fitted with nipples



16. Lamb-bar - Portable plastic container fitted with nipples



17. Lamb-bar. Plastic container with milk outside the pen

The milk solution is prepared in a tank or other container where the appropriate milk replacer is diluted with only half the quantity of the water (water temperature about 50⁰C). This mixture is thoroughly stirred with a stirring rod. Then the remaining half of the water is added under constant stirring. Warm water is used only during the first week. Each pen holds 10-15 lambs (for better supervision), with a total area of 4-6 m², there being two to three lamb bars with 3-4 nipples in each lamb bar. The container, nipples and plastic tubing should be washed daily.

The milk replacer should be of excellent quality and should contain 25-30 percent fat, 25 percent protein, 0.10 percent fibre, 5-10 percent ash, vitamins, trace elements, antibiotic and antioxidant. Lactose content should be less than 50 percent. It should be stored in a dry place. The protein of the milk replacer should be derived from milk products. The replacement of milk proteins by other protein sources has not been very successful. Milk replacer is reconstituted to give a dry matter content of about 20 percent (Photograph 15). When one part of milk replacer containing 25 percent fat is diluted with four parts of water it gives five parts of milk containing 5 percent fat.

Increasing the dry matter content of the diluted milk results in a decrease of milk intake of the lambs and an increase in water intake, but there is no effect on overall performance .

About 8-10 kg of milk replacer is fed per lamb until weaning (42 days). The conversion of milk replacer to

lamb liveweight. is about 1.2-1.4:1. Diluted milk replacer is fed cold twice daily. During the last two weeks (28-42 days) milk intake is reduced (feeding once daily in the morning) in order to promote a higher consumption of solid feed by lambs. Artificially reared lambs are offered the same solid feeds as those fed to the suckling lambs. When artificial rearing is practised the performance of the lambs on a particular milk replacer depends on the replacer's original quality and its quality at the time of feeding. The decision to use milk replacer depends on the price relationships between sheep milk, milk replacer, concentrates and labour. Under Near East conditions the use of milk replacers is recommended.

After weaning, suckling or artificially reared lambs remain in the same barn for one week before being moved to the growing unit. After the removal of each batch of lambs from the artificial rearing unit the whole unit is cleaned and disinfected.