I N T R O D U C T I O N.

In many parts of the tropics there is a rising demand for meat, whilst in quite a few there is a definite need for more proteins, and in particular, animal protein.

Increasing attention is being paid to livestock production in the tropics and its associated problems. For the past two years investigations into the growth and milk producing qualities of Blackhead Persian sheep have been carried out at the College Farm at St. Augustine. These investigations have again been repeated this year on the same lines (Edmond and Prior, 1960). In addition it was decided to carry out studies on milk composition, with especial reference to milk fat and its relation to the growth of lambs. This is the basis of the present investigation.

This line of study was chosen for a number of reasons; Craven and Macartney (1959) obtained an indication of some relationship between total yield of milk fat and growth rate of lambs, and suggested further that where "milk yield was limiting fat may be important".

In its contribution to the energy of the diet fat is undoubtedly important and estimates of some workers (Barnicoat et al., 1956; Perrin, 1958) show that 40 - 70% of the young lamb's energy intake is derived from milk fat.

Compared with the information on the varying trends of the fat constituent in cows' milk, that on the milk of the ewe is exceedingly scanty and where it does exist is often incomplete. No previous investigations on this subject have been made on Blackhead Persian ewes.

The increasing emphasis on more intensive fat lamb production in the world today has stimulated more research into the milk production of the ewe since this is the main factor affecting early growth of the lamb. If, as seems likely, this trend continues, then a more thorough understanding of the yield and composition of milk and their relation during the

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course of lactation with lamb growth should provide the basis for further improvement. Attempts to achieve faster growth rates in lambs, to produce more lambs by early weaning and to make better use of supplements will depend on a full appreciation, both quantitative and qualitative, of the relationship between milk intake and growth of lambs. It is a complete study which can be divided into many components, of which the present study forms but one. It is however considered well worthwhile not only from the point of view of fundamental investigation but also on account of its possible application.