

## INTRODUCTION

Livestock forms an integral part in Agriculture in most parts of the world. In fact, an article written by Dash (38) states, 'Livestock is a good indication of the Agricultural progress and development of that community'.

Livestock supplies quite a large portion of the draft power on some farms, especially in the Tropics. They supply milk, meat, skins and fibre without which man could not be adequately fed and clothed. They also transform feed into organic manure essential for maintenance of soil fertility.

Human welfare, therefore, demands that livestock function with a maximum of efficiency. It is highly important to human health and well being that they have an abundant supply of milk and other dairy products. This accounts for the fact that dairy cattle form such an important phase of the Animal Husbandry of any area.

The increasing population of the already over populated Tropics, like India and the West Indies, has caused attention to be directed to the need for improvement of the general standard of production, type and uniformity of the dairy stock, to meet adequately the increasing demand for dairy produce. Coupled with this is the reduction of imports of human and animal foods due to the circumstances of war which made it imperative that more should be produced at home.

Bradbury (1) states in his report that in spite of the large number of dairy cattle kept in India, Africa, and the rest of the Tropics, the average daily ration of the tropical peasant is quite often deficient in animal fats,

proteins, vitamins and minerals. He states further, that this could be easily rectified by the adequate and cheap milk supply which could be achieved in two ways:

- (1) The number of animals be increased.
- (2) The productivity of the animals be greatly improved.

He is of the opinion that it is very doubtful whether the number of animals can be greatly increased in many areas of the world owing to already overstocking, so that the only remaining method is to increase the productivity of the animals.

Wright (2) in his report on Ceylon places the twofold arguments against the former. 'In the first place', he states, 'it is generally held that the Island is already overpopulated with cattle and that one of the reasons for the present low productive capacity is that the existing fodder supplies are spread over too large a cattle population; in this connection it is pertinent to note that milk can be produced far more economically from relatively high yielding animals whose maintenance requirements are not disproportionately high in comparison with their milk output, than from animals giving such abnormally low yields as those commonly found in Ceylon. In the second place, even if the number of stock were to be increased, the rate of increase would of necessity be relatively low and would probably be no greater than that required to meet the extra needs of the rapidly expanding human population. It is clear, therefore, that an overall increase in the number of milking cattle cannot be relied upon to provide a solution to the problem'.

Hammond (3) agrees with Wright (2) that the low

productivity of the milking stock of the Tropics, in general, may be attributed to one or more of the following factors:-

- (a) The stock may be genetically incapable of producing high yields of milk on account of either their size, their conformation, or their lack of inherent milk producing capacity.
- (b) They may possess good milking potentialities, but be unsuited to the local climate and geophysical environment.
- (c) They may be inadequately fed, either as the result of an actual shortage of fodder, or of qualitative deficiencies in its composition.
- (d) They may be subjected to unfavourable conditions of management.
- (e) They may be adversely affected by a high incidence of disease which may be in sub-clinical form yet widespread.

Taking into account the diversity of dairy stock and dairying systems in the Tropics, these probabilities may be taken as facts for the present, and will be proved to be facts later on.

Hammond (4) in a series of lectures given at the Seale-Hayne Agricultural College in the 1949-50 session, reinforces these views by stipulating the fact that in raising the standard of animal production, two main aspects have to be considered:

- (1) Improving the nutritional and environmental conditions suitable for production.
- (2) Improving the genetic and breeding make-up of the animal for the particular purpose for which it is required.

These aspects refer primarily to Management, Feeding and Breeding which Hammond (4) agrees, must necessarily be considered together if success is to be achieved.