

SECTION I

INTRODUCTION.

The standard of living achieved in Trinidad and other islands of the West Indies depends on the maintenance of a high level of remunerative export crops. This point is emphasised in a recent report by Sir George Seel (1951). It is necessary in Trinidad that production of food crops be linked with economic crops or the food farmer will have a low standard of living. In this island the food farmer generally works for wages for at least part of the year unless he is able to specialise in the production of market garden crops. Secondly it is necessary to note the fundamental significance of imported meat, milk products and wheaten flour in the local diet. The Agricultural Policy in Trinidad must therefore recognise the need for export crops and whilst maintaining these increase local food production to replace imports as far as is desirable with reference to economic soundness and the present unsettled international situation.

The Trinidad Food Production Committee (1951) consider it imperative that local production of foodstuffs be increased so that Trinidad may achieve the greatest degree of self sufficiency possible. It follows that immediate consideration be given to principles of better land use and ways of improving production by peasants who lack technical knowledge and capital. The peasant in Trinidad is frequently the freehold proprietor of several small plots of land which may be a considerable distance from his home. He is rarely a resident farmer. This position is a result of estate workers living in villages acquiring small plots of land in order to grow food crops.

It is in this framework that this Report on milk production in Trinidad must be fitted. The need for a supply of milk as an essential part of a good diet and the extent to which the Livestock Industry of Trinidad is meeting this requirement are considered.

The conditions under which milk is produced by peasants and dairies is then discussed. The ways in which improvement in the industry may be obtained are examined in the subsequent section of the Report.

The cattle of Trinidad are a heterogeneous mixture of types. In the 15th and 16th centuries the Spanish colonists brought cattle to Trinidad. These animals had a high proportion of Zebu blood (Webb, 1950). The milk yields of these animals was low and Europeans have brought *Bos taurus* stock into Trinidad to raise the level of milk production. A large number of the breeds to be found in Great Britain have been imported at some time or another to cross with the local stock. Characteristics of such breeds as the Jersey, Guernsey, Red Poll, Ayrshire and the Holstein are evident in the local peasant stock. Until recently this crossbreeding was indiscriminate, one imported sire often being followed by another of a different breed. Since the establishment of the Government Stock Farm for the production of milk for school children and the improvement of peasant cattle, the Holstein has been practically the only *Bos taurus* sire used in Trinidad. Most peasants associate black-and-white cattle with good milk production at the present time.

The present type of animal in Trinidad demonstrates the futility of crossbreeding *Bos taurus* with *Bos Indicus* for the production of a type of animal suited to milk production by peasants. Only under exceptional circumstances can a fixed type be developed from crossbred stock. In Trinidad the creole stock have retained the disadvantages of the *Bos taurus* sires in a tropical environment to which they are ill-adapted. Thus the peasant animals are degenerate. They are stunted in appearance, carry little flesh and show undesirable coat characteristics. They suffer from the heat and this effect is exaggerated by the high humidities because the conformation and physiology of *Bos taurus* stock is suitable for a temperate environment and not the tropics. The creole stock are not as hardy as *Bos Indicus* animals and under the condition of management and feeding practised by the peasantry they do not thrive. Howe (1949) has shown that the vigour

and growth rates of crossbred cattle varies directly with the proportion of Bos Indicus blood.

Degeneration has been evident in Trinidad for many years and the low milk yields of the offspring of Zebus imported for draught purposes and the creole stock has also contributed to the unsatisfactory position. It is only recently that Zebu stock selected for milk production have been imported. A policy of producing large numbers of these animals for distribution to peasants and grading-up the peasant stock towards a hardy Zebu type giving a reasonable milk yield under adverse conditions must be aimed at. At the same time peasant husbandry methods must be improved.

In Trinidad there are a few large dairies producing milk. The cattle are kept in large airy sheds under exceptionally good conditions and are never outside during the heat of the day. They receive balanced rations with a large amount of protein rich concentrates. Forage grasses are grown for soiling to the cattle. On the best of these dairies clean bottled milk is produced. It must be noted that the successful enterprises have large capital backing and the stock do not show marked degeneration although they may have a preponderance of Holstein blood. It is clear why many less well equipped dairies have not stayed in business for more than a short period.

It is of interest to note that the settler with the biggest income (\$5,000) at La Pastora Peasant Settlement combines a six cow dairy with market gardening. There are successful peasant dairies at Penal also; para grass is grown and some ghee produced for sale.

Goats in Trinidad occupy a very insignificant position. There is considerable aversion to goats milk among the East Indian population; many goats are kept as pets. Kids may be slaughtered for mutton. The type of goat kept by the peasant, like the cattle of the island is a mixture of breeds with Anglo-Nubian, Toggenburg, Saanen and British Alpine predominating (Shannon, 1940). The general appearance is similar to the British Alpine. The peasant animals are generally small boned, inferior in type and constitution and give

only a small amount of milk. Rapid improvement is probably possible by use of the better sires kept at stud in the Government Breeding Units but cannot occur until the peasant ceases to regard the goat as an animal which requires no special attention. Goat breeding is more keenly practised by town dwellers. There is a Goating Breeding Society in Trinidad but according to recent information its activity has decreased recently. In May a Goat Show was held in Port of Spain and some bucks of very high standard does giving high yields of milk were exhibited.

Detailed studies of the diet of East Indian labourers had been made by Dr. Lancelotti (1931-1932) and Dr. Sanger (1932). They concluded that the diet of these labourers was (1) deficient in animal protein (2) deficient in vitamins. The work of the Nutrition Committee corroborated these findings and demonstrated evidence of malnutrition among East Indian labourers in their report.

The committee considered the diet of East Indian labourers and small growers to be very deficient in food of animal origin; the diet consisted mainly of carbohydrates, polished rice, white flour and dried peas. The diet of infants and children was especially deficient in quality, little use being made of milk. The East Indian diet was superior with regard to milk consumption and superior generally because of the East Indian's preference for the carbohydrate diet.

Certain deficiency diseases were observed among East Indians. Beriberi was frequent; pellagra, kwashiorkor and rickets were also observed. The committee concluded that the labourers and their families must be taught the necessity of using a balanced diet.