INTRODUCTION.

The need for increased food production throughout the world has been strongly emphasised in recent years, and in particular the need for increased animal production to provide animal protein to raise the nutritional standards of the peoples of the world. Many people are looking to the relatively undeveloped areas, which include the tropics, for this increase.

A great deal of experimental work has been done in temperate regions on grassland improvement and grassland management, as a means of increasing animal production. It is only in the last twenty years that research workers have adopted the view that the practice of good grassland management necessitates not only the investigation of the effects of the animal on the pasture, but also the effects of the pasture on the animal. It is the study of the grazing behaviour of the animal, which provides a relative measure of the reaction of the animal to the pasture and its environment in general.

Earlier grazing behaviour studies with cattle in temperate regions, tried to establish the 'normal' grazing behaviour pattern of cattle. The'normal' pattern, is a purely hypothetical case, representing the behaviour pattern which would exist if all environmental and genotypic factors which cause departure from the 'normal' could be eliminated. This pattern is most closely approached by tropical herds of indigenous cattle under natural free ranging conditions. More recently, because of the magnitude of the variability in behaviour brought about by environmental and genotypic factors in the majority of situations, and the lack of practical value attached to the 'normal' pattern, the approach to grazing behaviour studies has changed. It is now common practice to make the studies of a comparative nature, and compare the effects of natural conditions, differences in quality and quantity of pasture, management systems, or individuality on the grazing behaviour of the animals.

In tropical regions by comparison, grassland improvement and management studies are far less advanced because of later development. In addition the practice of growing soilage grasses in the West Indian tropics has to some extent detracted from the need for better pastures and pasture management. This practice however is economically costly in labour and transport, and so the changeover to a pasture grass system is desirable. With this changeover tendency and general advance in recent years, grazing behaviour studies have become of value in the tropics.

In tropical areas, the climate often adversely affects animals of the well known high producing Bos taurus breeds, and so additional problems arise of selection of animals to withstand the climatic conditions, and at the same time to raise levels of production. This problem has been partially solved in several areas by crossing a Bos taurus breed and the native Bos indicus breed, to combine the heat tolerance of the native stock with the higher production of the exotic breed. In the Caribbean, there is a dearth of knowledge on grazing behaviour, and with the recent appearance of Pangola grass (Digitaria decumbens) as a promising pasture grass in Trinidad conditions, it is desirable that the behaviour of the local rather indeterminate breed of cattle on Pangola pastures should be studied. The government in Trinidad is encouraging the change over from indoor cattle management to pasture management on Pangola pastures, and subsidises the establishment of these pastures at $50.00 per acre. On the three farms studied in this project Pangola is replacing other pasture grass and soilage grass to a marked extent. The stock in these herds are mainly $\frac{1}{2}$ to $\frac{3}{4}$ Holstein on grade Zebu foundation stock.

This paper will compare and contrast the grazing behaviour of these three herds, which can be regarded as the leading dairy herds in Trinidad.