

## Introduction

This project was carried out as part of the Imperial College of Tropical Agriculture Grassland Research Programme and consists essentially of an investigation of the vegetative and floral characteristics of six selected grass species. A botanical description is given for each species together with a review of the relevant literature. The grasses concerned were established on plots measuring 14 ft. by 14 ft. on the Old Farm, whose soil is described by Mills (1949) as being of a very heterogenous nature varying from a sand to a clay loam with a very low nutrient status and with a slightly acid reaction. The soil was observed to pack very tightly after wetting and to crack during the dry season. Since rainfall has an important bearing on forage production, it is given in the appendix.

Within the past few decades, especially in the temperate countries, grasses have become so important that they are receiving equal, if not greater attention than some of the major crops. This change has caused numerous investigations to be undertaken on the various aspects of grass and grassland management in the tropics. The biggest problem confronting the investigation in tropical countries is the finding of a grass species suitable for temporary pastures. At this point it may be well to state some of the chief characteristics which are being taken into account in assessing the value of a grass. These are (a) palatability, (b) nutritive value, (c) ability to yield well with a high proportion of leaf, (d) ability to persist under the conditions superimposed, (e) ability to recover quickly after cutting or grazing, (f) good seeding qualities. Drought resistance is of particular importance in countries which experience a dry season. It is by no means easy to find grasses which conform to all these criteria. In Kenya, a considerable number of grasses tested by Edwards (1954) have been rejected on account of failure to satisfy one or more of these requirements. Similar difficulties have been encountered at the

Imperial College of Tropical Agriculture and several species imported from other tropical countries where they have shown promise have failed to give satisfactory results under Trinidad conditions.

The area bounded by the tropics includes a great complexity of climates and it is not surprising therefore that grasses which do well in one part of the tropics may fail completely in another. The need obviously arises for testing grasses in the country in which they are to be used.

The question of seeding qualities in grasses has been given a considerable amount of attention both by workers in Trinidad and by workers elsewhere. The object of the seed studies in Trinidad has been aimed firstly at selecting species giving abundant high quality seed and secondly to obtain information on optimum conditions of storage. It is often argued that the development of cultivated pastures under more intensive management is dependent on the facility with which such pastures can be established. Seed establishment is undoubtedly the most economical method of grass establishment but to reject a grass on the grounds of its failure to set viable seed would be foolish at this stage. As the emphasis at present is on long term pastures, investigation should be aimed at the improvement of vegetative establishment using both machine and hand planting.

The problem which faces the farmer in Trinidad is the need for increased forage production during the dry season. Few of the indigenous grass species have proved to be of much value under intensive management. Savannah grass (*Axonopus compressus*), although providing a succulent growth in the wet season, fails miserably in the dry season. There arises, therefore, the problem of supplying feed in the dry season and in the search for new grass species, this most urgent problem should not be lost sight of.