INTRODUCTION.

At the present time attempts are being made to improve all crops of importance with a view of obtaining high yields compatible with quality. The methods adopted in accomplishing this are selection, breeding of new varieties and betterment of the soil. A perusal of literature on the subject shows that cultivated yams Dioscorea sp. which are a common ground provision crop in the wet tropics, are no exception. This literature together with an account of the crop from all aspects has been fully discussed by Brown (1) in a concise and comprehensive paper and it is evident that selection in varieties and improvement of cultural methods are the immediate means towards higher yields and a more extensive cultivation of yams.

Field trials have been conducted in order to find the suitability of the numerous good varieties in existence with regard to locality and methods of cultivation. The Straits Settlement, the original home of the yam, has been the seat of studies into their Botany (2), while West Africa (6,7,8), the Philippines (4) and the West Indies (1,5 & 9) have contributed to improvement in cultivation. Rotations, which include a Yam crop are undergoing trial in Nigeria (1), and it has already been found out that staking of the vines gives a bigger return than when they are allowed to trail over the ground (8 & 9).

The facts that this crop is so commonly grown by the peasant in the tropics, its remarkable freedom from diseases and pests, its high yields and palatability justify further studies in its cultivation.

Field experiments in manuring, time of planting and mulching were laid out on the I.C.T.A. Estate in 1930-31 by Brown (1). These combined with staking and spacing tests were repeated on more accurate lines in 1931-32. They were four in number, viz:-

(i) To test staking with bamboo poles against maize interplanted at different spacings.

(ii) Variety trial - 8 varieties were compared.

(iii) Comparison of different organic manures at different spacings.

(iv) To compare two different periods of planting, early and late, and to test mulching with early planting.

This report deals with (iii) and (iv) only.

These experiments came under the observation of the writer in October 1931 and were harvested under his supervision in December 1931 and February 1932,when a careful record of the yields were made. The Lisbon Yam was the variety used in the 3 cultural experiments.