I. Introduction.

As a commercial grain crop maize is important mainly in those areas which possess sub-tropical climates. It is grown by the peasant in the tropics as a garden crop for his own consumption, and so receives cultivation from no implements save the fork or hoe. With the spread of mixed farming in the tropics there comes a greater local demand for maize as a food for stock, and the opportunity for using the plough in its cultivation.

There are areas under low scrub or areas heavily infested with deep seated weeds, with which the ox plough will not deal satisfactorily, and in such cases tractor ploughing is desirable. At present the gap between tractor ploughing and the peasant's method of tillage is wide, but it may soon be bridged by cooperative societies or concerns like the Burmah Shell (23) which has carried out many experiments with a view to increasing the yields of Cotton in India, in lands infested with Cynodon dactylon, by hiring out tractor ploughs at charges well within the means of the peasant proprietors. Some data on the relative merits of these different cultivation methods for maize in Trinidad may prove valuable, hence the present experiments.

Where tabulated numerical observations are given in the following pages they are summarized and expressed as percentages, the hoeing treatment being used as the basis for comparison. Such observations are set out in full in the appendix.

II. Outline of Experimentation.

A weedy stubble is to be cropped with maize. Will the crop be most profitable if the stubble is ploughed up with a tractor-plough or an ox-plough, dug with a fork or merely hoed? That was the question which the present experiments were designed to answer. The ultimate criterion of efficiency is the cost of production of a unit quantity of dried grain, or in other words the profit per acre from each treatment. Meanwhile the effect of the primary cultivations on the soil, on the weed population and