I. INTRODUCTION.

In the past the experimentalist on the College Farm has been faced with the difficulty of finding a suitable site on which to lay down his trial. This is due to the variation in growth which occurs throughout the area on which the farm is situated. But uneven growth is not restricted to the College Farm. Uneven growth can be seen at the Cotton Station, on cultivated land all along the northern side of the Eastern Main Road as far as Arima, and many areas on Caroni Estate. This uneven growth was particularly pronounced during November and December, 1938, when the farm experienced heavy rains. These rains caused floods and waterlogging, and seriously interfered with experiments which were being carried out by students. Luman (1) noted that cowpea planted in a very wet seed bed in field III. germinated patchily following heavy rains. Brown (2) recorded irregular germination in field XXVII. due to waterlogging. Webb (3) working on sunflowers in field III commented on heterogeneity of soil and waterlogging in low patches. Finally Phillips (4) reported that lack of uniformity of soil spoilt his experimental results in field III.; and he concluded by saying that he did not recommend further experiments on the College Farm.

This lack of uniformity of the soil, which the experimentalist has to face has raised the question of policy on the farm. Shall the farm continue its field trials or shall it confine its activities to demonstrations?

Variation in fertility within fields is plain enough to the eye, and was recorded in field III. in the farm field sheets in 1928 by Wood (5). But no measurements of the actual variation have been taken; so a uniformity trial was laid down early in 1939, field III. being chosen as the site.

Two crops of Woolly Pyrol were grown and plot yields recorded between June and October. When the trial was handed

over to the writer towards the end of November, a maize crop was nearly half grown.

Aim of Experiment.

(1) Record the variation in growth on Field III.

(2) Find out whether any part of Field III. is suitable for field experiments.

(3) Discover the factors causing variation within crop yields on Field III.

Where reference is made to plots and a letter and number are given in the following pages, this refers to plots as shown in the plan of the experimental lay out (page 17).