

the effects of the three essential plant nutrients.

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I. INTRODUCTION.

Maize is not an economic crop in Trinidad. Chiefly grown by peasants on burnt-over clearings in the bush, or as a garden vegetable for human consumption, little attention has been paid to it. In Africa, over wide areas, it forms the staple native diet, and in South Africa large quantities are produced for stock-feed and for export. The corn belt of the United States is where it is most carefully cultivated and where it finds the greatest variety of uses; as a concentrate for cattle and pigs, as silage, occasionally as green manure, and in the sweet and pop-corn varieties as human food (1). Estates here do not find it a profitable crop to grow, and as an alternate host for Sugar-cane mosaic it is not looked upon with favour.

On the College Farm maize has always been important in rotation with leguminous and green manure crops. It usually receives most of the manure given during the year. The grain is fed to the working cattle or sold off, while the stover is chaffed for compost.

So far the manurial requirements of maize have not received any attention in this island. Experiments in the Transvaal and Rhodesia (2) under more arid conditions show a definite nutrient deficiency due to deterioration of virgin soils unchecked by rotations or manures. Phosphate seems to be the limiting factor. Similar results are reported from many stations in the United States (3) where phosphate is found to be most effective at an early stage in growth. The Philippines possess conditions more comparable to our own, and there Phosphate combined with small applications of Nitrogen gives an increased yield (4).

Such findings under very different conditions of climate and soil cannot, however, be applied here. In consequence of this lack of experimental evidence two manurial experiments were laid down this year, one comparing organic and inorganic manures, and the other

the effects of the three essential plant nutrients.

The object of the experiment has been to determine:-

- (1) The effect due to dressings containing Nitrogen, Phosphorus and Potash.
- (2) Their effect in single and treble dressings.
- (3) Their combined effects.