

1. Investigation of the optimum depth of planting maize.  
2. Report on the spacing of maize (wet season) experiment.  
3. Investigation on the optimum spacing of maize (dry season).  
INTRODUCTION.

Maize is not one of the economic crops of Trinidad. Very few attempts have been made to grow it on a commercial scale, and it is only found in small patches on peasant holdings, or roadside gardens. The reason for this is that most of the suitable areas are used for the more remunerative crops such as sugar-cane, coconuts, cacao, etc; that root crops are more adapted to the insular climate; and that the peasant population either prefers rice, or has not been sufficiently educated to appreciate the advantages of maize as a useful grain food and cash crop.

Maize however, has always played an important role in the general system of farming at the Imperial College. But as the environmental conditions represented by Trinidad differ considerably from those met with throughout the important maize growing areas of the world, it became necessary to undertake a series of investigations on the adaptation of maize to such conditions.

Factors such as the optimum date of planting, and spacing are known for conditions in many of the semi-arid and sub-humid areas. But these have yet to be investigated for the insular tropical conditions represented by Trinidad.

The present experiments are part of this general series of investigations on the practice of maize growing in Trinidad. The experiments on spacing are an extension of the work commenced by Jameson last year, and were undertaken with the object of giving greater significance to the results already obtained, and of extending the investigation to include a study of the optimum spacing for the wet-season maize crop.

An investigation on the optimum depth of sowing was also commenced, partly as a guide to farm practice, and partly as a demonstration of the unimportance of deep planting under humid conditions.

The various experiments will be presented under three

INVESTIGATIONS ON THE OPTIMUM DEPTH OF PLANTING OF MAIZE.  
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such depths are largely a modification to meet the conditions of cropping in semi-arid, arid, and sub-arid zones. Under these conditions moisture is the limiting factor, and therefore the depth of planting is determined by the depth to which water can be drawn from the deeper layers of the soil.

Except for this advantage of supplying the seedling with water, the germination of the embryo, it is doubtful whether deep planting would favour the crop in any other way.

The depth of planting will have little influence on the rooting system of the seedling; for the secondary roots developed by the seedling are confined to the 1-2 inches of the surface of the soil.

Further, according to Bartlett-Davy (1), the depth of planting does not appear to affect the depth to which the roots eventually penetrate, and the yield per individual stalk.

It seems probable, therefore, that deep planting does not confer any special advantage on the seedling in the early stages of its growth.

It may be mentioned, however, that in the case of sorghum, according to Bartlett-Davy (1), the seedling develops faster when planted deep than when planted shallow, and the secondary roots are more numerous and more extensive when planted deep than when planted shallow. This fact may be of advantage to the young seedling, before the secondary roots have extended their area. The greater for this the crop may be possible earlier in the year and the yield may be increased. It is doubtful, however, if this is a sufficient reason for deep planting.

The disadvantages accompanying the universal practice of deep planting are well known.

It is a practice which is unnecessary in the case of the young seedling, and it is a practice which is not in accordance with the principles of husbandry.