

INTRODUCTION

Maize (Zea mays L.) is of great importance as one of the world's greatest sources of carbohydrates for stock feed, human consumption and industrial purposes. The United States of America dominates world production accounting for about 60% of the total crop in 1955. Due to the importance of maize in the agricultural economy of the U.S.A., it is not surprising that most of the work on improvements in cultivation technique, manuring and breeding come from that country.

Maize is grown throughout the British Caribbean area, being most important in Jamaica and Trinidad. Jamaica in some years produces sufficient for export but with a large increase in livestock production, particularly from poultry, Trinidad has had to import increasing quantities of maize. It is doubtful, however, if further commercial production would be economic, - principally due to poor yields.

Production in Trinidad is confined to peasant holdings, where it is rarely grown in a pure stand being usually inter-cropped with pigeon peas or other food crops. Requiring only a small amount of seed and giving a relatively high production per plant in return for little effort in cultivation it is a convenient "back-garden" crop for the peasant. Much of the maize grown locally is used as a green vegetable, being picked at about 2½ months after planting. For sale at this stage, quality of cob, expressed in terms of length is of equal importance as production per unit area.

Though maize has the widest range of environmental tolerances among the cereals it is essentially a crop of warm countries with abundant moisture and moderately high temperatures. Though tropical in origin, most corn is now grown in sub-tropical regions.

The most important maize growing areas of the world are characterised by a mean temperature of 56° - 70° F. at planting time and 67° - 81° F. at tasseling time. Maize will grow in regions of rainfall extremes from 10 - 200" but the optimum range is probably 25 - 50". Distribution of rainfall at different periods of the crop's growth is important and in particular 5" are required at tasseling time for maximum yields.

Trinidad with humid tropical climate and in particular high rainfall, does not provide an ideal climate for maize production, favouring vegetative growth rather than grain production. However, several indigenous types including West Indian Semi-Dent, which possesses a considerable amount of vigour can produce well in favourable seasons.

Yields of corn are generally higher in the sub-tropics than in the tropics, a good average yield in the latter being about 3,000 lbs. of fresh cobs per acre. In Trinidad the period of growth to harvesting is generally about 120 days. The main planting season is in May-June, a second crop being taken in October-November.

† In recent years, improved husbandry methods, more widespread use of fertilisers and the use of improved seed obtained by breeding and selection have led to considerable increases in yield. With this improvement in yield potential of the crop, it has been suggested that the traditional rates and patterns of planting are inadequate.

Several trials have been carried out at the College in recent years and the present trial has been planned as an attempt to further define the rate and spacing for optimum yields, especially in relation to nitrogen manuring.