CORN GROWTH AS INFLUENCED BY WATER REGIME AND SOIL TEXTURE

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The effect of four moisture regimes on corn growth was studied in glasshouse on a sandy loam (Red earth) and a clay soil (Black earth). Water regimes studied were low (field capacity to wilting point), medium low (field capacity to 3/4 field capacity), medium (saturation to field capacity) and high (free water; tray method) Corn dry matter in both the soils increased with the improvement in water availability. A significant interaction between soil moisture and soil texture was observed on corn dry matter yield. At lower water status (low to medium), comparatively higher dry matter yield was observed in Black earth than that in Red earth, While it was reverse at the higher water regimes. It implies that corn can best be grown on light- textured soils in high rainfall areas and on fine-textured soils with comparatively less moisture availability.

INTRODUCTION

Crop growth is influenced by a number of factors, both genetic and environmental. Soil water and climatic conditions shape the expression of genetic potential and often vegetative growth may be the first physiological parameter that responds to an environ-

cause a decrease in subsequent growth or may even be fatal (Black, 1968).

On the other hand, significant reduction in corn yield has been reported due to excessive moisture (Evans et al; 1990 & carter et al. 1990) Heavy soil when water saturated and poorly drained may not be suitable for