

ABSTRACT

The composition of filter mud (FM) produced in five factories in Trinidad, the availability of phosphorus (P) in FM compared with triple superphosphate (TSP), the effect of different levels of FM and TSP on leaf-P, total dry matter production and total nutrient uptake and the effects of rates and modes of FM application on soil physical properties and cane yield were investigated.

The average composition of FM produced in Trinidad was found to be similar to that reported from other countries but with lower N and higher K than average. Phosphorus content averaged 1.0% of which 86% was readily available.

At equivalent P rate, the P in FM was equally available as in TSP on McBean sandy loam and Talparo clay but more P from TSP was available in Princes Town and Waterloo clays. Application of FM improved potassium, calcium and magnesium levels in the 4 soils studied and reduced the aluminium level to non-toxic level in McBean sandy loam.

The P in FM was more effective than TSP-P in increasing the phosphorus content of the top visible dewlap leaf, cane tops and juice. Increases in the dry matter production and nutrient uptake were observed in plants treated with high rate of FM (125t/ha).

Filter mud significantly increased cane and sugar yields on McBean sandy loam and Waterloo clay. Fifty tonnes FM (broadcast) was as effective as 125t FM/ha. Twenty five tonnes FM applied in the row was equally effective as the broadcast applications. On P-deficient McBean sandy loam soil 25t/ha banded in the cane row significantly increased cane and sugar yields over the equivalent rate of TSP.