

The periods of leaching INTRODUCTION varied in an attempt to discover the reason for this apparent base saturation of more than 100 %.

Several workers (2, 10, 25, 26, 27, 32, 34) have demonstrated that there is a specific relationship between the hydrogen ion concentration of soils and their percentage base saturation. In a recent soil survey of the Caribbean however, the analysis of some of the soils gave values for base saturation greater than would be expected from their pH value. Indeed, some of the acid volcanic soils gave values for total exchangeable bases greater than those for cation exchange capacity leading to an apparent base saturation of more than 100 %.

The soils taken during the survey were analysed in the Central Analytical Laboratory using the methods of the New Zealand Department of Scientific and Industrial Research (Soil Bureau) (31). This method employs N. ammonium acetate at pH 7.0 for determination of both the total exchangeable bases and the cation exchange capacity.

The values for hydrogen ion concentration and percentage base saturation of the most representative soils from each island were plotted against each other in an attempt to discover what relationship, if any, existed between them. Scatter diagrams were prepared for the following islands, Montserrat (24), Nevis (39), St. Kitts (11), St. Lucia (40) and Tobago (9) (17).

The problem was further studied by selecting four soils for chemical analysis. Two of these soils which showed this apparent over-saturation to a marked degree were selected for further study. Two laboratory methods were used :

- (a) leaching with N. ammonium acetate pH 7.0
- (b) shaking with N. ammonium acetate pH 7.0 and filtering as rapidly as possible through a Buchner funnel.

The periods of leaching and shaking were varied in an attempt to discover the reason for this apparent base saturation of more than 100 %.