ABSTRACT

Studies were made of the fertility of soils in the Matara District by detailed chemical analysis of soil samples collected from a variety of habitats, and supplementary information was obtained from experiments carried out to explore the responses of turves brought from the field and of tomato phytometers grown in soils representing various habitats to the addition of various concentrations and combinations of nutrients, mainly nitrate, phosphate and potassiumm.

The floristic data, collected from nearly 150 sites, were analysed for ordination and classification using modern multivariate techniques, and the results demonstrated the versatility and diversity of habitats reflecting differential degree of destruction of natural vegetation and resulting erosion leading to denudation of soils.

The soils are generally poor in nitrogen and phosphorus, but the amounts of potassium and minor nutrients are adequate for optimum growth of the turves examined and of the tomato phytometers.

Thus, the major growth-restriction is a result chiefly of limitations of nitrogen and phosphorus as evident from the improved growth of plants in response to the

supplementary addition of these two nutrients.

Addition or deletion of potassium caused no significant change of the performance of experimental plants so indicating that potassium status of the soils in the Matara District is not suboptimal.

It is concluded, therefore, that the addition of potash fertilizer is not essential for improving the growth performance of either natural vegetation or crops in the Matara District.