A FERTILIZER EXPERIMENT WITH COCONUT ON A LATERITIC GRAVELLY SOIL WITH WIDELY VARYING DEPTHS

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In a long-term 4x4x4 NPK experiment on lateritic gravelly soil at Bandirippuwa estate, Lunuwila, the soil depth ranged from 30 to 200 cm. Copra yields for the periods 1971 to 1974 (period I) and 1975 to 1978 (Period II) were significantly correlated with soil depth. The cofficient of determination of the production function relating copra yield to N, P and K treatments improved when the yield data were corrected for soil depth — more so than when adjustments were made for pre-experimental yield.

The critical soil depth for coconut under Bandirippuwa conditions was shown to be around 125 cm.

Muriate of potash up to 1.13 kg/palm/yr linearly increased copra yield from 3.9 to 7.4 kg/palm/yr during Period I and 6.6 to 9.5 kg/palm/yr during Period II. Potassium and Cl concentrations %) in the 14th leaf for the four levels of muriate of potash were 0.30. 0.55, 0. 96 and 1.23 for K and 0.12 0.20, 0.29 and 0.36 for Cl. Saphos phosphate had a slight positive effect on yield whereas sulphate of ammonia had no significant effect. Mean P and N Concentrations (%) in the leaf for the four levels of the respective fertilizers were 0.13, 0.15, 0.16, for P and 1.9, 2.0, 2.0 for N. A close to significant positive NK interaction on yield was also observed.