

# YIELD AND GROWTH RESPONSES OF YOUNG COCONUT TO NPK FERTILISATION ON A SANDY SOIL IN SRI LANKA

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The results of a long term 4 x 4 x 4 NPK field experiment carried out on young coconut from the time of field planting on a sandy soil at Pallama are discussed. Nitrogen applications significantly increased girth, height and leaf production in the pre-bearing period but had no influence on the initial flowering of the palms. Potassium had no effect on the vegetable growth upto 4½ years. In contrast to the results of other experiments, phosphorus had no effect, upto 6½ years, on any vegetative growth parameters. Soil and leaf analysis showed that this was due to the high native soil P at Pallama.

Copra and nut yield data for the initial bearing period (13 to 16 years) showed that the rates of fertilizers for optimum yield are 0.4, 0.9, 0.7 kg. N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O / palm / year respectively. The high P requirement was due to the low solubility of the saphos phosphate in the Pothukulama sandy soil. Soil analyses showed that sulphate of ammonia decreased the soil pH significantly and thereby increased the available P in the soil, whereas saphos phosphate significantly increased the soil pH. The positive NP interaction observed in the nut and copra yield responses was explained on the basis of soil pH.

The results of the experiment are examined in relation to the present fertilizer recommendation for young palms.