

Relationship between soil potassium and response of sweet potato grown under coconut to added potassium fertilizers.

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Abstract

Trials conducted with sweet potato (*Ipoemea batata* L.) intercropped under coconut in 1987/88 Maha and 1988 Yala on Red-Yellow Podsollic soils (Ultisols) of IL1 and WL3 agro-ecological regions revealed a significant yield response to added potassium fertilizers in 40% and 83% of the sites tested, in respective seasons. Soil test potassium values of these soils ranged from 35-255 kg K₂O/ha. Economic optimum for potassium fertilizers is 45 kg K₂O/ha.

Percent yield response values correlate well with soil test levels of potassium, especially of 15-30cm depth, and fit into a typical Mitcherlich-Bray type curve. This relationship may be used in predicting tuber yields and fertilizer requirements for sweet potato. Comparatively low correlation between absolute response values and soil test values may be due to other environmental factors that obscure a clear relationship.