

B-68 Efficiency of two different fertilizer application methods for coconut

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Coconut being one of the important plantation crops in Sri Lanka, its development and improvement for better returns is an urgent necessity. Hence, for increasing production, efficient techniques of fertilizer application are very important. Therefore this study was conducted to assess the efficiency of 2 fertilizer placement methods: a surface broadcast application (evenly spread around the plant) and a localized application (in 2 pits cut on either side of the plan).

Efficiency of these fertilizer placement methods were evaluated by the amount of nutrients (N, P, K & Mg) found at three different soil depths (0-20, 20-40 & 40-60 cm), at 2 different lateral positions (40 & 80 cm away from the fertilized area) and positions in the fertilized area (in pits & manure circles). The concentrations of nutrients in the 14th leaf were also determined. 3kg of recommended inorganic coconut fertilizer mixture (ACM - 0-6-32-5) and 0.3 kg urea were used for both methods. Half of that amount was received by each pit in the localized application method.

Results show that surface application has significantly ($p \leq 0.05$) higher amount of K & ammoniacal nitrogen in soil than in the localized application method. But the Mg and P remained more in the localized application. There was no difference between the 2 methods in terms of the nitrate N and total N present in soil. Except total N, other nutrients showed significant ($p \leq 0.05$) differences between the positions used for the fertilizer application (in pit & manure circle) and other lateral sampling positions. There was no significant difference in the concentration of ammoniacal N, Nitrate N and potassium in three depths.

The leaf nutrient concentrations in both fertilizer application methods were in the sufficiency ranges and there was no significant differences between the two methods.