

NUTRIENT REQUIREMENTS OF OIL PALM GROWN IN THE WET ZONE OF SRI LANKA

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Palm oil is one of main type of oil which can be used for edible purpose and as raw material for soap industries and bio diesel hence, having higher demand in the world market. Few companies have started oil palm plantations in Wet Zone of Sri Lanka to supply palm oil demand in the country. However, there is no systematic fertilizer recommendation for oil palm in Sri Lanka. Therefore, this study was carried out to formulate a fertilizer mixture, which supplies the nutrients lost through pruned front. Empty Fruit Bunch (EFB), husk, shell and kernel like part of the palm grown in the wet zone.

The plant samples and soil samples were taken from three blocks of oil palms cultivated in Culloden Estate, Mathugama, and samples were analyzed for N, P, K and Mg and Dry Matter % of different plant parts of oil palm was calculated by using the biomass removal.

Nutrient status of 17th frond was N-2.87 %, K-0.95 %, and Mg-0.32 %, as dry matter percentage. The amount of biomass removal was 12.8 mt/ha/year and 101.7 kg of N, 12.1 kg of P, 88.3 kg of K and 20.2 kg of Mg is lost through the biomass removal. Based on the nutrient removal and biomass removal data, it was estimated to apply 221.0 kg of Urea, 92.2 kg of Eppawala Rock Phosphate (ERP), 177.2 kg of Muriate of Potash (MOP) and 167.4 kg of Dolomite. The fertilizer ratio was estimated as 15 N: 4 P₂O₅: 16

K₂O: 5 MgO. The amount of fertilizer could be reduced by recycling of Empty Fruit Bunch and pruned frond within the estate.

Key words: Oil palm, Nutrient removal, Fertilizer recommendation