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## **EFFECT OF DIFFERENT LEVELS OF POTASSIUM ON SOIL AND PLANT NUTRIENT STATUS OF IMMATURE OIL PALM IN DEVITURAI ESTATE SRI LANKA**

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### **ABSTRACT**

Initial growth of oil palm in the field highly depends on quality of the planting materials, management practices and availability of macro and micro nutrients. Failure in supply of these nutrients badly affects initially the vegetative growth performance and finally the yield. This research was conducted at Deviturai estate of Elpitiya Plantations PLC. The study was designed with RCBD design and there are six treatments with four replicates. Fertilizer treatments were with different initial levels of Potassium (K) (T1=0, T2 =60, T3 =90, T4 =120, T5 =150, T6 = 180 of K<sub>2</sub>O/Kg/Ha/Yr) and constant levels with Nitrogen, Phosphorus, Magnesium and Boron. Each plot consists with eight Oil Palm plants. Soil and Leaf sampling was carried out 3 months after the treatment application. Trial was carried out starting from October, 2016 to October, 2017. The main objective of this study is to evaluate the application of different level of K fertilizer on soil and plant nutrient status of Immature Oil Palm in Deviturai Estate Sri Lanka. The significant differences in soil available K contents were observed among treatments in soil due to application of different levels of K fertilizer. Higher available K contents were observed in K applied plots than zero K applied plots. Significance difference was observed in plant K concentration among treatments. The higher K contents were observed in K applied plots than zero K applied plots.

**Keywords:** Oil palm, K fertilizer, available nutrient content, Plant nutrient content, Sri Lanka