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The seasonal changes of exchangeable bases in the manure circle of the coconut palm after application of adult palm mixture

The seasonal changes in the nutrient status of soil and coconut palm were studied by soil and leaf analysis. Data were collected from an on-going field experiment consisting of eighteen CRIC 60 palms grown in the agro-climatic region IL₃. The palms were fertilized with adult Palm Mixture (12-6-32) and 1Kg of dolomite in the manure circle for 20 years. After the initial soil sampling the adult palm mixture was applied to the manure circle without dolomite. Soil analysis at the depth of 0-2-cm showed that

exchangeable Ca and Mg in the manure circle were higher by 88% and 85% respectively, than that in the center of the squares. The K levels did not show that kind of an accumulation in the manure circle. The seasonal changes in amounts of exchangeable K and Mg showed that they were significantly different at 1% ($p < 0.01$) and 5% ($p < 0.05$) respectively. Soil water phase in the field revealed higher concentration of K^+ than Mg^{2+} . Seven months later the soil K decreased by 22% while the CA and Mg increased by 39A% and 11% respectively. The Mg values that were taken before and after suspension of dolomite remained same. The analysis of the 14th leaf showed deficiency for Mg (0.18% in dry matter) whereas K was found to be sufficient (1.44% in dry matter). The study shows that applied K is retained in soils for a shorter period of seven months and it is prudent to increase soil Mg levels to prevent Mg deficiency in coconut palms.