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Removal of plant nutrients in soils by nuts of coconut palms

In a nutrient removal study of coconut palms, mature nuts were harvested monthly for one year from ten highly productive TxT variety (35 years old) coconut palms grown on a highly suitable (Madampe series) soil. Each nut was partitioned into its components (husk, shell, kernel, nut water) and the dry weight of each component was recorded. Each component was dried, powdered and analyzed for N (kijeldahal method) P,K,Ca, Ma, Na, Fe,Me, Cu,Zn (digestion with HNO3: HCLO4 mixed at 1:4 ratio) and B (dry ashing). The nut yield in June was 14% of the annual harvest. The annual average production of 111 nuts per palm comprised 54, 19,23kg of dry weight for husks, shells and kernel and 211 of nut water respectively. Total nut weight produced per year and the nutrient removal was about 60% from the total during the period of March-July. The results showed that the annual removal of N and K were 499 and 1333g/palm/year by a palm at a production level of 111 nuts/palm/year. Annual application of 3kg of Adult Palm Mixture (12%N-6%P_2O_5-32%K_2O)per palm is not sufficient to compensate the above removal. Analysis showed that 50% of annual removal of n and K by nuts are accumulated in the husks produced by the palm.