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IMPACT OF AN INTEGRATED FARMING MODEL ON THE PRODUCTIVITY OF COCONUT LAND

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A mixed farming model consisting of Leucaena, Gliricidia Pueraria and Brachiaria miliiformis was established in 0.8 ha (2 ac) block of 45 year old coconut plantation in the Intermediate Zone, with an average rainfall of 1600 mm/year. Four heads of improved local cattle were introduced to the system. Each cattle was tethered to each palm fertilized with a supplementary dose of 180 g Saphos phosphate and 750 g Muriate of potash annualy, in a rotational grazing cycle of 30 days. Mixed pasture stand was given a basal dressing of 25 kg/ha each of NPK fertilizer.

Records were maintained on the liveweight gain of cattle, milk yield, biomass production of pasture/tree fodder, return of dung and urine and the coconut production. Soils and coconut leaves were analysed for nutrient contents three years from commencement.

Results indicated, that the critical level of leaf nutrients had been maintained without reducing coconut production. Soil organic matter content, available phosphorus and total nitrogen in the system showed an increase of 31.7%, 31.2% and 22.6% respectively over the control.

Feed supply through pasture and tree fodder was adequate for cattle throughout. Average live weight gain of cattle was 306 g/head/day at the end of the first year. Cattle returned, around 73 kg fresh cowdung and 30 litrers urine per palm per year. At the beginning of the first lactation the milk yield ranged from 7-10 liters/day for the system.

Results suggest that the integrated system is more productive, beneficial and income generating than monoculture system.