SOME ASPECTS OF NUTRIENT CYCLING IN A YOUNG RUBBER PLANTATION IN SRI LANKA

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tudies on litter fall and decomposition were initiated in ecember 1987 with a view to understanding the primary roduction, nutrient fluxes and some phenological characteristics f the rubber (Hevea brasiliensis), Experiments are being onducted in Eladuwa State Plantation, Paiyagala.

n rubber, litterfall occured throughout the year and of the otal annual litter fall of 2260 Kg/ha nearly 45% was during the eak period January-February. The litter fall in rubber during he year can be summarised as 1770, 310, 180 Kg/ha of leaves, eteoles and other parts respectively. The litter production uring the year in the Pueraria ground cover was 4700 Kg/ha. ith litter nutrients at the rate of 120N, 5P and 40K Kg/ha/year ere returned to the soil and 21% N, 20% P and 7.5% of K came rom the rubber canopy. Hence the contribution made towards the itter production and to nutrient pool by the cover crop was reater than that by the rubber trees.

ver the growing period of the present stand the area has eceived 130, 65, 125 kg/ha of N, P, and K respectively.

oth rubber and Pueraria litter decomposed fast (t_{50} for rubber itter was 5 weeks and that of Pueraria litter was 4 weeks). ecause of the low root density (5.2 mt/ha at 0-15cm), low rganic carbon content (1-2%) and poor cation exchange capacity (3.9 meq /100g) of the soil, the nutrients released were not etained, instead leached out of the feeding zone.

hese studies indicate that a high proportion of nutrients (64%N, 75%P and 90% K) in the foliage of the Rubber tree is conserved y withdrawing into the tree frame at defoliation and Pueraria over helps to supplement and conserve nutrients though a oderately efficient reclying mechanism. Low fertilizer use fficiency in rubber plantation is also evident from the results.

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