B-52 Effect of applied fertilizer on growth and yield of cinnamon

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A field experiment was established at the Cinnamon Research Station, Pallolpitiya, Matara, to investi effect of applied fertilizer on early growth and bark and leaf yield of cinnamon (*Cinnamomum veru* Five treatment combinations namely, no fertilizer control (T_1) 70N, $20P_2O_5$ & $45K_2O$ (T_2), 140N, & $90K_2O$ (T_3), 210N, $60P_2O_5$ & $135K_2O$ (T_4) and 280N, $80P_2O_5$ & $180K_2O$ (T_5) kg/ha/year were te RCBD with 4 replicates, in newly established cinnamon at 120 x 60 cm spacing. Each plot conta planting points and 3 plants per point were maintained from the 3rd month onward.

Maximum plant hieght (1365 cm) and stem diameter (2.06 cm) were observed after 30 months planting, associated with T_4. Bark yield did not show a significant ($p=0.05$) difference among trea except in 2nd and 4th harvests as well as the cumulative yield for the total 4 harvests (4 years). Tot yield of T_1 was 2801 kg and it was significantly lower than all the fertilizer treatments except T_2. Ma bark yield observed with T_4 (4164 kg) was 576 kg more than the $_3$T though the difference w significant. Differences observed among harvests may be a result of the climatic factors and har intensity.

Leaf yield (including twigs) also significantly increased with applied fertilizer and the response patte not constant over the years. During the first 2 harvests, only T_4 and T_5 gave a significant response and 3rd harvest T_3 also behaved in the same way. However, in the 4th harvest only T_5 responded signifi Total leaf yield for the entire period could be taken as a more reliable indicator and all the fertilizer trea responded well over the control. Moreover, the difference between T_3 (40421 kg) and T_4 (458 also was significant.

When growth as well as bark and leaf yield of cinnamon were considered, application of 210N, $60P_2$ $135K_2O$ kg/ha/year (T_4) was found to be suitable and this amount is 50% more than the cur recommended fertilizer level for cinnamon.