B-12: Effect of different pruning and training techniques on growth and yield of *Coffea canephora* (var IMY)

H A Sumanasena, P J Wickramasinghe
(Res Station, Dept of Export Agric, Matale)

In coffee, resource efficient cultivation is necessary to increase its production for more profits. Although adoption of an appropriate pruning method is desired, specific requirements and advantages of each method are yet to be studied under local conditions. An experiment on the above objective was started in 1984 using *Coffea canephora* (var IMY) at the Export Agricultural Research Station, Matale.

Treatments were single stem 1 tier (T_1), single stem 2 tier (T_2), 2 stem system (T_3), 3 stem system (T_4), 4 stem system (T_5), allowed to grow only main stem and periodically removed all the water sprouts (T_6) and control (no training and no pruning T_7). Growth and yield parameters were monitored upto 3rd year after field planting.

Total number of plagiotropic branches per plant varied with treatments. The maximum number of primary branches (104) per tree was observed in T_5. Overall canopy growth was better under T_5 and T_6. Treatment effect on fruit shedding in the plagiotropic branches at fruit development was significant, and the maximum number of remaining fruits (80) per branch was observed in T_6 at 5 months after flowering and the minimum number of fruits (29) per branch was seen in T_7 (control). Though number of fruits per branch was significantly ($P > 0.05$) higher at T_6, T_4, T_2 and T_5 at the beginning, the rate of fruit drop during the first 3 months was rapid at T_4 and T_5.

Partial fillings in mature berries were very high in both primary and secondary branches of T_3. It was negligible (0.6%) in primaries of T_6. The maximum fresh berry yield (2.03 kg/plant) was obtained in T_6 at 3rd year after field planting and the minimum yield (1.04 kg/plant) was observed in T_7 and the difference was significant ($P < 0.05$).

In conclusion, the removal of water shoots (T_6) is essential to get high crop production in *Coffea canephora*. However, control of height tends to reduce absolute yield.

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