Effect of Shelterbelts on Production of Good Quality Betel (*Piper betel*) Leaves

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Betel is considered as one of the export agriculture crops with a high economic value. Shelterbelts are used to change the microclimate around cultivated crops, which could influence the physiological processes of crops. The betel farmers are used to having shelterbelts for their cultivation as a tradition, and the porosity of the shelterbelt differs from farmer to farmer based on their preferences. This study was conducted to evaluate the effect of shelterbelts on the growth and yield of betel and to identify the ideal porosity level of the shelterbelts. The porosity of shelterbelts was manipulated by changing the distance between coconut Cadjan, which was established 6" (T2), 12" (T3), and 24" apart (T4) to make shelterbelts. Plots without shelterbelts were the controls (T1). The experiment was laid out in a RCBD with three replicates and was conducted at the Intercropping and Betel Research Station, Narammala, in the year 2023. Results showed that leaf width, leaf length, number of leaves, number of lateral branches and vine height were significantly (p<0.05) higher in all treatments compared to the control. The three shelterbelt treatments were non-significant. The study clearly shows that there was a significant effect of shelterbelts on the growth performance and quality parameters of betel vine. This study suggests betel farmers use any of the tested porosity levels for effective cultivation and further studies are required for the validation of results on different climatic zones of Sri Lanka.

Keywords: Betel, Coconut Cadjans, Porosity level, Shelterbelts