

EFFECT OF DENSITY OF PLANTING ON IMMATURE RUBBER (*HEVEA BRASILIENSIS* MUELL. ARG.)

Mary Varghese, Annie Philip*, Jacob Pothan and K.I. Punnoose*

Rubber Research Institute of India, Central Experiment Station, Chethackal, Ranni-689 676

* Rubber Research Institute of India, Kottayam 686 009.

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The effect of planting density on rubber (*Hevea brasiliensis*) was studied in a trial which consisted of five densities as the main plot treatment and two methods of calculating fertilizer requirement by area and plant basis as sub plot treatment. Density of planting had significant effect on girth of plants by the ninth year from planting but the fertilizer treatments did not have any effect. Plants at the lowest density of 420 trees/ha recorded the highest girth increment, bark thickness and percent tappable. The general plant architecture was also balanced in the lowest density. However, plants at 479 trees/ha and 549 trees/ha also performed reasonably well. Plants in these densities had a comparable girth, bark thickness and percent tappable with those in the lowest density. A density above 549 trees/ha was observed to adversely affect girth, bark thickness and percent tappable.

Key words: Bark thickness, Canopy width, Crotch height, Girth increment, *Hevea brasiliensis*, Planting density.

INTRODUCTION

Rubber (*Hevea brasiliensis*) cultivation in India is undertaken with a planting density of 420-500 trees/ha. Plants tend to perform well in this density. However, since more than 80% of holdings in India are in the small-holding sector with an average holding size of <0.5 ha, it is necessary to explore the possibility of increasing the planting density. Increased planting density has been reported to cause reduction in the bark thickness and number of latex vessel rings (Rodeiro *et al.*, 1995). Increase in planting density could result in reduced per tree yield but may increase the yield per unit area. Therefore, a small holder is always attracted to high density planting to improve the productivity of his land. Ng *et al.*, (1979)

has reported that lowering planting density results in greater vigour and higher yield per tree, while increasing density of planting reduces tree vigour and yield per tree, but increases the yield per unit area. Hence a study was conducted to examine the effect of density of planting on immature growth phase of rubber.

MATERIALS AND METHODS

The experiment was laid out at the Central Experiment Station, Chethackal during 1994 in a split plot design with five densities ranging from 420 to 749 trees per hectare as the main plot treatment and two methods of calculating fertilizer requirement *viz.* per unit area and per plant basis as sub plot treatments replicated four times. The

Correspondence: Annie Philip (email: anniephilip@rubberboard.org.in)