*Indian Journal of Natural Rubber Research*, 14(1) : 55 - 59, 2001

# INFLUENCE OF INTERCROPPING ON THE RHIZOSPHERE MICROFLORA OF *HEVEA*

T.G. Vimalakumari, Kochuthresiamma Joseph, M.D.Jessy, R. Kothandaraman, Jacob Mathew and K.I. Punnoose

Vimalakumari, T.G., Joseph, K., Jessy, M.D., Kothandaraman, R., Mathew, J. and Punnoose, K.I. (2001). Influence of intercropping on the rhizosphere microflora of *Hevea*. *Indian Journal of Natural Rubber Research*, 14(1) : 55 - 59.

A comparative study of the rhizosphere microbial population of *Hevea* grown either as monocrop or along with other intercrops was carried out. Enumeration of soil samples for bacteria, fungi, actinomycetes and phosphobacteria indicated higher total microbial populations in rhizosphere of *Hevea* under intercropping but the count varied with the type of intercrop. The VAM colonization and the number of phosphobacteria harboured were more in the roots of Hevea under intercropping.

Key words : *Hevea*, Intercrop, Rhizosphere microflora.

T. G. Vimalakumari (for correspondence), Kochuthresiamma Joseph, M. D. Jessy, R. Kothandaraman, Jacob Mathew and K. I. Punnoose, Rubber Research Institute of India, Kottayam - 686 009, Kerala, India (E-mail : rrii@vsnl.com).

## INTRODUCTION

Rhizosphere of plants consists of a consortium of microorganisms, which include symbionts and saprophytes capable of imparting beneficial effects on plants. They play a major role in the availability and uptake of nutrients, production of plant growth regulators, antibiotics, siderophores and also influence the growth and morphology of roots. Various organic substances and organic acids are excreted by plant roots into the rhizosphere and they form a rich source of nutrients for the microbial community. Nature and amount of substances excreted by the root is dependent on plant species, age, etc. (Bowen and Rovira, 1976). The practice of intercropping is being followed recently in *Hevea* plantations to get more income by utilising the vacant spaces between rows of standing trees. It has been observed that *Hevea* under intercropping registered a better growth than as monocrop (Jessy *et al.*, 1996). Intercropping with different types of crops might have altered the nutritional status of the rhizosphere of *Hevea*. A comparative study of rhizosphere microbial population of *Hevea* under different intercrops and as monocrop was carried out to acertain their role.