

EFFECT OF ORGANIC MANURE ON GROWTH OF IMMATURE RUBBER

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In a field experiment to evaluate the effect of farmyard manure application on soil nutrient status and growth of immature rubber in a field where *Mucuna bracteata* was maintained as cover crop, it was observed that the application of organic manure through farmyard manure did not improve the growth of plants or chemical properties of the soil.

Key words: Growth, Immature rubber, *Mucuna bracteata*, Organic manure, Soil nutrient status.

INTRODUCTION

Rubber cultivation necessitates intense management of nutrients with every cycle of replanting. Judicious application of inorganic fertilizers and organic manures is needed to sustain high crop yields and maintain an optimum balance of nutrients. Rubber plantations present a closed ecosystem with a constant cycle of uptake and return of nutrients from and to the soil (Watson, 1989). Annual defoliation of rubber trees results in the addition of about six tonnes of leaf litter per hectare every year in a rubber plantation (Krishnakumar and Potty, 1992). Moreover, leguminous cover crops established in the immature phase of rubber add about six tonnes of organic matter and 230-350 kg of fixed nitrogen per hectare (Watson, 1957). Proper cover crop management and litter fall would result in an appreciable enrichment of soil which could, in turn,

reduce the requirement of fertilizers in the rubber plantations. In general, soils under *Hevea* have been found to be rich in organic matter.

Although applying organic manure at agronomic rates for plant nutrient supply is a traditional agricultural practice, the high cost and difficulty in transport has very much restricted its use. Recently, there has been a renewed interest in the application of organic manures to sustain soil productivity and quality. However, no reports are available on the effect of nutrient supply through organic manure in rubber plantations. This study was initiated to find out whether the application of farmyard manure may have any additional benefit on soil chemical properties and growth of plants.

MATERIALS AND METHODS

This study was conducted at