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# CONTROL OF *MUCUNA BRACTEATA* IN PLANTING STRIPS OF IMMATURE RUBBER (*HEVEA BRASILIENSIS*)

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In order to find out the number of rounds of weeding required for a satisfactory year-round control of *Mucuna bracteata* in planting strips, a trial consisting of eight treatments was laid out. Manual slashing was compared with three doses of Glyphosate, Paraquat in combination with 2,4-D Na salt as well as Paraquat alone and two levels of 2,4-D. It was observed that Paraquat (0.43 kg a.i./ha) + 2,4-D (1.0 kg a.i./ha) and 2,4-D (1.0 kg a.i./ha) gave significantly better control. Seven rounds of spraying during the period of observation (692 days) were required for effective weed control. Economic analysis of the different treatments revealed that application of 2,4-D (1.0 kg a.i./ha) costs only Rs.4649/- as against Rs.16557/- for manual slashing. It is therefore concluded that growth of *M. bracteata* on the planting strips can be effectively and economically controlled with the use of 2,4-D.

Key words : Cover crop, Herbicides, *Hevea brasiliensis*, *Mucuna bracteata*, Planting strips

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## INTRODUCTION

The growing of leguminous cover crops during the immature phase of rubber cultivation is a widely accepted practice. These cover crops not only enrich the soil with their capacity to fix atmospheric nitrogen, but also conserve the soil as well as suppress weed growth. Hence leguminous creepers which are easy to establish and fast growing are the most desirable species as cover crops. *Pueraria phaseoloides*, an ideal cover crop, very popular among the rubber growers, is difficult to establish mainly because of its palatability to cattle. *Mucuna bracteata*, a wild legume introduced into the traditional rubber growing areas of India from Tripura, was found to be drought and shade tolerant, fast growing and above all, not palatable to cattle (Rubber Board, 1982) gained popularity. The nitrogen fixing capacity of this legume was found to be very high and comparable to that of *P. phaseoloides* (Kothandaraman *et al.*, 1989). It does not compete with the rubber plants for moisture (Pushpadas *et al.*, 1976). *M. bracteata* being a very aggressive and fast growing creeper, tends to climb on to the young rubber plants and suppress their growth if left unattended. It has also been observed that in unattended, rubber plantations in remote areas and in periods of lockouts and strikes on estates, many rubber trees are destroyed because of the uncontrolled growth of *M. bracteata*. Manual control of *M. bracteata* in the planting strips is highly labour intensive. Moreover, farm workers are reluctant to weed the *Mucuna* fields because of its stainable exudates, which spoil their clothes. However, keeping the planting strips clean is important for avoiding inconveniences to various estate operations (Mathew *et al.*, 1984).

In order to formulate a cost effective method of controlling the growth of *M. bracteata* and to find out the number of rounds of weed control required for its satisfactory year round control in the planting strips as well as to work out the economics of such operations, an experiment was undertaken, the results of which are discussed in this paper.

## MATERIALS AND METHODS

The experiment was laid out at the Central Experiment Station of the Rubber Research Institute of India at Chethackal in 1997 in an area in which rubber was planted at a spacing of 4.9 x 4.9 m in 1992. There was very luxuriant growth of the cover crop