

SOME GOOD AGRICULTURAL PRACTICES FOR ADAPTING RUBBER CULTIVATION TO CLIMATE CHANGE

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Drought is one of the most important manifestations of climate change as far as the rubber growing regions in India are concerned. The effect of type of planting material and water conservation techniques like tillage, mulching and *in situ* water harvesting on growth of immature rubber and storage of soil moisture in two ongoing experiments are discussed. In the nursery experiments, growth parameters of planting materials raised through direct-seeding in polybags followed by *in situ* budding and planting budded stumps in polybags were compared. The results indicated significant difference in the growth performance depending up on the type of planting material. It was observed that the planting material produced through direct-seeding with an intact root system was significantly superior in stem diameter, plant height, number of whorls, fibrous root and dry matter compared to plants raised through budded stumps. In the field experiment, direct-seeded green budded plants were integrated with moisture conservation practices like tillage, mulching, silt pits and enhanced fertilizer application along with the use of organic manures. It was observed that the soil moisture storage during summer was significantly increased compared to the plots where plants were raised from budded stumps following the current package of practices. A significantly higher leaf area index (LAI) and root length density (RLD) were maintained by the direct-seeded green budded plants under integrated management. The growth of the direct-seeded green budded plants under integrated management was significantly superior to other treatments. Therefore introduction of planting materials with a good root system and adoption of good agricultural practices (GAPs) could play an important role in adapting plants to future extremes of climate change.

Keywords: Climate change, GAPs, Growth, Immature rubber, Soil moisture.

INTRODUCTION

Natural rubber is a prominent plantation crop of considerable significance to Indian economy, having a share of 8.9 per cent of ???•????•??•????•?S?s????• consumption. Climate change has many facets including fall and rise in temperature, rainfall uncertainties, severe and prolonged droughts *etc.* Prolonged hotter, drier climate

and uneven monsoon are a reality in the traditional rubber growing regions in India. Like other agricultural crops, the growth and productivity of natural rubber are also adversely affected by climate change (Jacob, 2010). Concern is growing among the natural rubber producing countries over the possible impact of climate change especially after the fall of NR output by 5.1 per cent during 2009