

CLONES EVOLVED BY ORTET SELECTION FROM POLYCROSS POPULATIONS OF RUBBER IN CENTRAL INDIA

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Received: 17 June 2016 Accepted: 01 November 2016

Mydin, K.K., John, A. and Meenakumari, T. (2016). Clones evolved by ortet selection from polycross populations of rubber in Central India. *Rubber Science*, 29(3): 246-255.

Expansion of rubber cultivation in India to non-traditional areas has necessitated selection of clones suitable for drought prone regions. Ortet selection from polycross seedling populations established at the Regional Research Station of the Rubber Research Institute of India (RRII) in Dapchhari, Maharashtra, in the drought prone North Konkan led to selection of 13 elite plus trees which gave promising yield under rainfed conditions. The 13 ortets were cloned and evaluated for their yield potential under the favourable agro climatic situation in the Central Experiment Station of RRII in the traditional rubber growing region of Central Kerala.

Evaluation of the clones for yield, growth and the structural and physiological components of yield over six years of tapping in panel BO-1 under a S/2 d3 6d/7 system of tapping without stimulation led to the identification of two clones viz. D 111 and D 37 which were superior for most of the traits. Ortet clone D 111 gave a very high yield of 90.8 g t⁻¹t⁻¹ in panel BO-1 and had the highest summer yield of 64.4g t⁻¹t⁻¹ which was significantly superior to the check and the rest of the ortet clones. This was followed by clone D 37 (62.7g t⁻¹t⁻¹) which was comparable to the check clone RRII 105 (63.9 g t⁻¹t⁻¹) in terms of annual mean yield in panel BO-1 and was superior to the check clone in summer yield which was as high as 44.1g t⁻¹t⁻¹. Four more ortet clones viz. D 236, D 95, D 35 and D 173 with yield of more than 50.0g t⁻¹t⁻¹ were on par with the high yielding check clone RRII 105. While D 111 also possesses high summer yield, D 37 was found to be a high girthing clone. Both these clones are promising in terms of yield components like a high number of latex vessel rows and high volume of latex. No incidence of tapping panel dryness was observed in these clones after six years of tapping.

No association was found between the yield of the original ortets in Maharashtra and that of their respective clones in Kerala as evidenced non-significant correlations. The variation in yield of ortets and their clones is discussed with reference to earlier reports along the same line suggesting G x E interaction as well as random effects attributable to variation in latex yield between the main trunk and the branch propagated by bud grafting of axillary buds onto heterogenous rootstocks.

Key words: Bud-grafting effects, North Konkan region, Ortets, Polycross, Yield, Yield components.

INTRODUCTION

Genetic improvement of rubber, like any crop species is intended at harnessing / fixing desirable variants from a genetically

variable base population. Natural rubber (*Hevea brasiliensis*) is a highly outbred species which is also amenable to vegetative propagation. Historically, the base