

# OPTIMIZATION OF YIELD THROUGH JUDICIOUS STIMULATION IN NEW CLONES IN THE NORTH EASTERN REGION OF INDIA

S.K. Dey

Regional Research Station, Rubber Research Institute of India, Agartala-799 006, Tripura, India

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Effect of frequency of stimulation with ethephon (2-chloro ethyl phosphonic acid) on yield performance of five clones viz. RR II 417, RR II 422, RR II 429, RR II 430 and RR IM 600 were evaluated under S/2 d3 6d/7 tapping system with stimulation and S/2 d2 6d/7 tapping system without stimulation with two months tapping rest. A five year study showed increase in dry rubber yield due to application of three to four stimulations per year in d3 system of tapping in all the clones. Highest yield was observed in clone RR II 429 which also had the highest growth. Incidence of tapping panel dryness was non-significant. Four rounds of stimulation in a year gave a higher yield of 1866 kg 400 trees<sup>-1</sup> year<sup>-1</sup> in clone RR II 429 under d3 system which was comparable with yield under d2 system (without stimulation) in North Eastern region of India.

**Key words:** *Hevea*, Low frequency tapping, North East India, Stimulation, 400 series clones, Yield

## INTRODUCTION

Present trends of increasing cost of production of natural rubber (*Hevea brasiliensis*) and diminishing labour availability have led to a continued search for methods to reduce cost of production in rubber plantations. Increasing productivity by proper latex harvesting method is one of the approaches for reducing the cost of production of natural rubber. Yield stimulation offers opportunities for reducing number of tapping days by adoption of lower frequency tapping systems and thus reduces the labour cost. Due to high incidence of tapping panel dryness, alternate

daily tapping (S/2 d2 6d/7 system) has been discouraged and third daily tapping (S/2 d3 6d/7 system with stimulation) is being recommended for high yielding clones in the traditional region of India.

Increasing productivity by adopting low frequency tapping with yield stimulation (using ethephon) is an important approach to reduce the cost of production (Gohet *et al.*, 1991). Earlier reports had also shown good yield response of rubber clones to ethephon application (Sivakumaran and Chong, 1994; Nugawela *et al.*, 1997; Thanh *et al.*, 1996). Optimum yield could be harvested by low frequency tapping with