

# RESPONSE TO YIELD STIMULATION IN ELITE PIPELINE CLONES

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Received: 02 August 2020 Accepted: 29 August 2020

Abraham, T. and Mydin, K.K. (2020). Response to yield stimulation in elite pipeline clones. *Rubber Science*, 33(2): 177-185.

Adoption of high yielding clones Low Frequency Tapping (LFT) are essential for sustainable rubber cultivation. The present paper reports the response to yield stimulation in 31 newly developed high yielding pipeline clones. Yield under pre-stimulation and stimulation were recorded to understand the response to yield stimulation in each clone in comparison to that of the check clone RRII 105. As a result of stimulation, 23 clones showed higher yield than RRII 105 of which seven clones *viz.* HS PB 242/172, HS PB 242/117, HS PB 252/132, HS Ch 26/161, HS PB 5/51/82, HS RRII 105/112 and HS PB 217/180 had significantly higher yield. Three clones, despite being low yielders compared to RRII 105 in the unstimulated condition showed better yield on stimulation. When response to stimulation in clones under different yield categories was analyzed, all clones in the top yield category except clone HS RRII 105/112 and HS PB 252/132 showed low response to stimulation and hence not suitable for LFT. Clone HS RRII 105/112 was found to be an ideal candidate for LFT with an increase in yield of 85 per cent by virtue of stimulation. In contrast to top yield category, clones in middle and bottom category generally showed very high relative response to stimulation. Response to stimulation in clones under each family indicated that yield category to which the clone belongs rather than the family played a much more important role in deciding the clone's relative response to stimulation. The dry rubber yield pattern after the application of stimulation was identical in all months under study and was found to be the highest in the first tapping day immediately following the application of stimulation as expected.

**Key words:** Elite pipeline clones, *Hevea*, Low Frequency Tapping, Yield stimulation

## INTRODUCTION

Conventional breeding and selection was successful in generating a number of promising rubber clones with high rubber yield under normal system of tapping. Along with the use of high yielding clones, adoption of technologies for reducing input cost and maximizing output plays a critical role in any kind of sustainable agriculture especially in perennial crops such as *Hevea*. Use of yield stimulants, a prerequisite for

Low Frequency Tapping (LFT) is one such practice to reduce tapping cost without compromising on latex yield (Vijayakumar *et al.*, 2001; Soumahin *et al.*, 2009). Ethephon used as yield stimulant releases ethylene gas to enhance latex yield by increasing the duration of latex flow after tapping with the reduction of latex coagulation by activating latex cell metabolism (Jacob *et al.*, 1989; d'Auzac *et al.*, 1997). In the present scenario of sustainable rubber cultivation, it is