

## Study on Effectiveness of Ascorbic Acid, *DRC+3* and Sodium Nitroprusside (SNP) on Recovery of Tapping Panel Dryness (TPD) of Rubber Trees

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Tapping panel dryness (TPD) of rubber is known as a physiological disorder (oxidative stress), which occurs in all rubber clones growing everywhere in the world resulting in severe loss of yield. At present, TPD affected trees are rested for about six months period to reduce stress to the trees in order to minimize TPD. There is no any effective treatment has been found to prevent or cure TPD. Therefore, rubber growers face serious problems due to high economic losses caused by TPD. This experiment was conducted to find the effectiveness of some chemical treatments for trees affected with TPD. Ninety TPD affected trees and 30 healthy trees of clone RRIC 121 that were planted in 1996 were selected. All the trees were being tapped at half spiral, every other day (S/2 d2), downward (J.) tapping system in the first renewed panel (C=BI- 1 panel). A commercial chemical named, *DRC+3*, Ascorbic acid (AA) and Sodium Nitroprusside (SNP) as a NO (nitric oxide) donor were used for the experiment, which are said to having antioxidant properties. *DRC+3* (1g per tree with 6 days intervals), Ascorbic acid (1mM & 0.5mM with 6 days intervals) and Sodium Nitroprusside (100pM & 50 p..M with 2 weeks intervals) were applied on affected TPD trees with an untreated control. In another experiment, *DRC+3*(ig per tree with 10 days intervals) was applied for healthy trees with untreated control. Although data were not statically significant, there is a trend in increasing the yield per tree per tapping (g/t/t) in TPD affected trees treated with *DRC+3* and, Ascorbic acid, more prominently with 1 mM AA. Higher concentrations of Sodium Nitroprusside might be preferred as there was a positive effect on increasing yield of TPD affected trees with 100 11M SNP compared to 501.1M concentration, though the yield increase was not statistically significant. When compared to the pretreatment data and yield increase during the short period of the experiment, further continuation of this experiment is needed to arrive at firm conclusions.

**Key words:** Ascorbic acid, *DRC+3*, Physiological disorder, Sodium Nitroprusside, Tapping panel dryness