

IMPACT OF CERTAIN BIOLOGICAL AND ENVIRONMENTAL FACTORS ON THE INCIDENCE OF TAPPING PANEL DRYNESS IN *HEVEA BRASILIENSIS*

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Tapping Panel Dryness (TPD) is a physiological disorder having a negative impact on crop productivity in rubber cultivations. Factors such as clones, tapping systems, climatic conditions, use of yield stimulants *etc.* are some attributes considered to be related to TPD in commercial rubber plantations. In this study the propensity of a few widely planted rubber clones to TPD under two different agro-ecological regions and different stages of the tapping cycle was investigated. The regression model for the relationship between years of tapping and mean percentage incidence of TPD done separately for all estates revealed a positive trend with significant regression coefficients. The increase in mean percentage incidence of TPD for each year of tapping was relatively high in the WL_{1a} agro-ecological region and even among the three estates in the WL_{1a} agro-ecological region it was highest in the estate recording the highest annual rainfall and wet days. The propensity of a rubber tree becoming dry was found to be almost double in panel BO-2 than in panel BO-1. Clones RRIC 121, RRIC 130, RRISL 201 and RRISL 217 showed differences with regard to increase in mean percentage incidence of TPD per year of tapping during the first five years of tapping. Judicious use of yield stimulants would not enhance the percentage incidence of TPD as per the findings of this study. The possible loss in crop productivity during the early stages of the tapping cycle for some of the newly recommended clones due to TPD, in Sri Lanka was estimated.

Key words: Agro-climatic regions, Clones, *Hevea brasiliensis*, Tapping Panel Dryness, Tapping systems, Stimulation

INTRODUCTION

The global natural rubber (NR) prices are on a downward trend for nearly a decade ANRPC 2020; Trading economics Rubber, n.d.). This scenario with regard to trading is in an environment where the expenditure, *i.e.* labor wages, cost of agrochemicals, contributing to the cost of production are on

an upward trend. However, the rubber growers have no control on most of the expenditure items that influence the economic performance of the industry. Thus, the way forward to achieve a reasonably high return on investment is for the rubber growers to endeavor enhancing both land and worker productivity levels.