PATH ANALYSIS OF YIELD AND MAJOR YIELD COMPONENTS OF *HEVEA BRASILIENSIS* CLONE RRIM 600 UNDER ENVIRONMENTAL CONDITIONS OF TRIPURA

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The effect of environment, nutrition and tapping systems on yield and yield components of the clone RRIM 600 was studied during peak yielding months at Agarthala, India. Path analysis performed to understand the cause-effect relationship of different yield components revealed the influence of weather parameters. The temperature is the most important climatic parameter directly affecting the flow rate, dry rubber content and plugging of the latex vessels. Wind speed and pan evaporation also affected the rubber content in the latex and plugging of vessels. Other parameters like length of tapping cut, systems of tapping and tapping panel have significant influence on yield. Application of chemical stimulant (2.5% ethepon) also increased yield during low yielding period. Yield also increased with increase in nitrogen dose up to 30 kg/ha. The effects of all these factors on yield either by contributing towards DRC or by affecting the flow rate which ultimately causes early plugging and low yield are discussed.

Key words: *Hevea*, Nitrogen, Non-traditional area, Path analysis, Tapping panels, Yield components.

In India, rubber cultivation has been expanded to non-traditional regions due to limited scope of further expansion in traditional area. North East (NE) India is one of the non-traditional areas where rubber cultivation has been undertaken in an area of 50,000 ha. The popular high yielding *Hevea brasiliensis* clone RRIM 600 has been largely planted in this region, where climatic extremes like summer and winter influence the yield considerably (Alam *et al.*, 2003). Under such climatic conditions *H. brasiliensis* presents two yielding regimes (Priyadarshan *et al.*, 2000), a low yielding period (April to September) and a peak yielding period (October to January). About 60 per cent of the annual yield is obtained during the peak yielding period (Vinod *et al.*, 1996).

Yield in rubber is influenced by four major components *viz.*, length of tapping cut, initial flow rate, dry rubber content and plugging index (Sethuraj, 1981). It is also affected by several other factors like weather, phenology of plant, tapping system, nutrition and chemical stimulation (Jacob *et al.*, 1989). The influence of these factors on different components varies, thereby changing the overall response in terms of yield. However, information on the factors affecting the major yield components in the non-traditional areas is scanty. Hence the effect of environment, nutrition, tapping systems and other plant factors of the clone RRIM 600 on yield and yield components during

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