EVALUATION OF NATURAL RUBBER YIELD IN CONTROLLED UPWARD TAPPING SYSTEM UNDER DRY SUB-HUMID REGION OF ODISHA

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Effect of variable frequencies of yield stimulation on natural rubber (NR) yield under controlled upward tapping (CUT) system was evaluated using aged trees of clone RRIM 600. The study was conducted in the Regional Research Station, Rubber Board, Dhenkanal, Odisha, located in a dry sub-humid region in India. The CUT system of tapping in panel HO-1 was compared with the downward normal tapping system S/2 d2 in base panel BI-1. A good response to stimulation on rubber yield was observed under CUT. Yield in CUT was significantly higher than normal tapping under S/2 d2 tapping system with 70 to 110 per cent increase in CUT system. The highest rubber yield of 83.1 g t^{-1} t^{-1} was recorded in S/3↑d2.6d/7.ET.5.0 % La 12/y following monthly stimulation. There was 39.5 to 64.0 per cent yield increase under CUT system in HO-1 panel when compared to BI-1 panel. The present study showed that CUT can be adopted to get higher rubber yield from aged rubber trees under dry sub-humid regions of Odisha.

Keywords: Controlled upward tapping (CUT), Ethephon, Natural rubber, Stimulant, Tapping frequency, Yield stimulation

Natural Rubber (NR), synthesized by Para rubber tree (*Hevea brasiliensis* Muell. Arg.) is one of the leading plantation commodities and a major driver of economic growth in the country. Rising demand for NR and widening deficit in domestic production warrants extension of NR plantation to marginally suitable regions in Odisha. Although the area under rubber plantation is expanding in non-traditional regions, productivity and production of rubber needs to be increased to meet the increasing demand. Shortage of skilled tappers, growing share of old and senile plantations and existing inappropriate tapping practices by the growers are major concerns in NR production (Jacob and George, 2008).

Adoption of appropriate tapping system and judicious consumption of bark could help to significantly increase production and productivity in NR plantations (Njukeng *et al.*, 2011). Over the years many latex harvesting systems have been evolved and introduced to enhance yield output such as yield stimulation and controlled upward tapping (CUT) system. Tapping at a height of 150 cm on virgin panel of the trees is most

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