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HAILSTORM DAMAGE TO *HEVEA* TREES IN TRIPURA AND THE PERFORMANCE OF THE RECOVERED TREES

The agroclimatic suitability of north eastern (NE) region of India for cultivation of rubber (*Hevea brasiliensis*) has been well established and studies conducted have pointed out that the growth of *Hevea* tree in this region is comparable to that in traditional regions (Sethuraj *et al.*, 1989). Nevertheless, there are some climatic constraints for growth and yield. Of the constraints, low temperature during winter followed by a period of water stress is the major limiting factor. Isolated stress factors such as hailstorm, cyclone etc. also pose problems in the establishment of rubber plantations in the region.

Occurrence of hailstorm is a common feature in the NE region. However, hailstorms with normal wind velocity and hail size generally do not pose serious problems to the growth of rubber. There are reports of severe damages caused by hailstorms to plantation crops elsewhere (Sansom, 1966). Hailstorms usually occur along with premonsoon showers. The average frequency of hailstorm in North Bengal has been estimated as 1 . 5 days per year based on the data recorded over a period of 80 years (communication from Agromet Department, Govt. of West Bengal). Though no such study has been made for Tripura, it is a fact that this region experiences hailshowers almost every year. The hailshowers generally do not adversely affect the rubber trees. However, thunderstorms accompanied with high wind velocity and large sized hails can cause serious damages. In 1986 a severe hailstorm (reported to be the worst in 30 years) hit the research farm of the Rubber Research Institute of India (RRII) at Taranagar and inflicted serious injury to the bark of mature rubber trees, besides severely damaging the nursery and immature plantations (RRII, 1987). The present study is aimed at an evaluation of the recovery from the damages inflicted on the bark by hailstorms.

The data for this investigation was recorded from a clone evaluation trial planted in randomised block design at the RRII research farm at Taranagar during 1980 with eight clones and three replications. On 3rd April, 1986 a severe thunderstorm carrying large sized hails measuring upto 7.5 - 12.5 cm in diameter, with a wind velocity more than 100 kmph hit the farm from North - North West direction. The high velocity hail chiselled the bark of the trees almost entirely on one side inflicting various degrees of damage from superficial to deep. In addition, common wind damages like branch and trunk snaps and splitting of trunk also occurred. It took almost two years for the affected trees to heal the wounds, by putting callus growth, though all the damaged trees were treated with wound dressing compounds immediately. The regenerated bark was having many protruberances and small cavities interspersed with islands of virgin bark which escaped the hail impact. The opposite side of the trunk had normal virgin bark (Figures 1 & 2) .