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IMPROVING FRUIT SET IN *HEVEA* : SOME PRELIMINARY OBSERVATIONS

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Factors responsible for low fruit set in open pollination and hand pollination were studied under the agro-climate of Kanyakumari District of Tamil Nadu. *Oidium* was noticed to cause severe damage to flowers and young fruits, if not controlled properly. The harmful effects of solar radiations could be minimised by providing an overhead partial shade. Based on the stickiness of pollen and floral biology, it is assumed that pollination in *Hevea* could be brought about through an external agent only. The effectiveness of insect repellent coils to keep away the natural pollinating agents was analysed with a view to use them as an alternative for emasculation and post pollination plugging of flowers. Low pollination due to insufficient transfer of pollen was identified as the main factor responsible for the low fruit set in open pollination. The low fruit set, in spite of adequate pollen transfer, in controlled pollination is attributed to the damage caused to the panicles and flowers during the process of emasculation, pollination and post pollination plugging.

Key words : Fruit set, *Hevea*, Pollination, Solar radiation.

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INTRODUCTION

Low fruit set is a hindrance for successful hybridisation in *Hevea* clones. Measures to improve fruit set have been suggested by several workers (Attanayake and Dharmaratna, 1984; Yeang and Chandimathi, 1984; Leconte *et al.*, 1984; Sedgley and Attanayake, 1986; Mydin *et al.*, 1989). In spite of following such measures, the maximum fruit set obtained in hand pollination was less than 5 per cent (Mydin *et al.*, 1989). The real cause for the low fruit set is yet to be established. In this paper some preliminary observations on the factors responsible for the low fruit set are presented. Results of some initial attempts made to enhance the rate of fruit set and to improve the turnover of hand pollination are also discussed.

MATERIALS AND METHODS

The experiments were conducted in a systematically laid out breeding orchard planted in 1987 at a wide spacing of 12.2 m x 12.2 m at the Hevea Breeding Sub Station, Kanyakumari. The atmospheric temperature, during flowering season, increased upto 37.8 °C and relative humidity went down to as low as 25 per cent. Bright sun light was available for 8.94 h (mean) per day and rainfall during the flowering season, was negligible. *Oidium* was controlled by dusting 70 per cent dust formulation of sulphur twice a week. Solar radiation was controlled by providing an overhead partial shade with coconut palm leaves. In case of rain and dull weather, shade was removed temporarily to facilitate exposure to light.