

## WINTERING PATTERN AND FLORAL BIOLOGY OF HEVEA CLONES

T.A.Soman, M.A.Nazeer, Y. Annamma Varghese, J.Licy and M.R.Sethuraj

Soman, T.A., Nazeer, M.A., Varghese, Y. A., Licy, J. and Sethuraj, M.R. (1995). Wintering pattern and floral biology of *Hevea* clones. *Indian Journal of Natural Rubber Research*, 8(2) : 94-99.

Wintering pattern and floral biology of 25 clones of *Hevea brasiliensis* were studied in two consecutive years. Most of the modern high yielding clones were found to exhibit partial wintering. The intra-clonal differences in the maturity of male and female flowers seem to play a major role in the prevalence of out crossing. So, while selecting parents for a polyclonal seed garden, care should also be taken to ensure that the peak periods of maturity of male and female flowers overlap as far as possible. Flowering in 1995 was accomplished two to six weeks in advance than during 1994. The continued drought and soil moisture stress experienced from December 1994 onwards might be the main factors which induced an early wintering and flowering in 1995. The early flowering during 1995 has triggered a second round of flowering during the same season, resulting in an extension of the flowering period.

Key words: *Hevea brasiliensis*, Floral biology, Anthesis, Agro-climatic stress, Pollen fertility.

T.A. Soman (for correspondence) Rubber Research Institute of India, Hevea Breeding Sub-station, Kanyakumari District, Tamil Nadu, India; M.A.Nazeer, Y.Annamma Varghese, J. Licy and M.R.Sethuraj, Rubber Research Institute of India, Kottayam-686 009, Kerala, India.

### INTRODUCTION

In India, most of the polycross gardens and breeding orchards of *H. brasiliensis* are established in Kanyakumari District of Tamil Nadu, the area being selected in due consideration of the low incidence of diseases. By present standards, the component clones of the existing seed gardens are rather old. It is essential that newer clones be studied for inclusion in polyclonal seed gardens. Precise data on the floral biology and anthesis of different clones is an essential pre-requisite for breeding programmes.

Though much work has been done in this direction (Edgar 1958, George *et al.*, 1967, Meeenattoor *et al.*, 1989, Sedgley and Attanayake, 1986), knowledge on the wintering pattern, floral biology and anthesis of

most of the modern clones is rather meagre. Wintering and flowering in *Hevea* clones vary depending on the age of plants, location, agro-climatic conditions, etc. (George *et al.*, 1967, Meeenattoor *et al.*, 1989). The present work forms part of a systematic study on the wintering pattern, floral biology and anthesis of a large number of *Hevea* clones under the agro-climatic conditions in Kanyakumari District of Tamil Nadu.

### MATERIALS AND METHODS

A systematically laid out breeding orchard consisting of 25 clones planted in 1987 at the Hevea Breeding Sub-station, Kanyakumari was selected for the study. All the clones were planted in a compact area of 2.5 ha. The planting was at a wide spacing of 12 m x 12 m to ensure the maximum expression of characters of