

EVALUATION OF SEEDLING PROGENIES OF MALE STERILE CLONES OF *HEVEA BRASILIENSIS* (WILLD. EX ADR. DE JUSS.) MUELL. ARG. AT THE NURSERY STAGE

C. K. Saraswathy Amma and A. O. N. Panikkar

Saraswathy Amma, C. K. and Panikkar, A. O. N. (1989). Evaluation of seedling progenies of male sterile clones of *Hevea brasiliensis* (Willd. ex ADR. de Juss.) Muell. Arg. at the nursery stage. Indian J. Nat. Rubb. Res. 2(2): 99-104.

Seedling progenies of three male sterile clones (GT 1, Ch 2, and RR11 35), along with progenies of a fertile clone (Mil 3/2) as standard, of *Hevea brasiliensis* were evaluated in the nursery. Seeds from the male sterile clones recorded early and higher percentage of germination. The progenies of the male sterile clones were more vigorous compared to the control. Test tapping yield also indicated the superiority of the progenies of male sterile clones. The male sterile clones recorded higher heritability along with higher genetic advance indicating additive gene action. They also had higher general combining ability. Among the male sterile clones, GT 1 showed significant superiority over the others.

Key words.—Male sterility, Genotypic variation, Phenotypic variation, General combining ability, Juvenile yield, *Hevea*.

C. K. Saraswathy Amma (for correspondence) and A. O. N. Panikkar, Rubber Research Institute of India, Kottayam - 686 009, India.

INTRODUCTION

Ortet selection is an important method of tree improvement in *Hevea brasiliensis* (Willd. ex ADR. de Juss.) Muell. Arg., the commercial source of natural rubber. In nature, the species is propagated through seeds and these were the propagules used during the early years of the plantation industry. The position, however, changed rapidly with the perfection of a budgrafting technique for vegetative propagation, by Van Helten in 1917. Seeds, however, constitute a reservoir of genetic variability, which is made use of in identifying superior genotypes through ortet selection. In the course of cytological screening of different selections, male sterility was observed in three clones (Saraswathy Amma *et al.*, 1988). Evaluation of the performance of seedling progenies of

these clones was attempted at the nursery stage and the results are discussed in this communication.

MATERIALS AND METHODS

Three male sterile-clones, GT 1, Ch 2 and RR11 35 (D 15) and a fertile clone Mil 3/2 of *Hevea brasiliensis* (Willd. ex ADR. de Juss.) Muell. Arg. were selected for the study. All the male sterile clones as well as the control are ortet selections. Of these, three are exotic clones and RR11 35 is indigenous. Mature dry fruits resultant of open pollination were collected. The seeds were taken out by opening the fruits and sown in germination beds. The rate of germination was assessed from the seventh day onwards upto the nineteenth day. Utilizing the seeds which sprouted from the seventh to the thirteenth