SYNCHRONISATION OF FLOWERING PERIODS BETWEEN *MOGHANIA MACROPHYLLA* (WILLD) O.KTZE. AND *M. CHAPPAR* KUNTZE

S.C. SRIVASTAVA AND P. KUMAR

Indian Lac Research Institute, Namkum, Ranchi (Jharkhand).

Introduction

Out of 15 species of *Moghania* occurring in India, *M. macrophylla* has been recorded as a common lac host of regional importance (Roonwal and Raizada, 1958) and *M. chappar* as a minor lac host (Purkayastha and Prasad, 1962). Among these two *Moghania* spp., *M. macrophylla* has better plant attributes for the growth of the lac insect (*Kerria lacca* Kerr) while *M. chappar* has profuse tillering capacity. Both the species are recorded as hosts for superior quality 'kusmi' lac (Krishnaswamy *et al.*, 1962; Purkayastha and Prasad, 1962). These two species, however, show wide differences as to the performance of the lac insects.

Moghania macrophylla flowers between August/September to October/ November while *M. chappar* between October/November to February/March (Srivastava and Kumar, 1982; Srivastava *et al.*, 1987).

Before taking the interspedific hybridization programme of these two species for combining their desirable characteristics from lac cultivation stand point, it was felt necessary to coincide their flowering periods. Thus an experiment was carried out in the Institute plantation for coinciding the flowering times of *M. macrophylla* and *M. chappar*.

Material and Methods

The seedlings of *M. macrophylla* and *M. chappar* raised in nursery beds were transplanted in alternate rows at one meter spacing during July-August. To delay the flowering period of *M. macrophylla*, the cultural operations like topping (removal of one leaf primordium along with inflorescence) and pinching (removal of inflorescence only) were tried. The treatments were as follows :

T_1 Topping once at bud initiation stage.
T_2 Topping twice at T_1 and anthesis stage.
T_3 Topping thrice at T_1, T_2 and at post flowering stage.
T_4 Topping four times at T_1, T_2, T_3 and one month after T_3 stage.

P_1 Pinching once at bud initiation
P_2 Pinching twice at P_1 and T_2 stage
P_3 Pinching thrice at P_1, P_2 and T_3 stage
P_4 Pinching four times at P_1, P_2, P_3 and T_4 stage.

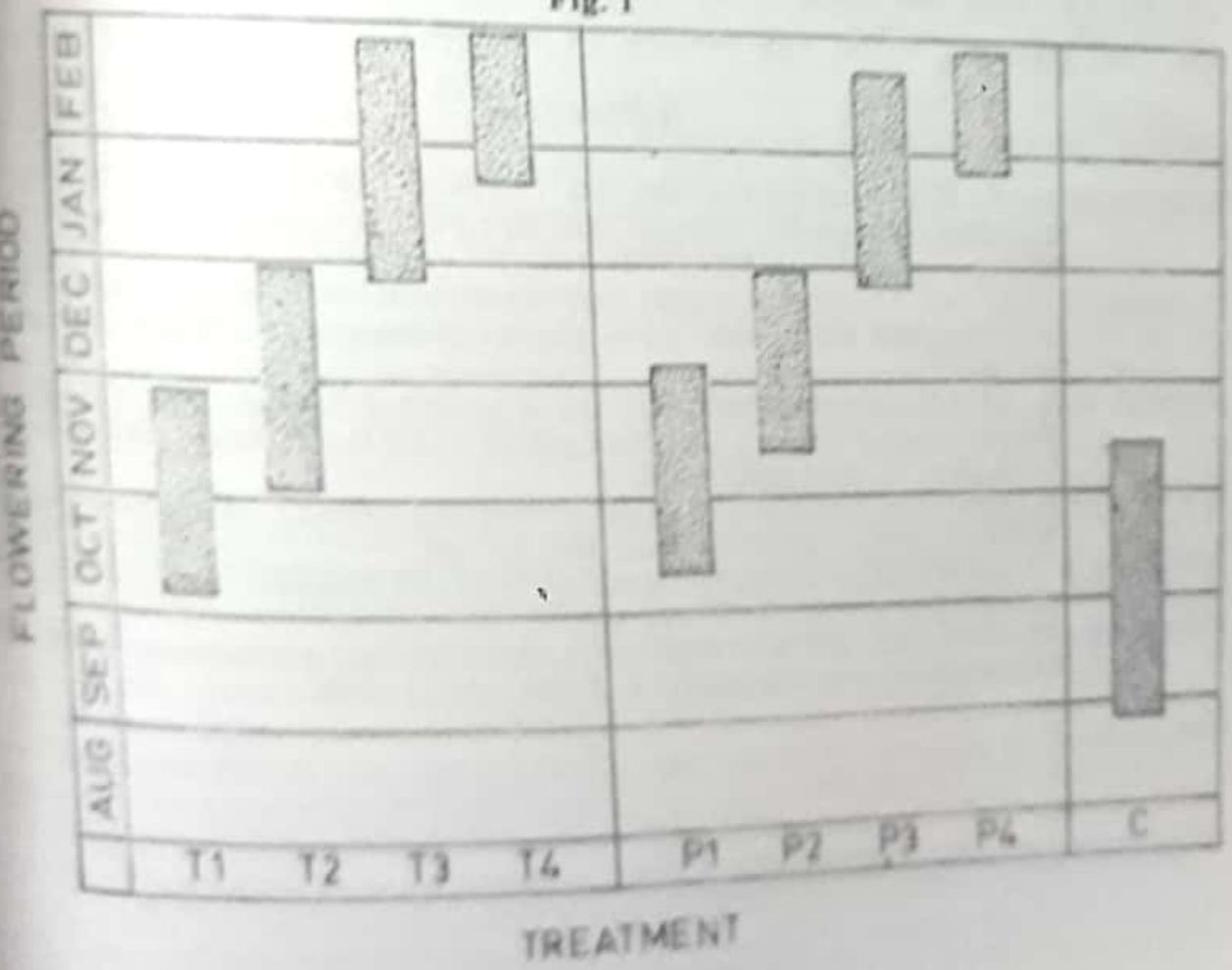
C Control (neither pinching nor topping).

Results and Discussions

The treatment of both pinching and topping operations of flowering parts were applied on *M. macrophylla* from September to December to delay the flowering period so that it coincids with the flowering periods of *M. chappar*. It was observed that both topping and pinching operations of floral parts were effective in delaying the flowering period of *M. macrophylla*. Similar observation was also recorded in the same species by Sen and Gokulpure (1981). They reported that the bushes of *M. macrophylla* were producing inflorescences and bearing pods in the 2nd week of February, when the inflorescences were profusely removed as and when they appeared during September to December. However, the bushes flowering at their normal period did not show any inflorescence during this period.

The best results in delaying the flowering periods of *M. macrophylla* obtained with the treatments of T_3, T_4, P_3 and P_4 applied on its floral parts. Thus the flowering period of *M. macrophylla* could be coincided with that of *M. chappar* with 3-4 times topping or pinching operations. This observation is of great value for interspecific hybridization between *M. macrophylla* and the *M. chappar* for improvements in 'kusmi' lac production.

Fig. 1



Delaying of flowering period in *Moghania macrophylla*