

SECOND SELECTIONS FROM THE 1954 HAND POLLINATION PROGRAMME

Tree improvement in *Hevea* through hybridization and selection began at the Rubber Research Institute of India in 1954. In the 1954 hand pollination programme 439 new clones belonging to 14 families were established and a small scale trial was laid out at the Rubber Research Institute of India Experiment Station in 1956 (Bhaskaran Nair, 1963; Bhaskaran Nair & George, 1969). Reports on selections and their secondary characters have been published (Bhaskaran Nair & George, 1969 and Bhaskaran Nair *et al.*, 1975). Based on yield during the first four years and other secondary characters, 22 clones belonging to seven families were preliminarily selected (first selections) and given accession as RRII 100 series. Of these, RRII 105 has gained large scale commercial acceptance. In the present communication, the performance of certain promising late yielding clones from the 1954 hand pollination programme over a period of twenty years is presented.

The clones evolved were planted in 1956 in a small scale trial, with five trees of each clone, and the control clone Tjir 1 (Bhaskaran Nair, 1963). The trees were opened for tapping in 1964. The tapping system followed was half spiral alternate daily ($\frac{1}{2}$ S d/2 6d/7). Yield recording was done by cup coagulation technique for twenty years of tapping. The number of trees available in each clone for yield recording ranged from one to four. Tree girth was measured at a height of 150 cm from bud union and the mean annual girth increment calculated. Prophylactic spraying against abnormal leaf fall was given upto 1979 and afterwards the

trees were left unsprayed. Anatomical characters like bark thickness and number of latex vessel rings were recorded on virgin and renewed bark.

Over the years, five clones showed a rising trend in yield over RRII 105 and these selections were designated as 'second selections'. In Table 1 the yield of the above clones for various periods and the mean over twenty years, along with girth data are given. It may be noted that during the first five years, RRII 105 was the highest yielder (60.61 g) followed by HP 372 (50.98 g). RRII 105 is a precocious yielder and the clones in the second selection showed high yielding trend only from the sixth year onwards (George *et al.*, 1980). From the 6 to 20 year period, HP 185 out yielded all other clones and RRII 105 recorded a lower yield than the second selections. During 6 to 10 years HP 223 was the second best yielder (119.62 g) and during the 11 to 15 year and 16 to 20 year periods HP 372 was the second highest yielder (129.06 g and 139.49 g respectively). Considering the mean yield over 20 years, HP 185 (104.00g) was on par with HP 372 with 104.01 g. This was followed by HP 223 (97.94 g). Among these clones observed, RRII 105 was the lowest yielder with 81.38 g. When percentage yield increase over RRII 105 for 20 years is considered, HP 185 and HP 372 showed the same trend. HP 187 recorded only 10.46 per cent increase which is the lowest among the second selections. The highest mean annual girth increment was recorded by HP 372 (4.15 cm) and the lowest by RRII 105 (2.09 cm).