



Research Paper

IMPROVEMENT OF FECUNDITY IN COMMERCIALY EXPLOITED DABA TROPICAL TASAR SILKWORM, *ANTHRAEA MYLITTA* DRURY THROUGH RECURRENT SELECTION

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ABSTRACT

Fecundity is one of the important quantitative characters of commercial importance in tasar silkworm. In the natural Daba ecorace of *A. mylitta*, fecundity varies from 86 to 400 and in the ruling Daba race, under seed multiplication system, it is in the range of 200 to 220. Due to continuous exploitation of Daba over many years to meet the demand of seed, the fecundity has been declining. In a breeding plan, the pooled population of ruling Daba was crossed with the natural Daba population in order to introgress the beneficial genes and in subsequent generations, recurrent selection was followed. Initially, in the F₁ generation, 10 breeding lines were isolated and selected based on the fecundity range of 201-300. Subsequently, three breeding groups were selected based on fecundity range *i.e.*, BG1 (241-260), BG2 (261-280) and BG3 (281-300) with average female pupal weight of 11.00, 11.85 and 12.27 g, respectively. Concomitantly, the average male shell weight in these groups was 1.65, 1.75 and 1.85 g, respectively. Similarly, for parental stock, the lot with fecundity range, 200-222 with average value of 210 was selected and considered as control. After six generations, the lines with high fecundity (>260) were isolated and evaluated for the phenotypic expression of some of the quantitative traits.

Key words: *Antheraea mylitta*, Daba ecorace, fecundity, recurrent selection.