Review Paper

QTL AND THEIR UTILIZATION IN SILKWORM BREEDING PROGRAMME

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ABSTRACT

With the rising demand of silk in the global scenario, several silkworm breeding strategies are being developed to improve the quality and quantity of silk. The present aim of silkworm breeding in India is to evolve disease resistant and highly productive silkworm strains. Disease resistance breeding has gained momentum in recent years and is important in this context, since a major percentage of crop loss in sericulture is due to incidences of silkworm diseases. Molecular approaches *viz.,* QTL and marker assisted breeding have added a new dimension to the conventional breeding principles, with respect to reduced cost and time. Since the expression of disease resistance and several quantitative traits in silkworm is the result of a complex interplay of several genes and environment, QTL analysis would enable the identification of the genes in question and their effects. Different QTL mapping approaches are employed for that purpose. However, the integrated approaches discussed herein promise a deeper understanding of the genetic basis of the traits and will provide a right direction towards sustainable development of sericulture.

Key words: *Bombyx mori,* QTL, marker assisted selection, silkworm breeding.