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New Technologies for Tropical Sericulture

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Indian sericulture with its indigenous technologies and traditional knowledge, remained as subsidiary activity in cottage sector. By virtue of horizontal expansions during seventies, evolution of mulberry variety Kanva-2 and popularization of cross-breeds with a bivoltine parent, the country could meet the local demand of raw silk for the handloom sector. However on quality front, the silk produced remained poor and ungradable, as a result the demand of quality silk for powerloom sector remained unfulfilled. The efforts to popularize the exogenous bivoltines also did not yield much success.

Thus, during the nineties, a thrust was given for development of tropical technologies, comprising of superior mulberry varieties for varied agro-edaphic situations, productive and robust bivoltine hybrids and cross breeds to suit the local conditions, disinfection and hygiene maintenance, effective pest and disease management strategies, and mounting and cocooning cares, to add to the impetus of the silk production in the country. While doing so, productivity and quality considerations were given prime importance.

As a result of constant research endeavors, a large number of productive, cost effective and improved technologies were evolved. The popularization of the same as a package through extension support of the state machineries enabled the country to achieve second place in global silk production with annual silk production of 14,617 MT. Some of the important breakthroughs made during the period are:

(i) Evolution of quantitatively and qualitatively superior mulberry varieties like V-1, S-36 S-13, S-34, etc. for different edaphic and climatic situations with yield improvement up to 200%.

(ii) Development of improved mulberry cultivation technologies, consisting of integrated nutrient management by supplementing organics and reduced

chemical fertilizers, effective irrigation systems, bio-control based integrated management strategies against pests & diseases and integrated income augmenting farming systems through farm resource management for sustained productivity at reduced cost have been found very effective.

(iii) Development of productive and robust bivoltine and multivoltine silkworm breeds namely, CSR hybrids, double hybrid, GEN series, Cauvery, Sex-limited races, thin denier hybrids, etc. suited for different situations, including high temperature and humid areas. Popularization of the hybrids crossed with bivoltines further added to the production of quality silk.

(iv) Development of cost effective silkworm rearing practices for the new silkworm hybrids comprising of low cost rearing houses for specific situations, disinfection and hygiene maintenance, bio-control based disease & pest control measures, new cocooning and mounting devices and rearing environment management have helped to achieve the desired results. Innovations made in the rearing and spinning equipments have further added to the reduction in cost of cocoon production besides improved cocoon quality.