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Evaluation of different strains of mulberry silkworm and eri silkworm for the development of sericulture in Punjab

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ABSTRACT

The present study was conducted to evaluate different strains of mulberry silkworm and eri silkworm for the development of sericulture in Punjab during autumn and spring season. During autumn and spring season seeds of different strains of mulberry silkworm and eri silkworm were procured from Zonal Sericulture Seed Organization, Central Silk Board, Majra, Dehradun (Uttranchal) for further rearing and evaluation. The findings of the study revealed that Based on the larval period, green cocoon weight and dry cocoon weight, it can be concluded that during autumn season SxN hybrid performed better as compared to NxS, D22xD6 and D6xD22. Similarly SH_6 strain performed better as compared to NB_4D_2 during autumn season under Punjab conditions. During spring season, SH6 performed better as compared NB4D2, Doon 6 and Doon 22. In case of hybrids FC2 x FC1 and RSJ3 x RSJ1 performed better as compared other hybrids under Punjab conditions.

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Key words : Sericulture, Mulberry silkworm, Eri silkworm

INTRODUCTION

Sericulture is an agro-based cottage industry in India. It is highly labour consuming, needs less investment and inturn generates more employment and profit. It is broadly classified into two distinct types *viz.*, mulberry and non mulberry sericulture which includes tasar, eri and muga culture.

Silkworm (*Bombyx mori* Linnaeus) is a well known insect of economic importance for production of silk, 'The Queen of Textiles'. Sericulture was introduced in India about 2000 years ago and the silkworm producing yellow silk was known since the ancient time (Mukherjee, 1912).

India which is the second largest producer of silk after China, gifted with favourable climate and rich sericulture fauna has a unique distinction of producing all the four commercial varieties of silk namely mulberry, tassar, eri and muga of which the first alone accounts for about 90 per cent of the total production. . In India, which accounts for 13.5 per cent of the total silk production in the world, the mulberry silk is chiefly produced in five states *viz.*, Karnataka, Andra Pradesh , Tamil Nadu, West Bengal and Jammu and Kashmir.

The main determents of the silk quality and quantity are climatic conditions and silkworm races. In India, less number of good quality hybrids/races of silkworm is available. Punjab has good potential of producing bivoltine silk and there is scope of expansion of sericulture from sub-mountainous region to other regions of the state as well. So keeping all in view, the present study evaluation of different strains of mulberry silkworm and eri silkworm for the development of sericulture in Punjab was conducted with the following objectives: Evaluation of different bivoltine races/hybrids of mulberry silkworm, *Bombyx mori* Linn, Evaluation of eri silkworm, *Philosamia cynthia ricini* (Boisduval) under Punjab conditions and Food consumption by different races/ hybrids of mulberry silkworm and eri silkworm.

MATERIALS AND METHODS

Under Punjab conditions, the bivoltine races (two generations/year) of mulberry silkworm are being reared, one during autumn season (Aug.-Sep.) and second during spring season (Feb. – April). But major silk contribution is from spring season crop.

During spring season seeds of four races namely SH_6, NB_4D2, Doon 6 and Doon22 and twelve hybrids *viz.*, SH6 x NB4D2, NB4D2 x SH6, Doon22 x Doon6, Doon6 x Doon22, FC1 x FC2, FC2 x FC1, CSR2 x CSR4 ,CSR4 x CSR2, CSR50 x CSR51, CSR51 x CSR50, RSJ3 x RSJ1 and CSR4 x SH6 were procured from Zonal Sericulture Seed Organization, Central Silk Board, Majra, Dehradun (Uttranchal) for further rearing and evaluation.

Evaluation of different bivoltine races/hybrids of mulberry silkworm:

Under Punjab conditions, the bivoltine races/hybrids

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