Studies on Evaluation of Bivoltine Hybrid of *Bombyx Mori L.* For Cocoon Productivity in Nontraditional Region of Pune Division, Maharashtra State

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Abstract

Mulberry silk sector is contributed about three-fourth of total silk production in India .there is urgent need to improve the productivity with quality of India to become self-reliant and compete in international silk market. The bivoltine silk excels in quality and productivity but do not display the crop stability in the field and bivoltine suffer badly in adverse conditions and losing cocoon productivity in the area. While the bivoltine sericulture in Maharashtra has registered as impressive growth by adopting the number of needed technologies to both in management of mulberry silkworm rearing for improvement of cocoon productivity per unit area. The Pune division is largest bivoltine silk producer and contributing nearly 40% to whole productivity of state .but for bivoltine sericulture stability and potentiality. In order to study of newly developed bivoltine hybrids under simulated conditions of farmer before recommending them for field the evaluation of hybrid study was conducted about newly six bivoltine hybrids developed at central sericulture research & training institute Mysore along with control hybrid and assessed under simulated conditions of farmer of this area.

KEYWORDS- Bivoltine hybrids, *Bombyx mori.L* (CSR2XCSR26) X FC2 (CSR6XCSR27)

INTRODUCTION

Maharashtra state is considered as non-traditional state of sericulture and beginning in very small laboratory of sericulture research station. At Pachgani district Satara in 1958-59 and introducing in some potential area of state in scatter manner of allover state by MSKVI department.Keen interest of Maharashtra government on industry the established the directorate of sericulture in 1997 under ministry of textile government of Maharashtra. For mulberry sericulture is practiced indifferent region of state and progress in cocoon production from 373MT to760MT up during the year 2013-2014.and produced the bivoltine cocoon 46.7MT to 111.52MT which is contributed 0.5% of whole silk productivity of India. Pune district is second largest district of state accordingly area of geographically and Majority of farmer are engage in cultivation of commercial field crops as sugarcane, horticulture, vegetable, and generating the good revenue. The sericulture is also need to compete based of improvement of cocoon productivity in area. Mulberry silk sector is contributed about three-fourth of total silk production in India .there is urgent need to improve the productivity with quality of India to become self-reliant and compete in international silk market (Dr SMH Qadri2012).

METHODOLOGY

The study will be conducted in Pune division of Maharashtra since last two year state by collecting data from the sample farmers. Stratified random sampling method (Geeta.2008) will adopted for selection of sample farmers. Top three talukas from Pune districts having higher area under mulberry will be selected. A total of three talukas will be selected. From each of these selected talukas, 30 farmers will be selected at random. A minimum of 3 villages per talukas will be covered depending on the density of the farmers in the taluka. Primary data will be collected from the 90 selected farmers through pretested questionnaire for the sericulture year. And study conducted at research centre Pune based o f simulation condition of farmer and region the silkworm rearing and mulberry cultivation was practice as per the recommendation (Dandin et al.2000).

Map showing different region of state and progress in cocoon production

Breeds of mulberry silkworm (CSR6X26) X (CSR2X27) *Bombyx mori* L. will be selected for the present experimental study to check their viability, productivity and study their adaptability in four different climatic conditions of non-traditional belt i.e. spring, summer, monsoon and autumn with shelf and shoot rearing methods. Twenty-five disease free lying of each race in triplicate will be reared by following rearing techniques of Datta, R.K. (1992), Krishnaswami. The results were analyzed statically as per Mahadevappa et al., 2000.

Results and Discussion

Maharashtra is nontraditional state and the sericulture is spread over far flung area of the state due to poor infrastructure for bivoltine sericulture present study it is evident that rearing of bivoltine hybrid provided much scope for geometrical improvement in the production of raw silk the comparatively performance were found promising based on multiple traits evaluation index value as control CSR2XCSR4 the traits index is such technique for accurate selection of bivoltine hybrids this promising double hybrids FC1 (CSR2XCSR26) X FC2 (CSR6XCSR27) can be popularized for commercial silkworm rearing in

nontraditional region Pune area for enhancement cocoon productivity per unit area by accepted multiple traits index above 50 and hybrid is adopting extensively in the field for production of bivoltine cocoon production (*Basuraj et. al.*2008).

Table1 Multiple traits evaluation index of bivoltine hybrids for cocoon and silk

Sr.no	Hybrids/combination	Cocoon yield kg/25 dfls	Cocoon weight (g/10cocoon)	Cocoon shell weight(g/10 shells)	Cocoon shell ratio %	Silk filament length (m)	Average evaluation index value
1	CSR2X CSR4	57.20	57.80	57.90	57.60	60.20	56.63
2	CSR4XCSR2	58.40	59.30	58.80	57.200	60.70	57.56
3	CSR18XCSR19	58.40	58.30	56.4O	54.4o	52.00	56.88
4	CSR50X CSR51	58.60	58.70	56.50	57.80	60.80	57.9
5	FC1 XFC2	58.70	58.9O	57.98	57.90	60.90	58.80

in commercial scale at research center pune for their various economics and commercial traits and the bivoltine hybrids for suitability to farmer of this area were evaluated expressed a varied degree of economics parameters over control the hybrid CSR2XCSR4 and out of five at hybrids evaluated two hybrid remarked the average multiple traits evaluation index value of more than 50 viz. FC1 (CSR6XCSR26) X FC2 (CSR2X27) double hybrid (69.6) and (CSR17XCSR19) (52.9) further the new double hybrid highly potential over control in respect of cocoon yield (30.5 and 11.23 %) single cocoon weight(19.3 2 and 5.43 %) cocoon shell weight (27.76 and 7.91 %) and silk percentage (7.2 and 2.69 %) and filament length (19.45 and 6.87 %) and over all parameters is indicate for performance of FC1 (CSR6XCSR26) X FC2 (CSR2 XCSR27) double hybrid is more suitable and effectively to field of Pune region compared to other hybrids studied.

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