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Research Article

FARMERS LEVEL TECHNOLOGIES TO IMPROVE COCOON PRODUCTION IN DINANAGAR (DISTT. GURDASPUR)

***Shashi Kanta**
SSM College Dinanagar, Punjab, India
**Author for Correspondence*

ABSTRACT

Sericulture is one of the most important rural industries practiced since several decades. It has certain inherent advantages like minimum gestation period and expenditure. Several dynamic changes in the field of sericulture research and development have been brought during the last three decades. Though extension network has been established at national and state level to educate sericulturists, still a wide gap exists between the recommended technology and actual adoption by sericulturists. To plan a suitable intervention strategy, to bridge this gap, it is necessary to understand present knowledge and adoption level for improved technologies, so also existing mulberry leaf yield and silk cocoon production level. It is, therefore, present study was conducted to know the extent of adoption of improved practices at farmer's level in Dinanagar Tehsil of Gurdaspur district in Punjab state.

To achieve this wide gap for desired results between lab and farmers level, particularly in cocoon productivity by keeping in mind many aspects, a study has been undertaken at farmers; level, in large scale covering four locations in Dinanagar Tehsil with purpose of finding whether or not by adopting the improved sericultural technologies are transferred meticulously and adopted sincerely.

A gain to the extent of extent of 25Kg to 395Kg in cocoon yield over the control has been recorded during the study. The details of the sericulture technologies demonstrated and their cumulative impact are discussed.

***Keywords**: Adoption & Non Adoption Farmers, Farmer's Level, Sericulture and Dinanagar*

INTRODUCTION

Sericulture is an eco friendly agro based labour intensive rural cottage industry providing employment and supplementing the income of rural farmers. The industrial production of raw silk and fabric employs a large number of farmers throughout the year. Thus, a large portion of the cost incurred in the conversion of soil to silk reachers farmers involved in the value addition at each stage like cocoon production, silk reeling, fabric production , dying and printing. Sericulture industry is therefore; discretely helping in building an egalitarian society in highly populous country like India. So it is very important to improve Sericultural production and quality at farmer's level, which are main silkworm rearer (Qurashi, 2010).

So, many sericultural technologies have been developed and their recommendations have been made to improve the productivity and quality of cocoon at farmer's level (Kushwaha, 2013). Inspite of well developed extension network to transfer the technologies to the farmers, there is a wide gap in productivity of the cocoon between lab to land due to non or partial adaptation of improved sericultural technologies. As a result farmer's are getting low returns due to low productivity and poor quality of cocoon in comparison to other agriculture and looking for other crops or avenues for better income and proportionate return of their labour. Keeping all the observations in view, the present study was undertaken by the scientists of Dinanagar to assess the cumulative impact of improved sericultural technologies on productivity and quality of cocoon in Dinanagar Tehsil of Gurdaspur Distt of Punjab by adopting 10 farmers at villages (Ramkanta, 2012). Seeing the encouraging results of the project 40% gain in cocoon productivity over control, a study has been undertaken at farmer's level in large scale covering four locations with purpose of finding whether or not by adopting the improved sericultural technologies the yield gap further could be minimized (Qadri, 2010).

MATERIALS AND METHODS

For this study 10 farmers were identified at each location in constitution with RDC Sujanpur during spring and autumn crop. The results of adopted farmers were compared with the results of the same number of non adopted farmers at each location in each crop. Demonstrated of following sericultural technologies during spring and autumn crop has been taken up (Pande, 2012). For this study authorized silkworm hybrid SH*NB4D2 was reared in both the crops.

Technologies Demonstrated at Farmer' Level During Cocoon Rearing *(Khan, 2000; 2004)**:***

1. Provide regular Advisory Services to seiculture Farmers in Mulberry Cultivation and Silkworm Rearing.
2. Proper disinfection of rearing house and appliances.
3. Selection of leave according to silkworm age.
4. Preservation of leaves.
5. Improved rearing techniques.
6. Proper maintaince of environmental and hygienic conditions.
7. Bed disinfection.
8. Proper spacing.
9. Care during molting.
10. Use of bed cleaning nets.
11. Proper mounting of ripe worms.
12. Sorting of cocoon before marketing.

RESULTS AND DISCUSSION

The average data related to impact of demonstration of sericultural technologies on productivity and quality of cocoon at locations of spring and autumn are given in table 1&2 (Bindroo, 2005). The cost benefit ration analysis is given in table. During spring crop, the average cocoon yield, cocoon yield, cocoon weight ,Shell Weight, Shell cocoon ration were found to be 34.58 Kg/100 dlf., 1.136 g, 225 g and 19.91% respectively in case of adopted farmers whereas the same parameters were 28.80 kg/ 100, 1.099 g, 0.197g and 17.93% in case of non adopted farmers (control). Thus a gain of 23.00%, 3.366%, 14.200% and 11.04% was observed in cocoon yield, cocoon weight, shell cocoon ration respectively (Verma, 2006)

Table 1: Cost Benefit of Adopted Over Non Adopted farmers during Spring Crop

Sr. No.	Parameter	Non adopted	Adopted	Gain
1.	Rate/Kg.(Rs)	Rate/Kg.(Rs)	Rate/Kg.(Rs)	Rate/Kg.(Rs)
2.	Cocoon weight	1.099	1.136	3.366
3.	Shell Weight (g)	0.197	.225	14.200
4.	Shell Ratio (%)	17.93	19.91	11.04
5.	Rate/Kg.(Rs)	116.26	120.40	3.56
6.	Total cost of cocoon/ 100dlf	3264.58	4163.43	27.53

Table 2: Cost Benifit of Adopted over Non Adopted farmers during Autumn Crop

Sr. no.	Parameter	Non adopted	Adopted	Gain
1.	Cocoon yield/100dlf	23.11	29.61	28.13
2.	Cocoon weight	1.264	1.327	4.98
3.	Shell Weight (g)	.207	.226	9.18
4.	Shell Ratio (%)	16.38	17.03	3.97
5.	Rate/Kg.(Rs)	105.24	111.15	5.62
6.	Total cost of cocoon/ 100dlf	2432.10	3291.15	35.32

The same trend was observed during autumn crop (Khan, 2006). The average cocoon yield, cocoon weight, shell cocoon ration were found to be 29.61Kg/ 100dlfs, 1.327g .226g and 17.03 % respectively in case of adopted farmers whereas the same parameters were 23.11 Kg/ 100, 1.26 g, 1.264g, .207g and 16.38% in case of non adopted farmers (control) . Thus a gain of 28.13, 4.98, 9.18 and 3.97% was observed in cocoon

yield, shell weight, and shell cocoon ratio respectively (Verma, 2006).
Efficient adoption of improved sericultural technologies increased benefits by Rs. 898.85 and 859.05 /100 dlfs during spring and autumn crops over non adopted farmers over farmers (Ramakant, 2011). However net profit of Rs 698.85 and 659.05 was obtained during spring and autumn respectively. Adoption of improved sericultural technologies increased the cost of Rs 200.00 /100 dlfs during both crops (Verma, 2006) demonstrating importance of improved sericultural technologies over control.

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