

Research Article

Extent of adoption of improved sericultural practices by the sericulturists of Buldhana district of Maharashtra

■ R.V. KUSHWAHA AND N.R. SINGHVI

ARTICLE CHRONICLE :

Received:
17.07.2013;

Revised :
21.08.2013;

Accepted:
22.08.2013

SUMMARY : Sericulture is one of the most important rural industries, due to certain inherent advantages like minimum gestation period and expenditure. Sericulture has been practiced since several decades, the dynamic changes in the field of sericulture research and development have been brought during the last three decades, mainly due to introduction of better mulberry varieties and silkworm races and improved cultural and rearing practices. Though extension network has been established at national and state level to educate sericulturists, 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 Buldhana district of Maharashtra state. The sericulturists were aware about few mulberry varieties viz., M-5, S-1635 and V1. However, only 24 per cent farmers have planted high yielding mulberry variety V1. 18 per cent of farmers were fully aware about latest recommendation on plantation spacing; however, partial adoption is 88 per cent in case of plant spacing. High knowledge level of 16 and 22 per cent about pruning schedule and fertilizer package was recorded but adoption was partial for fertilizers application (86%) and pruning schedule (96%). Monetary consideration was one of the main reasons for partial adoption of practice of chemical fertilizer application. No separate Chawki garden was maintained by farmers; however, they do their own chawki rearing. Knowledge level about rearing appliances and need for separate rearing house is high. However, adoption level was partial for rearing house in 64 per cent cases and 94 per cent in case of rearing appliances. Shortage of fund for construction of rearing house / rearing appliances was cited as the main reason. It was found that on an average sericulturists brushed 235 dfls/acre/year, which is far less compared to national average. Partial adoption level 90 per cent for maintenance of proper spacing during rearing was recorded. Cocoon productivity per 100 dfls remains 32.2 kg which is also far less compared to national average. The reasons to low productivity can be attributed mainly due to non-adoption of improved practices. Results revealed that awareness as well as adoption level was low for crucial sericultural practices. It calls for the extension agency to educate the farmers, by way of home visits, field days, discussions, training and demonstrations about improved methods of mulberry cultivation and silkworm rearing, thereby enabling farmers to adopt new technology to increase mulberry leaf production, cocoon productivity and monetary return.

KEY WORDS :

Sericulture, Knowledge level, Production level, Technology, Adoption

How to cite this article : Kushwaha, R.V. and Singhvi, N.R. (2013). Extent of adoption of improved sericultural practices by the sericulturists of Buldhana district of Maharashtra. *Agric. Update*, 8(3): 469-471.

BACKGROUND AND OBJECTIVES

Sericulture, the production of silk, is an important industry in the economy of our country. It provides employment to approximately 7.63 million persons. India occupies the second place in the production of silk and also consumes the largest quantity of raw silk (Kasi Reddy *et al.*, 2008). There exists a wide gap between production

of silk in India and its consumption. This offers a good scope for increasing sericulture production both horizontally and vertically.

Though sericulture has been practiced since several decades, the dynamic changes in the field of sericulture research and development have been brought during the last three decades. Yet the potential of sericulture remains unexplored as certain proportion of the peers

Author for correspondence :

N.R. SINGHVI
Regional Tasar Research
Station, BHANDARA
(M.S.) INDIA

See end of the article for
authors' affiliations

still remained with the existing conventional practices for production (Jayaram and Indumati, 2010). A wide gap exists between the recommended technology and adoption by the farmers (Dolli *et al.*, 1993). To fill this gap, suitable intervention needs to be made. To plan for suitable intervention strategy, it is necessary to understand farmer's knowledge level and adoption level for improved technologies, so also existing mulberry leaf yield and silk cocoon production level. It is, therefore, present study was carried out to know the extent of adoption of improved practices at Farmer's level.

RESOURCES AND METHODS

The study was conducted in Buldhana district of Maharashtra state. The total sample size constituted of 50 farmers. The different components of new technology evolved considered for present study were as per the recommended package of practices (Qadri *et al.*, 2010). The data were collected by personal interview method. The respondents were categorized into full adopters, partial adopters and non-adopters. The term partial adoption was operationally defined as the deviation in the adoption from the recommended practice.

OBSERVATIONS AND ANALYSIS

The data show that sericulturists were aware about few

mulberry varieties viz, M-5, S-1635 and V1. However, only 24 per cent farmers have planted high yielding mulberry variety V1. 18 per cent of farmers were fully aware about latest recommendation on plantation spacing; however partial adoption is 88 per cent in case of plant spacing. High knowledge level of 16 and 22 per cent about pruning schedule and fertilizer package was recorded but adoption was partial for fertilizers application (86%) and pruning schedule (96%). In case of fertilizers 10 per cent farmers were not applying any fertilizer in their mulberry garden. Results of present investigation regarding FYM and chemical fertilizer use find support from earlier reports of Kumar (1986), Srinivasalu (1991), Dolli *et al.* (1993) and Singhvi *et al.* (1993, 1996). Monetary consideration was one of the main reasons for partial adoption of practice of chemical fertilizer application. This finds support from work of Singhvi *et al.* (1996).

No separate Chawki garden was maintained by farmers; however, they do their own chawki rearing. Knowledge level about rearing appliances and need for separate rearing house is high. However, adoption level was partial for rearing house in 64 per cent cases and 94 per cent in case of rearing appliances. Shortage of fund for construction of rearing house / rearing appliances was cited as the main reason. Of the various reasons reported by several workers for non-adoption of recommended practices, the most important one is the economic one (Puttaswamy *et al.*, 1978; Rajashekaraiah,

Table 1: Knowledge level and adoption of sericultural technologies by farmers of Buldhana region of Maharashtra. (n=50)

Sr. No.	Technology component	Knowledge level (%)		Adoption level (%)		
		High	Partial	full adopters	partial adopters	non-adopters
1.	V1 mulberry variety and mulberry varieties suitable for area	100	0	24	50	26
2.	Paired row system/ wider spacing	18	82	12	88	26
3.	Organic matter/ chemical fertilizer application	16	84	4	86	10
4.	Pruning schedule	22	78	4	96	0
5.	Mulberry pest control	22	78	4	58	38
6.	Separate Chawki garden	0	100	0	0	100
7.	Separate rearing house	46	54	36	64	0
8.	Rearing appliances	20	80	6	94	0
9.	Disinfection of rearing appliances and rearing house	28	72	4	70	26
10.	Bivoltine rearing	6	94	0	24*	76
11.	Shoot rearing method	52	48	28	72	0
12.	Feeding and rearing bed spacing	12	84	10	90	0
13.	Use of bed disinfectants	4	96	4	96	0
14.	Mounting method	8	92	0	100	0
15.	Time of cocoon harvesting and deflossing	8	92	0	100	0

*Carry out bivoltine as well as multivoltine rearing

Table 2: Benchmark data of the farmers of Buldhana cluster of Maharashtra (n=50)

Total mulberry acreage of 50 farmers	Mulberry leaf yield/ acre /yr (MT)	Silkworm race	DFL consumption/ acre/yr (No.)	Yield/100 dfls (kg)	Returns/100 dfls (Rs.)
105	23.5	Multivoltine hybrids	235	32.2	12765

1979; Singhvi *et al.*, 1993). It was found that on average sericulturists brushed 235 dfls/acre/year, which is far less compared to national average. Partial adoption level 90 per cent for maintenance of proper spacing during rearing was recorded. Cocoon productivity per 100 dfls remains 32.2 kg which is also far less compared to national average. The reasons to low productivity can be attributed mainly due to non-adoption of improved practices. This finds support from work of Dolli *et al.* (1993) and Singhvi *et al.* (1993, 1996).

From findings it is evident that for some of crucial sericultural practices, awareness as well as adoption level was low. It calls for the extension agency to educate the farmers, by way of home visits, field days, discussions, training and demonstrations (Singhvi *et al.*, 1993), about improved methods of mulberry cultivation and silkworm rearing, thereby enabling farmers to adopt new technology to increase mulberry leaf production, cocoon productivity and monetary return.

Authors' affiliations :

R.V. KUSHWAHA, Research Extension Centre, Central Silk Board, C/o Govt. Silk Farm, AMRAVATI (M.S.) INDIA

REFERENCES

- Dolli, S.S., Kalappa, H.K., Subramaniam, R.K., Chikkanna, Singhvi, N.R., Sen, A.K., Iyengar, M.N.S. and Datta, R.K.** (1993). Extent of adoption of improved sericulture practices by the sericulturists. *Indian Silk*, **31** (10): 35-40.
- Jayaram, H. and Indumati, S.** (2010). Awareness, attitude and adoption of technological practices in sericulture- A discriminant function analysis. *Indian J. Sericulture*, **49**(1): 64-69.
- Kasi Reddy, B., Srinivasa Rao, T.V., Reddy, D.C. and Krishna Rao, J.V.** (2008). Impact of integrated sericultural technologies on mulberry leaf yield and cocoon yield at Farmers' level. *Indian J. Sericulture*, **47**(2): 155-160.
- Kumar, Prakash** (1986). Study on adoption of improved sericultural practices and labour utilization among bit, small and tenant farmers of Ramnagara taluk, Bangalore district. M.Sc (Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Puttaswamy, T., Venugopal, Venkata Reddy, S. Narayan Swamy, B.K., Doddahanumaiah and Rajanna, H.P.** (1978). Bengaluru Mattu Kolar Jillegalalli Reshme Vyavasaya (ondu Sameekshe in Kannada), Extension wing. University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Qadri, S.M.H., Sharma, S.D., Sharma, D.D. and Singh, G.B.** (2010). Sahatuti reshama utpadan: Ek parianukul pratispardhatmak gramini udhyam (in Hindi). Central Sericultural Research and Training Institute, Mysore (KARNATAKA) INDIA.
- Rajashekaraiah** (1979). A study on the knowledge and adoption of selected recommended practices of silkworm rearing by small and big farmers of Kanakpura Taluk, Bangalore district. M.Sc.(Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Srinivasalu, V.M.** (1991). Socio-economic conditions of sericulturists in relation to adoption of new sericultural technologies in Karnataka State. STS Dissertation, ICTRETS, Mysore (KARNATAKA) INDIA.
- Singhvi, N.R., Chakrabarti, S., Singhal, B.K., Thippeswamy, T. and Datta, R.K.** (1993). Extent of adoption of recommended practices by mulberry growers. *J. Seric.*, **4**(1): 33-34.
- Singhvi, N.R., Sethu Rao, M.K., Madhav Rao, Y.R., Iyengar, M.N.S. and Datta, R.K.** (1994). Knowledge level and adoption of new sericulture technology by farmers in Hunsur Taluk, Mysore district, Karnataka state- An evaluation. *Indian J. Seric.*, **33** (1): 48-55.
- Singhvi, N.R., Sethu Rao, M.K., Madhav Rao, Y.R., Iyengar, M.N.S. and Datta, R.K.** (1996). Extent of adoption of improved sericultural practices by sericulturists of Hunsur region of Mysore- An analysis. *Indian Silk*, **31** (11): 17-19.


 ★★★★★ of Excellence ★★★★★