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Jakkawad Sunildutt Rajeshwar
Associate Professor, College of
Agriculture, VNMKV, Parbhani,
Maharashtra, India

RD Ahire
Head, Department of Extension
Education, VNMKV, Parbhani,
Maharashtra, India

NR Patange
Associate Professor, NARP,
Aurangabad, Maharashtra, India

Sericulturist's knowledge regarding improved practices of sericulture

Jakkawad Sunildutt Rajeshwar, RD Ahire and NR Patange

Abstract

The present study was undertaken in the purposively selected Aurangabad district of Marathwada region as the area under Sericulture is increasing since last few years. Two villages Kekat Jalgaon and Vihamandava from Paithan and Dongargaon and Pimpalgaon from Phulambri taluka were selected purposively for the study. Twenty sericulturists were selected randomly from each of the village thus making a sample size of eighty respondents for the present study. The respondents were interviewed with the help of structured schedule prepared for the purpose. It is concluded that the respondents were in young age up to 35 years with high education status, marginal land holding up to 1 hectare and medium area under mulberry cultivation 0.31 to 0.40 hectare with three years of experience in cultivation and medium annual income of Rs 41501 to 161000/- with low social participation and medium use of information sources and high extension contact. Majority of the sericulturists were having sound knowledge about mulberry cultivation practices like plantation (83.75 per cent), intercultural operations (90.00 per cent) and plant protection (60.00 per cent). rearing larvae in terms of proper picking of leaves and their storage (82.50 per cent), rearing house (62.50 per cent) and actual rearing of larvae (66.25 per cent).

Keywords: Sericulturists, knowledge, improved practices, sericulture

Introduction

Sericulture occupies a unique position in Indian economy and assumed more importance in alleviating the problems of rural people. It is highly suitable in the context of diversification of farm enterprises and integration of farming system with other enterprises and has the capacity to generate attractive income. Mulberry sericulture is a land-based eco-friendly economic activity which is labor intensive and provides a good return to the farmers. It plays a very important role in the socio-economic upliftment of rural population. In recent years many new and improved technologies have been developed which bring sericulture industry to a new level of cocoon and raw silk production. It can provide full-time employment to entire family offering high income and a better standard of living. The practice of sericulture consists of two major activities viz., Mulberry cultivation (Moriculture) and Silkworm rearing (Sericulture). In the last three decades, many improved and new technologies have also been developed in order to overcome the constraints and increase the production of cocoon at farmers' level.

Development of sericulture requires both vertical as well as horizontal growth to achieve the future silk demand. Presently, the productivity of raw silk at the national level is estimated at only 98.11 Kg per hectare. So, there is sufficient scope to increase the productivity. The best and cognizable alternative as such is to adopt new technologies for increasing produce/cocoon production at farmer's level. The desired productivity depends on the acceptance of new technologies and also the extent to which farmers adopt these technologies. The adoption of a new technology is not a simple and one-time process but a number of social, economic, psychological, physical and biological factors influence the process to a considerable extent. Improved technologies even when sound by scientific standards are of limited value if they are not adopted due to their inappropriateness to suit the agro-climatic and socio-economic condition in which the farmers operate. The stakeholders who do not adopt such technologies would generally lose higher income in sericulture and as such fetch low dividends.

Hence, an attempt has been made in this paper to assess the extent of influence of socio-economic factors on knowledge and technology adoption of improved practices among the mulberry sericulture farmers in order to identify the constraints in adoption of recommended practices and to draw suggestions for improving the rate of adoption at the farmers' level.

Objectives

1. To know the personal attributes of sericulturists
2. To study the knowledge of sericulturists about recommended sericultural practices

Correspondence

Jakkawad Sunildutt Rajeshwar
Associate Professor, College of
Agriculture, VNMKV, Parbhani,
Maharashtra, India

Methodology

The present study was undertaken in the purposively selected Aurangabad district of Marathwada region as the area under Sericulture is increasing since last few years. Two villages Kekat Jalgaon and Vihamandava from Paithan and Dongargaon and Pimpalgaon from Phulambri taluka were selected purposively for the study. Twenty sericulturists were selected randomly from each of the village, thus making a sample size of eighty respondents for the present study (Sreenivasa *et al.*, 2013) [5]. The respondents were interviewed with the help of structured schedule prepared for the purpose. One score was given for each correctly used and a score zero for wrong use or no use of it by the respondents. The data were analysed with the help of frequency, percentage mean and standard deviation for interpretation of the findings.

Findings

The findings of the study are given below

1. Socio-personal characteristics of the Sericulturists

It is evident from the data in Table 1 that majority (66.25 per cent) of the respondents were young in age up to 35 years, followed by 26.25 per cent of sericulturists were in middle age group of 36 to 55 years and only 7.50 per cent were in the old age group of above 56 years.

The data further indicated that 45.00 per cent of respondents were educated up to higher secondary level, followed by 23.75 per cent up to college level. Up to 16.25 per cent respondents were educated up to secondary school and only 8.75 per cent and 6.25 per cent of respondents were illiterate and were educated up to primary level of education, respectively.

It was observed from Table-1 that 52.50 per cent of the respondents possessed marginal land holding (up to 1 hectare), followed by 28.75 per cent with small (1.1 to 2 hectare) land holding. Only 13.75 per cent and 5.00 per cent of respondents possessed medium and semi-medium land holding, respectively and no respondent had big land holding. The data about area under mulberry revealed that 55.00 per cent of respondents were having medium area under mulberry cultivation *i.e.* 0.31 to 0.4 hectare and 30.00 per cent of the respondents were having big area under mulberry *i.e.* 0.41 hectare and above and only 15.00 per cent of the respondents were having small area under mulberry *i.e.* up to 0.3 hectare. Further it is observed that 56.25 per cent of respondents were in medium category (experience of 1.1 to 3 years) and 27.50 per cent of the respondents were in high experience category (experience above 3 years) and 16.25 per cent of the respondents were in low experience category (experience up to 1 year).

The data with regards to annual income revealed that more than half of sericulturists (65.00 per cent) were in medium annual income of (Rs. 41501 to 161000), whereas 21.25 per cent and 13.75 per cent of the sericulturists were found in high (above Rs. 161001) and low (up to Rs. 41500) annual income category, respectively.

With regards to social participation majority of the sericulturists were under low social participation (52.50%), followed by 31.25 per cent and 16.25 per cent of the sericulturists having medium and high social participation.

With regards to information sources, majority (58.75%) were under medium use of information sources followed by low 27.50 per cent and 13.75 per cent had used high information sources, respectively.

The data presented in Table- 1 indicates that 48.75 per cent of the sericulturists were having high extension contact followed by medium level (27.50 per cent). Only 23.75 per cent of the respondents were having low extension contact. The results of the study are in consistency with (Choudhary BN 2017) [1].

It is concluded that majority of the sericulturists were in the young age up to 35 years. The probable reason might be that young people tend to be more receptive, enthusiastic, has more working efficiency, high risk bearing capacity and prone to adopt innovations on their farm. Therefore, their more percentage among sericulturists was not surprising. The level of education of the respondents was found to be high. The probable reason may be better awareness about the importance of education and educational facilities available in villages. More than fifty per cent sericulturists possessed marginal land holding *i.e.* less than 1 hectare. The probable reason may be due to fragmentation of land and fifty per cent sericulturists had medium area under mulberry cultivation *i.e.* up to 0.31 to 0.4 hectare. Majority of the sericulturists had medium category experience of 1.1 to 3 years and majority of the sericulturists fell under medium income group *i.e.* in between Rs. 41501 to Rs. 161000 per annum. Thus, based on the data it is concluded that majority of the sericulturists had low social participation with medium information sources, high extension contacts with the extension personnel *i.e.* with sericulture department/ extension personnel might be because of their interest to gather recent information.

2. Knowledge of sericulturists about recommended sericultural practices

The data in Table 2 revealed that majority (83.75 per cent) of the respondents had high knowledge about plantation of mulberry followed by medium knowledge possessed by (16.25 per cent) sericulturists and no respondent was found in low knowledge category.

Regarding fertilizer use it was observed that majority 52.50 per cent of the respondents had medium knowledge followed by 33.75 per cent having high knowledge, whereas, 13.75 per cent respondents were in the category of low knowledge about proper use of fertilizer.

With respect to intercultural operations, most of the respondents *i.e.* 90.00 per cent had high knowledge, whereas 7.50 per cent and 2.50 per cent had medium and low knowledge.

With regards to plant protection 60.00 per cent of the respondents possessed high knowledge, 36.25 per cent had medium knowledge and 3.75 per cent had low knowledge.

So far picking of leaf and storing was concerned, majority of the respondents (82.50 per cent) had high knowledge, whereas, 12.50 per cent and 5.00 per cent had medium and low knowledge, respectively.

It is evident from table 2 that majority of the respondents *i.e.* 62.50 per cent had high knowledge about type of suitable rearing house followed by 30.00 per cent and 7.50 per cent respondents having medium and low knowledge of rearing house, respectively.

Regarding silk worm rearing, it was observed that 66.25 per cent had high knowledge followed by 26.25 per cent in medium category of knowledge and 6.25 per cent were in low knowledge category.

With respect to disease control 38.75 per cent were in the medium knowledge category followed by 37.50 per cent in low knowledge and 23.75 per cent possessing high knowledge about disease control. Similar findings have been reported by Hadimani *et al.* (2019) [3] Srinivasa *et al.* (2013) [5].

It is concluded that majority and satisfactory number of respondents possessed high knowledge about mulberry cultivation practices like plantation (83.75 per cent), intercultural operations (90.00 per cent) and plant protection (60.00 per cent). However, most of the respondents (52.50 per cent) were found to have medium knowledge of fertilizer use. Similarly, highest number of respondents possessed high knowledge of rearing larvae in terms of proper picking of leaves and their storage (82.50 per cent), rearing house (62.50 per cent) and actual rearing of larvae (66.25 per cent). But, majority of the respondents (38.75 per cent) and (37.50 per cent) had medium to low knowledge and 23.75 per cent respondents were found in high knowledge category regarding control of disease on larvae. The data in general shows that there was constant increase of number of respondents from low to high knowledge category in both the mulberry cultivation and silkworm rearing except in two items namely use of fertilizers for mulberry plantation and control of disease of larvae. Thus in general the knowledge of sericulturists was satisfactory.

3. Distribution of respondents according to overall level of Knowledge

Table 3 shows that majority of the respondents 60.00 per cent had high knowledge followed by 21.25 per cent under medium knowledge and only 18.75 per cent of the respondents had low knowledge. These findings are in contradictory with those reported by Pradeep Kumar *et al.* (2012) ^[4] and Swami PS *et al.* (2019) ^[6].

Conclusions

1. It is concluded that the respondents were in young age with high education status, marginal land holding and medium area under mulberry cultivation with three years of experience in sericulture cultivation and medium annual income with low social participation and medium use of information sources and high extension contact.
2. Majority of the sericulturists were having sound knowledge of sericulture practices.

Table 1: Distribution of respondents according to socio-personal characteristics

Sr. No	Characteristics	Sericulturists n = 80	
		Frequency	Per cent
I	Age		
1	Young (up to 35)	53	66.25
2	Middle (36 to 55)	21	26.25
3	Old (56 & above)	6	7.50
II	Education		
1	Illiterate	7	8.75
2	Primary	5	6.25
3	Secondary	13	16.25
4	Higher secondary	36	45.00
5	College level	19	23.75
III	Land holding		
1	Marginal (up to 1ha)	42	52.50
2	Small (1.1 to 2 ha)	23	28.75
3	Medium (2.1 to 4 ha)	11	13.75
4	Semi medium (4.1 to 10 ha)	4	5.00
5	Big (above 10 ha)	0	0.00
IV	Area under Mulberry		
1	Small (up to 0.3 ha)	12	15.00
2	Medium (0.31 to 0.4 ha)	44	55.00
3	Big (0.4 and above)	24	30.00
V	Experience in sericulture		
1	Low (up to 1 year)	13	16.25
2	Medium (1.1 to 3 years)	45	56.25
3	High (Above 3 years)	22	27.50
VI	Annual Income from sericulture		
1	Low (up to Rs 41500)	11	13.75
2	Medium (Rs 41501 to Rs 161000)	52	65.00
3	High (Rs 161001 and above)	17	21.25
VII	Social participation		
1	Low (up to 3)	42	52.50
2	Medium (4 to 8)	25	31.25
3	High (9 and above)	13	16.25
VIII	Sources of information		
1	Low (up to 8)	22	27.50
2	Medium (9 to 12)	47	58.75
3	High (12 and above)	11	13.75
IX	Extension contact		
1	Low (up to 4)	19	23.75
2	Medium (5 to 8)	22	27.50
3	High (9 and above)	39	48.75

Table 2: Distribution of respondents according to knowledge level of sericultural practices

Sr. No	Practices	Low		Medium		High		Total	
		No	Per cent	No	Per cent	No	Per cent	No	Per cent
1	Plantation	0	0.00	13	16.25	67	83.75	80	100.00
2	Fertilizer use	11	13.75	42	52.50	27	33.75	80	100.00
3	Intercultural operation	2	2.50	6	7.50	72	90.00	80	100.00
4	Plant protection	3	3.75	29	36.25	48	60.00	80	100.00
5	Picking of leaf and storing	4	5.00	10	12.50	66	82.50	80	100.00
6	Rearing house	6	7.50	24	30.00	50	62.50	80	100.00
7	Rearing larvae (silk worm)	5	6.25	21	26.25	53	66.25	80	100.00
8	Disease control	30	37.50	31	38.75	19	23.75	80	100.00

Table 3: Distribution of respondents according to their overall level of knowledge

Sr. No	Category	No	Per cent
1	Low (up to 22.25)	15	18.75
2	Medium (22.26 to 33.63)	17	21.25
3	High (33.64 & above)	48	60.00

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