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Constraints faced by silkworm rearing farmers during tasar silk cultivation in Bastar district of Chhattisgarh

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Abstract

In tasar silk cultivation, sericulture farmers faced many problems during host plant cultivation and silkworm rearing. Therefore, the present study was carried out in Bastar district of Chhattisgarh to enumerate the constraints faced by sericulture farmers and also tried to pool out the possible suggestions as orated by respondents themselves. A total of 214 sericulture farmers were selected randomly as respondents. The data collection was done by the use of interview schedule through personal interview and appropriate statistical measures like frequency, percentage were applied to analyze the data. The study listed out the constraints in different areas such as host plant cultivation, silkworm rearing and marketing, enumerated by sericulture farmers like; lack of knowledge on planting method, rearers were not getting the eggs/worms at time, adequate quality & numbers and uncertainty of remunerative returns is major constraints faced by sericulture farmers. The main suggestions given by them to improving their managerial efficiency were “government should announce minimum support price for cocoons” followed by training should be provided on processing of cocoons”. Therefore, the concerned department and organizations need to pay attention to their problems in order to solve these and make the sericulture farmers more efficient.

Keywords: Tasar silk cultivation, constraints, suggestions, managerial efficiency, cocoons

Introduction

The word sericulture is derived from the Greek word “sericos” meaning “silk” and culture meaning “rearing”. Sericulture is the art and science of growing silkworm, food plants, rearing silkworms and production of silk, it is basically an agro-industry, divided into farm and industry sector. Sericulture is a labour oriented, low investment, agrarian, small scale industry which suits both marginal and small land holders because of its high returns, short gestation period and it creates opportunity for women employment.

Sericulture, the production of silk, is an important industry in the economy of India. India is the second major and largest raw silk producer and also consumes the largest quantity of raw silk in the world, as it contributes about 18% to the world total raw silk production. Total raw silk production in India was 35,468 MT (Annual report, CSB, 2018-2019). Chhattisgarh is the second highest tasar producing state, after Jharkhand, with 254 MT of raw silk production (9% of the total national output). In Chhattisgarh, Sericulture is being practiced by the tribals of Baster, Raigarh, Bilaspur and Surguja Districts. Sericulture activities covered 17,709 hectares. The total number of Tasar center is 285 (5079 hectares), Tasar plantation under CGSP is 155 sites (4046 hectares), Tasar rearing in forest was in 7619 hectares.

Material and Methods

The collected multiple responses with respect to constraints and suggestions were tabulated and descriptive statistical measures like frequency and percentage were taken to analyze the data. Percentage was calculated with the following formula:

$$\text{Percentage} = \frac{\text{Number of response obtained}}{\text{total number of respondents}} \times 100$$

Result and Discussions

Problem faced by sericulture farmers during tasar silk cultivation

From Table 1 it is revealed that the main constraints in tasar silk cultivation are classified into constraints in host plant cultivation, constraints in silkworm rearing, constraints in marketing and other constraints.

As regard to constraints in host plant cultivation, 79.44 per cent of respondents had lack of knowledge on pest and disease, lack of knowledge on pest and disease management (71.96%), lack of knowledge on planting method (58.41%), lack of knowledge on timely application of manure and fertilizer (49.07%) and lack of knowledge on training and pruning of host plants (43.46%) as the main constraints.

As regard to the constraints in silkworm rearing, lack of technical knowledge and guidance on processing of cocoons (100%), difficult to control Uzi fly (99.07%), lack of knowledge on silkworm maturity (95.79%), lack of knowledge on identification of silkworm pests and disease (92.52%), lack of knowledge on training and pruning of host plants (90.19%), lack of knowledge on disinfection of rearing house (57.48%), rearers were not getting the eggs/worms at

time, adequate quality & numbers (51.40%) and unavailability of insecticide and fungicide at proper time (39.25%) were important constraints.

As regard to the constraints in marketing, uncertainty of remunerative returns (92.06%), low price for cocoon (88.79%) and discomfort in selling cocoon according to quality (80.37%).

In case of other constraints, majority of the respondents 84.11 per cent reported about the lack of insurance facilities against various accident during silkworm rearing like; loss of silkworms and cocoon due to predator/ pest, disease etc. followed by lack of funds, subsidies by govt. agencies (82.24%), insufficient training facilities (67.29%) and adverse climatic condition (41.59%).

Table 1: Distribution of silkworm rearing farmers according to the problem faced by them during Tasar Silk Cultivation

(N = 214)				
S.N.	Constraints*	f	%	Rank
A. Host plant cultivation				
	Lack of knowledge on pest and disease	170	79.44	I
	Lack of knowledge on pest and disease management	154	71.96	II
	Lack of knowledge on planting method	125	58.41	III
	Lack of knowledge on timely application of manure and fertilizer	105	49.07	IV
	Lack of knowledge on training and pruning of host plants	93	43.46	V
B. Silkworm rearing				
	Lack of technical knowledge and guidance on processing of cocoons	214	100	I
	Difficult to control Uzi fly	212	99.07	II
	Lack of knowledge on silkworm maturity	205	95.79	III
	Lack of knowledge on identification of silkworm pests and disease	198	92.52	IV
	Lack of knowledge on grading of cocoons	193	90.19	V
	Lack of knowledge on disinfection of rearing house	123	57.48	VI
	Rearers were not getting the eggs/worms at time, adequate quality & numbers	110	51.40	VII
	Unavailability of insecticide and fungicide at proper time	84	39.25	VIII
C. Marketing constraints				
	Uncertainty of remunerative returns	197	92.06	I
	Low price for cocoon	190	88.79	II
	Discomfort in selling cocoon according to quality	172	80.37	III
D. Other constraints				
	Lack of insurance facilities against various accident during silkworm rearing like; loss of silkworms and cocoon due to predator/ pest, disease etc.	180	84.11	I
	Lack of funds, subsidies by govt. agencies	176	82.24	II
	Insufficient training facilities	144	67.29	III
	Adverse climatic condition	89	41.59	IV

Suggestions to overcoming the problems faced by sericulture farmers during sericulture production

The sericulture farmers have come up with the following suggestions for their problems which were ranked according to their magnitude based on frequencies and percentages and were ranked as given in Table 2. The suggestions opined were (91.12%) government should announce minimum support price for cocoons, followed by training should be provided on processing of cocoons (88.79%), use the appropriate measure to control the attack of Uzi fly pest (83.18%), training and

technical programmes should be organized to provide knowledge regarding scientific chawki rearing (77.10%), awareness should be created regarding silkworm disease control methods (64.95%), pesticides and fungicides should be recommended when insect and diseases occur in host plant (53.74%), disease free laying's should be supplied in time with sufficient quantity (50.00%), payment should be made timely (47.66%), crop insurance should be provided (40.19%), regular extension services should be provided (33.18%).

Table 2: Distribution of silkworm rearing farmers according to the suggestions provided by them to overcome the problems

(N = 214)				
S.N.	Suggestions *	f	%	Rank
1.	Government should announce minimum support price for cocoons	195	91.12	I
2.	Training should be provided on processing of cocoons	190	88.79	II
3.	Use the appropriate measure to control the attack of Uzi fly pest	178	83.18	III
4.	Training and technical programmes should be organized to provide knowledge regarding scientific chawki rearing	165	77.10	IV
5.	Awareness should be created regarding silkworm disease control methods	139	64.95	V
6.	Pesticides and fungicides should be recommended when insect and diseases occur in host plant	115	53.74	VI
7.	Disease free laying's should be supplied in time with sufficient quantity	107	50.00	VII

8.	Payment should be made timely	102	47.66	VIII
9.	Crop insurance should be provided	86	40.19	IX
10.	Regular extension services should be provided	71	33.18	X

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Constraints in Sericulture Cocoon Production in Mandla District of Madhya Pradesh. M.Sc. Thesis. Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, 2012.

Conclusion

The findings of the study reveal that problems facing by the sericulture farmers in tasar silk cultivation are classified into host plant cultivation related, silkworm rearing related, marketing related and other problems.

'Lack of knowledge on pest and disease' is the major problem in the area of host plant cultivation, in silkworm rearing area 'lack of technical knowledge and guidance on processing of cocoons', in marketing area 'uncertainty of remunerative returns' and 'lack of insurance facilities against various accident during silkworm rearing like; loss of silkworms and cocoon due to predator/ pest, disease etc.' is other major problems, respectively.

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