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Knowledge Level of Silkworm Rearers of Jammu Division of Jammu and Kashmir State

Lyaqet Ali[1], S. K .Kher[2], P. S. Slathia[3], R.K.Bali[4], Manish Kumar[5] and P. Bakshi[6]

ABSTRACT

The present study was carried out to know the knowledge level of silkworm rearers of Jammu division. The study revealed that from three districts 60.00 per cent of respondents had medium knowledge followed by 32.92 per cent respondents had low knowledge and 15.36 per cent respondents had high knowledge respectively. The overall mean knowledge score was 15.36 (+ 2.29). Majority of respondents (93.33%) had knowledge of time of pruning, (82.91%) of respondents had knowledge of insects of mulberry plants,(90.41%) and (83.75%) had knowledge of methods of disinfecting the silkworm body and rearing seat and disinfectants used for rearing room and appliances, (95.41%), (82.91%) and (78.75%) had knowledge of control of insect/pest of silkworm, management of diseases, insect pest of silkworm and important diseases of silkworms, (88.75%) and (83.26%) had knowledge of late age silkworm rearing techniques and low cost devices for cocoon stifling, low percentage of respondents had knowledge of length and thickness of mulberry cuttings for propagation and only (27.08%) respondents had knowledge of improved variety of mulberry, Less percentage of respondents had knowledge of method of silkworm incubation, temperature cum humidity requirement for young as well as late age rearing.

Keywords: Knowledge level, silkworm rearers

INTRODUCTION

In India sericulture is mostly a village based industry providing employment opportunities to a large section of the population and is considered as a subsidiary occupation. Technological innovations have made it possible to take up this venture and to generate additional income. India is the second largest producer of the silk in the world after China and produces all the known varieties of the silk, *viz* Mulberry, Eri, Muga and Tasar Mulberry silk alone contributes more than 80 per cent of the country's silk production. In India, because of favourable climatic conditions, mulberry is cultivated mainly in five states, *viz* Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal and Jammu and Kashmir. These five states collectively account for 97 per cent of the total area under mulberry cultivation and 95 per cent of raw silk production in the country.

In Jammu and Kashmir, sericulture industry, from rearing of worms to reeling of cocoons and weaving of silk is centuries old vocation. Agro based part of the industry is widely distributed where as industrial portion is restricted in Kashmir valley only. Raw silk produced is worldwide known as Kashmir silk being superior bivoltine type. Although this trade is centuries old in this state but was introduced in Jammu division only about 100 years back. (Koul, 2009).

Sericulture is a subsidiary occupation for about 25000 rural families in the state. Most of these families belong to economically backward section of the society. About 850 MTs of cocoons are produced annually in the state generating an income of about ₹ 1100 lac for these silkworm rearers coupled with annual employment generation to the tune of 6 lac man days (Department of Sericulture report, 2010-11). The nurseries of the sericulture department serve as leaf reservoirs for the landless and marginal farmers, About 60 per cent local annual silkworm seed demand is met out from the sericulture department. In Jammu region all the districts have silk worm rearers The total number of silkworm rearers in Jammu region is about 17167 and cocoon production of about 5.714 (lac. kgs). There have been no empirical studies on the role of development department in promoting the sericulture enterprise in the Jammu

[1] SMS, KVK, Leh, SKUAST-K, [2&3] Professor & Associate Professor, Division of Agricultural Extension Education, SKUAST-Jammu
[4] Associate Prof. Division of Sericulture, SKUAST-Jammu [5] Associate Prof. Division of Agril. Statistics & Economics, SKUAST-Jammu
[6] Associate Prof. Division of Fruit Science, SKUAST-Jammu

region. The study was conducted to explore knowledge level of silkworm rearers in J& K.

METHODOLOGY

The present study was conducted in Jammu division of Jammu and Kashmir State. The Jammu division comprises of ten districts. The silk worm rearers are found in all these districts. On the basis of number of silkworm rearers in each districts, the districts were categorized into three categories with i) Less than 500 rearers ii) 500-1000 rearers iii) Above 1000 rearers. From each of these categories, one district having highest number of silkworm rearers was selected. In this way, three districts namely Poonch, Reasi and Rajouri were selected from these categories for the purpose of study. Based on the number of silkworm rearers in a block, two blocks having maximum silk worm rearers from each district was selected purposively. Thus a total of six blocks was selected for the purpose of study. From each selected block four villages having maximum number of silkworm rearers were selected purposively. Thus, twenty four villages were selected for the purpose of study. The descriptive cum diagnostic research design was employed for conducting the study. The respondents were selected by proportionate random sampling with a sample size of 240 respondents. Data were collected from the selected respondents with the help of semi- structured interview schedule by using the personal interview method. The respondents were interviewed either at their home, at community places or at their farms and their responses were recorded on the spot. The collected data were analyzed by using computer based SPSS programme to draw inferences.

RESULTS AND DISCUSSION:

Knowledge level of silkworm rearers about sericulture practices

In the present research work respondents were categorized into three levels of knowledge namely low (9-14), medium (14-18) and high (18-23) by employing Singh's cube root method (1975). In Rajouri district 60.00 per cent respondents had medium level of knowledge followed by 34.70 per cent respondents who had low level knowledge and only 5.29 per cent respondents had high knowledge. The mean knowledge score was 15.28 (2.21). In Poonch district 63.89 per cent respondents had medium knowledge followed by 25.00 per cent respondents had low knowledge and only 15.63 per cent respondents had high level. The mean knowledge score was 15.63. In Reasi district 55.88 per cent respondents had medium knowledge followed by 32.25 per cent respondents had low knowledge and 18.47 per cent respondents had high knowledge. The mean knowledge score was 18.47. Overall in all the three districts 60.00 per cent respondents had medium knowledge followed by 32.92 per cent respondents had low knowledge and 15.36 per cent respondents had high knowledge respectively. The overall mean knowledge score was 15.36(+ 2.29).

Table 1: Knowledge level of silkworm rearers about sericulture practices

Knowledge level	Rajouri (n=170)	Poonch (n=36)	Reasi (n=34)	Overall (n=240)
Low (9-14)	34.70 (59)	25.00 (9)	32.25 (11)	32.92 (79)
Medium (14-18)	60.00 (102)	63.89 (23)	55.88 (19)	60.00 (144)
High (18-23)	5.29 (9)	11.11 (4)	11.76 (4)	7.08 (17)
Mean Knowledge score	15.28	15.63	18.47	15.36
S.D.	± 2.21	± 1.83	± 3.02	± 2.29

* Figures in the parenthesis are numbers

Knowledge possessed by silkworm rearers about mulberry plantation and its management

The data presented in the table 2 reveals that 93.33 per cent respondents were having knowledge of time of pruning mulberry trees followed by 82.91 per cent respondents who know about important insect of mulberry plants, 74.16 per cent respondents had knowledge about best method of propagation and 72.50 percent of respondents had knowledge of type of mulberry plants bearing more leaves. The table further depicts that 49.16 per cent respondents had knowledge of length of mulberry cuttings for propagation, 41.24 per cent respondents were having knowledge of thickness of cuttings of mulberry for propagation. Only 27.08 per cent respondents had knowledge about improved variety of mulberry. The study of Qadri (2010) related to improved variety of mulberry, fertilizer and plant protection measures support the present study and Krishnamoorthy (2012) also support the present study.

Table: 2: Knowledge possessed by silkworm rearers about mulberry plantation and its management

Practices	District wise percentage of respondents			Overall Percentage (n=240)
	Rajouri (n=170)	Poonch (n=36)	Reasi (n=34)	
Improved variety of mulberry	28.23	25.00	23.52	27.08
Best method of propagation	72.35	75.00	70.58	72.50
Length of mulberry cuttings for propagation	44.70	61.11	58. 82	49.16
Thickness of cuttings of mulberry for propagation	34.70	55.55	58.82	41.24
Type of mulberry plants bearing more leaves.	75.29	61.11	82.35	74.16
Time of pruning mulberry trees	92.35	94.11	97.05	93.33
Important insect of mulberry plants	80.59	88.88	88.23	82.91

Knowledge possessed by silkworm rearers about disinfection and disinfectants

The data presented in the table 3 depicts that 90.41 per cent respondents had knowledge about methods of disinfecting the silkworm body and rearing seat followed by 83.75 per cent respondents who were having knowledge of disinfectants used for silkworm rearing room and appliances and 51.66 per cent respondents were having knowledge of dose of disinfectant used for silkworm body and rearing seat. The table further reveals that only 12.91 per cent respondents were having knowledge of dose of disinfectant used for silkworm rearing room and appliances for one ounce

Table 3: Knowledge possessed by silkworm rearers about disinfection and disinfectants

Name of the Practices	District wise percentage of respondents			Overall Percentage (n=240)
	Rajouri (n=170)	Poonch (n=36)	Reasi (n=34)	
Methods of disinfecting the silkworm body and rearing seat	88.23	97.22	97.05	90.41
Disinfectants used for silkworm rearing room and appliances.	81.76	91.66	82.29	83.75
Dose of disinfectant used for silkworm body and rearing seat	56.47	38.88	41.17	51.66
Dose of disinfectant used for silkworm rearing room and appliances for one ounce	15.88	2.77	8.82	12.91

Knowledge possessed by silkworm rearers about young age rearing and its management

The data presented in the table 4 reveals that overall 98.33 per cent respondents were having knowledge of moulting of silkworm followed by 94.16 per cent respondents who were having knowledge of precautions taken for young age worms and 62.08 per cent respondents had knowledge of leaf feeding requirement in (kg/oz) for first instar larvae. The table further depicts that 23.75 per cent respondents of all districts were having low knowledge about method of silkworm incubation. The present study was in consonance with study conducted by Todmal *et al.* (2013).

Table 4: Knowledge possessed by silkworm rearers about young age rearing and its management

Name of the Practices	District wise percentage of respondents			Overall (n=240)
	Rajouri (n=170)	Poonch (n=36)	Reasi (n=34)	
Method of silkworm incubation.	25.29	19.44	20.58	23.75
Moulting of silkworm	98.82	97.22	97.05	98.33
Precautions taken for young age worms	93.52	94.44	97.05	94.16
Leaf feeding requirement in (kg/oz) for first instars larvae	65.29	41.66	67.64	62.08

Knowledge possessed by silkworm rearers about late age rearing

The data presented in the table 5 indicates that 88.75 per cent respondents were having knowledge of late age rearing techniques followed by 83.26 per cent respondents who were having knowledge of low cost devices for cocoon stifling and 40.83 per cent respondents had knowledge of feeding requirement (kg/oz) for fifth instars larvae. The table further depicts that 37.23 per cent respondents had knowledge about humidity requirement for young as well as late age rearing.

Table 5: Knowledge possessed by silkworm rearers about late age rearing

Name of the Practices	District wise percentage of respondents			Overall Percentage (n=240)
	Rajouri (n=170)	Poonch (n=36)	Reasi (n=34)	
Temperature/humidity requirement for young as well as late age rearing.	40.82	22.22	35.29	37.23
Late age silkworm rearing techniques	87.06	97.22	88.23	88.75
Feeding requirement in (kg/oz) for fifth instars larvae	44.70	25.00	38.23	40.83
Low cost devices for cocoon stifling	94.11	100	97.05	83.26

Knowledge possessed by silkworm rearers about disease and insect pest of silkworm

The data presented regarding knowledge possessed by silkworm rearers about diseases and insect pest of silkworm. The data reveals that 95.41 per cent respondents had knowledge about control of insect pest of silkworm followed by 82.91 per cent respondents having knowledge of management of diseases and 82.84 per cent respondents were having knowledge of insect pest of silkworm. The table further reveals that 78.75 per cent respondents were having knowledge about important diseases of silkworms.

Table 6: Knowledge possessed by silkworm rearers about disease and insect pest of silkworms

Name of the Practice	District wise percentage of respondents			Overall Percentage (n=240)
	Rajouri (n=170)	Poonch (n=36)	Reasi (n=34)	
Important diseases of silkworms	82.84	91.66	76.47	78.75
Management of the diseases	77.06	91.66	73.52	82.91
Insect pest of silkworm	82.66	94.44	73.52	82.84
Control of the insect/pest	81.66	94.44	76.47	95.41

CONCLUSION

It can be concluded that majority of respondents (93.33%) had knowledge of time of pruning, (82.91%) of

respondents had knowledge of insects of mulberry plants, more than (70%) of respondents had knowledge of type of mulberry tree bearing more leaves and best method of propagation, (90.41%) and (83.75%) had knowledge of methods of disinfecting the silkworm body and rearing seat and disinfectants used for rearing room and appliances, (98.33 %) and (94.16%) had knowledge of moulting of silkworm and precautions taken for young age worms, (88.75%) and (83.26%) had knowledge of late age silkworm rearing techniques and low cost devices for cocoon stifling. (95.41%), (82.91%) and (78.75%) had knowledge of control of insect/pest of silkworm, management of diseases, insect pest of silkworm and important diseases of silkworms,

Half of the respondents had knowledge of dose of disinfectants used for silkworm body and rearing seat and very low percentage of respondent had knowledge of dose of disinfectant used for silkworm rearing room and appliances and less than half of the respondents had knowledge of temperature cum humidity requirement for young as well as late age rearing and feeding requirement in (kg/oz) for fifth instars larvae.

Low percentage of respondents had knowledge of length and thickness of mulberry cuttings for propagation and only (27.08%) respondents had knowledge of improved variety of mulberry, method of silkworm incubation.Overall majority of respondents had medium knowledge followed by 32.92 per cent respondents had low knowledge and 15.36 per cent respondents had high knowledge respectively.

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REFERENCES

Directorate of Sericulture. 2011. Brief note on Functioning of sericulture Department of Sericulture, Government of Jammu and Kashmir.

Krishnammorthy, T.S. and Radhakrishnan, S. 2012. A study on knowledge and adoption of new sericulture technologies among small mulberry farm size holders of udumalpet and Krishnagiri areas in Tamilnadu. *Indian Journal of Sericulture,* 51(1): 50-58.

Koul, A. 2009. Silkworm rearing and quality silk production in hilly tracts of Jammu. Paper presented at ICAR sponsored 21 days winter school, Conservation farming through efficient use of resource to sustain livelihood of dry land farmers of North-West Himalayas, 16th Jan.- 5th Feb., Division of Agronomy, Sher e Kashmir University of Agricultural Sciences and Technology of Jammu.

Mallikarjuna,B. and Babu, B.M.D.,2005.Role of quality clubs in promoting sericulture-a case study in Mysore and Mandya districts of Karnatka. *Mysore Journal of Agricultural Sciences,* 39(3):343-347.

Qadri, S.F.I.,Malik,M.A., Sabhat ,A. and Malik,F.A .2010 .Adoption of improved sericultural practices by sericulturists in border area of Kashmir. *International Journal of Agriculture Statistical Science* ,6(1): 197-201.

Singh, R. 1975.On optimum stratification for proportional allocation. Sankhya, 37:109-115.

Todmal,S.B., Khalache,P.G., Gaikwad,J.H. and Jadhav,R.M.2013 b. Scale to measure the impact of sericulture production technology on the socio biography of the beneficiaries. *Agriculture Update,* 8 (1&2):252-256.