



Research Article

KNOWLEDGE LEVEL OF IMPROVED PRACTICES AMONG SERICULTURE FARMERS IN KOLAR AND CHIKKABALAPUR DISTRICTS OF KARNATAKA

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Received: July 30, 2019; Revised: August 26, 2019; Accepted: August 27, 2019; Published: August 30, 2019

Abstract: The present investigation was undertaken in Kolar and Chikkabalapur Districts of Karnataka State. A total of 120 sericulture farmers were selected as respondents out of which 60 respondents from Srinivasapur Taluk and 60 respondents from Siddlagatta Taluk. The primary data was collected from the Sericulture farmers through pre-tested interview schedule. Study showed that 53 percent of sericulture farmers possessed high overall knowledge followed by 27 percent had low overall knowledge and 20 percent had medium overall knowledge level of improved cultivation practices in Sericulture. All the ten independent variables fitted together in the multiple regression models explained only 82.70 percent of the variation in the knowledge level of sericulture farmers.

Keywords: Mulberry, Sericulture Farmers, Silkworm Rearing

Citation: Srinivasa Reddy M.V., et al., (2019) Knowledge Level of Improved Practices among Sericulture Farmers in Kolar and Chikkabalapur Districts of Karnataka.

International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 11, Issue 16, pp.- 8926-8928.

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Introduction

Mulberry is an economical important tree, being cultivated for its leaves, to rear silkworms *Bombyx mori*. Sericulture is an agro based labour intensive, income generated industry providing gainful employment to 8.51 million rural people in the world. Sericulture is considered as a boon to many farmers in the drought prone areas in southern part of Karnataka like Kolar and Chikkabalapur districts. In recent years the role of mulberry tree in the prevention and control of desertification, water and soil conservation, saline land management and forage for livestock. Sericulture is helping to improve social and economic conditions of the rural poor in addition to supporting rural reconstruction and development of small and marginal farmers in the Sericulture is an art and science of rearing silkworm which is famous in Karnataka (Southern India) since many decades.

For the development of farming community there is need of reaching improved technologies to farmers. Hence, it is required to create awareness on importance of improved cultivation practices and silkworm rearing. Hence, state department of sericulture has to organize massive training programmes to farmers in order to enhance knowledge level and adoption of improved cultivation practices which depends on various personal, Socio-economic characteristics of the sericulture farmers.

Kolar stands first in the production of mulberry (sericulture) in Karnataka. Farmers of Kolar and Chikkabalapur districts are depending on sericulture as a major occupation for their lively wood. Farmers of Kolar and Chikkabalapur districts are digging bore wells upto 1200 to 1500ft for irrigation. Even then they are not getting sufficient water. Whatever water available in scarce is also polluted with fluorides and chlorides which is not suitable to irrigate to mulberry and any agriculture crops. As mulberry is perennial tree and trained as bush under irrigated conditions. Hence mulberry can be grown as tree under rain fed condition to overcome irrigation problem in dry region with wider spacing. Under such circumstances farmers can be educated on wider spacing through on farm trainings in large scale to raise mulberry under dry land conditions. So that farmers can learn to survive under rain fed condition in sustainable manner and also to avoid suicide conditions of farmers.

Hence, this study was undertaken to know the impact of the education, extension activities and knowledge level of improved practices among sericulture farmers in Kolar and Chikkabalapur districts of Karnataka. The present study was undertaken with the following specific objectives.

Objectives:

To study knowledge level of improved practices among sericulture farmers of Kolar and Chikkabalapur districts.

To study the relationship between Knowledge level of improved practices of Sericulturists and their socio-economic characteristics and problems of sericulturists.

Methodology

The ex-post-facto research design was followed in this study and it was conducted in Siddlagahatta taluk of Chikkabalapur district and Srinivasapur taluk of Kolar district during 2017-18. These taluks were purposefully selected for the study. A list of all the mulberry growing villages in each taluk was prepared in consultation with the respective sericulture extension officers of the state department of sericulture. From this list 6 villages from each taluk were selected based on the largest area under mulberry cultivation. Further 10 sericulturists from each village were randomly selected as respondents for the study. Thus, a total sample for the study was 120 respondents from both the taluks.

Results and Discussion

Table-1 Categorization of sericulture farmers according to their overall Knowledge level of improved cultivation practices.

Category	Sericulture farmers	
	No.	Percent
Low	32	27
Medium	24	20
High	64	53
Total	120	100

Overall Knowledge level of farmers regarding improved sericulture practices

It is seen from the [Table-1] that 53 percent of sericulture farmers possessed high overall knowledge followed by 27 percent had low overall knowledge and 20 percent had medium overall knowledge level of improved sericulture practices.

Knowledge level of farmers regarding improved cultivation practices in mulberry

The data regarding specific improved cultivation practices in mulberry presented in [Table-2]. It reveals that cent percent of farmers had correct knowledge about mulberry variety. Further, majority of mulberry growers had correct knowledge about the practices like kind of soil (91.60 %), suitable month for planting (91.60 %), method of irrigation to mulberry (91.66 %), quantity of FYM to apply (90), method of controlling weeds and diseases (90%), ideal age of mulberry cuttings (89.16%), Pests in mulberry (88.33%), method of pruning (88.33%), time of application of FYM (87.50%), method of planting (85%), spacing (81.66%) and fertilization dose of NPK (62.50 %). The results from the table indicates that majority of sericulture farmers had correct knowledge on improved mulberry cultivation practices among farmers.

Knowledge level of mulberry growers on improved silkworm rearing practices

It is seen from the [Table-3] that majority of the farmers have correct knowledge on method of feeding to chawki worms (95%), time of transporting cocoons to the market (95.83%), average yield of cocoons to 100 DFLs (95%), direction of rearing house (93.33%), kind of silkworm rearing house (91.66%), disinfection of rearing house and rearing materials (91.60%), method of silkworm rearing and number of feedings (91.60%), separate rearing house (90%), diseases and pests of silkworm (90%), size of nylon mesh for bed cleaning (90%), method of marketing of cuttings (90%). The results from the table indicates that majority of sericulture farmers had correct knowledge on improved silkworm rearing practices among farmers.

Table-2 Knowledge level of sericulture farmers on improved cultivation practices, (n=120)

Improved cultivation practices in Mulberry	Knowledge level of Mulberry growers			
	Correct knowledge		Incorrect knowledge	
	No.	%	No.	%
Kind of soil	110	91.6	10	8.3
Mulberry variety	120	100	0	0
Ideal age of mulberry cuttings	107	89.16	13	10.3
Suitable month for planting	110	91.6	10	8.3
Method of planting	102	85	18	15
Spacing in mulberry	98	81.66	22	18.33
Method of pruning	106	88.33	14	11.66
Quantity of FYM to apply	108	90	12	10
Time of application of FYM	105	87.5	15	12.5
Fertilizer dose of NPK	75	62.5	45	37.5
Method of irrigation mulberry	110	91.66	10	8.33
Method of controlling of weeds	108	90	12	10
Disease in mulberry	108	90	12	10
Pest in mulberry	106	88.33	14	11.66

Relationship between personal and socio-psychological characteristics of sericulture farmers and their knowledge level

Education, income, landholding, mass media participation, Extension participation, Risk orientation, and Economic orientation of the sericulture farmers were found to be significantly related to their knowledge level and other characteristics namely, age, social participation were not related to their knowledge level table. Multiple regression analysis revealed relative importance of the different independent variables on the knowledge level of sericulture farmers. The results of this analysis are given in the table. The data shows that all the ten variables fitted together in the regression model explained only 82.70 percent of the variation in the knowledge level of sericulture farmers. The calculated T values for the partial 'r' values are presented in the table.

An appraisal of [Table-6] reveals the fact that electricity problem, lack of knowledge on correct dose of NPK, scarcity of labourers, shortage of irrigation water, lack of knowledge on pests and diseases in mulberry were the constraints as perceived by the farmers in mulberry cultivation. Further, it can be inferred from [Table-7] that high transportation cost, lack of knowledge on the deflossing and

sorting of cocoons, lack of information on market prices, lack of knowledge on diseases control, lack knowledge on uniform silkworm maturity hormone, lack knowledge on uzifly control in silk worm and low price for cocoons were the constraints as perceived by the farmers in silkworm rearing practices.

Table-3 Knowledge level of Sericulture farmers on Improved Silkworm rearing practices, (n=120)

Rearing practices	Knowledge level of Mulberry growers			
	Correct knowledge		Incorrect knowledge	
	No	%	No	%
Kind of silkworm rearing house	110	91.66	10	8.33
Separate rearing house	108	90	12	10
Size of rearing house	102	85	18	15
Direction of rearing house	112	93.33	8	6.66
Disinfection of rearing house	110	91.6	10	8.33
Disinfection of rearing materials	110	91.6	10	8.33
Breeds of silkworm to get high yield	107	89.1	13	10.8
Method of silkworm rearing	110	91.6	10	8.33
Method of feeding chawki worms	114	95	6	5
Method of feeding 2nd instar worms	105	87.5	15	12.5
No. of feeding in each instar	110	91.66	10	8.33
Diseases of silkworms	108	90	12	10
Pests of silkworms	108	90	12	10
Moisture content for leaf preservation	10	8.33	110	91.66
Size of nylon mesh for bed cleaning	108	90	12	10
Hormone for uniform maturity of silkworm	75	62.5	45	37.5
Method of marketing of cocoons	108	90	12	10
Materials used for packing cocoons	105	87.5	15	12.5
Time of transporting cocoons to the market	115	95.83	5	4.16
Type of cocoons fetches higher rate	98	81.66	22	18.33
Average yield of cocoons(100DFL's)	114	95	6	5

Table-4 Relationship between knowledge level and personal socio-psychological characteristics of sericulture farmers.

SN	Variables	r' values
1	Age	0.066 NS
2	Education	0.355**
3	Income	0.438**
4	Land holding	0.447**
5	Mass media participation	0.891**
6	Social participation	0.041 NS
7	Extension participation	0.466**
8	Level of aspiration	0.367**
9	Risk orientation	0.677**
10	Economic motivation	0.590**

**Correlation is significant at the 0.01 level,

*Correlation is significant at the 0.05 level, NS = Non-Significant

Table-5 Multiple regression of knowledge level of sericulture farmers with different Characteristics

S	Characteristics	Regression coefficient	R2 values
1	Age	0.023NS	0.827
2	Education	1.345**	
3	Income	0.007NS	
4	Land holding	0.126NS	
5	Mass media participation	3.065**	
6	Social participation	0.243NS	
7	Extension participation	1.533**	
8	Level of aspiration	0.067NS	
9	Risk orientation	0.903**	
10	Economic motivation	1.213NS	

**Correlation is significant at the 0.01 level,

*Correlation is significant at the 0.05 level, NS = Non-Significant

Table-6 Constraints faced by the farmers in Mulberry cultivation(n=120)

Constraints	Yes	%	No	%
Lack of knowledge on selection of plant material	12	10	108	90
Lack of knowledge on improved varieties	10	8.33	100	83.33
Lack of knowledge on soil type	13	10.83	107	89.16
Lack of knowledge on time of planting	10	8.33	110	91.66
Lack of knowledge on method of planting	18	15	102	85
Lack of knowledge on time of application FYM	10	8.33	110	91.66
Lack of knowledge on correct dose of NPK	110	91.66	10	8.33
Shortage of irrigation water	108	90	10	10
Lack of knowledge about disease control in Mulberry	102	85	18	15
Lack of knowledge about Pest control in Mulberry	102	85	18	15
Electricity problem	120	100	0	0
Scarcity of labourers	110	91.66	10	8.33

Table-7 Constraints faced by the sericulture farmers in Silkworm rearing and marketing, (n=120)

Constraints	Yes	%	No	%
Lack of knowledge on size of rearing house	18	15	102	85
Lack of knowledge on direction of rearing house	12	10	108	90
Lack of knowledge on disinfection of rearing house	14	11.66	106	88.33
Lack of knowledge on methods of disinfection	14	11.66	106	88.33
Lack of knowledge on silkworm cross breeds	8	6.66	112	93.33
Lack of knowledge on chawki rearing methods	10	8.33	110	91.66
Lack of knowledge on lateage rearing methods	10	8.33	110	91.66
Lack of knowledge on feeding of chawki silkworms	2	1.6	118	98.33
Lack of knowledge on feeding of lateage silkworms	10	8.33	110	91.66
Lack of knowledge on disease control in silkworm rearing	80	66	40	33.33
Lack of knowledge on uji control in silkworm	60	50	60	50
Lack of knowledge on uniform silkworm maturity hormone	77	64.16	43	35.83
Lack of knowledge on the deflossing and sorting of cocoons	102	85	18	15
Lack of information on market prices	95	79.16	25	20.83
High transportation cost	104	86.66	16	13.33
Low price for cocoons	60	50	60	50
High fluctuation of cocoon prices	100	83.33	20	16.66
Exploitation of traders	20	16.66	100	83.33

Conclusion

The study would help to know the knowledge level of sericulture farmers and critical practices like optimum dose of fertilizers, ideal moisture content for leaf preservation in mulberry, recommended size of nylon mesh for bed cleaning and hormone for uniform maturity of silkworm were found to be less adopted. In this line technical advisory service from extension agency would be very much required in motivating the sericulture farmers to realize importance of these improved practices to increase yield levels in sericulture. Hence, it is required to organize massive training programmes by the sericulture department to educate farmers on improved practices in mulberry cultivation and silk worm rearing in order to increase production, the cocoon yield, cocoon quality, stable market prices and income level among sericulturists and helps for overall sustainable development of farmers

Application of research: Study helps to find out specific area where sericulture farmers required training to improve their knowledge level in order to increase production, productivity in sericulture.

Research Category: Sericulture

Acknowledgement / Funding: Authors are thankful to College of Sericulture, Chintamani, 563125, University of Agricultural Sciences, GKVK, Bangalore, 560 065, Karnataka, India

***Principal Investigator or Chairperson of research: Dr Srinivasa Reddy M. V.**
University: University of Agricultural Sciences, Bangalore, 560 065, Karnataka
Research project name or number: To study the knowledge gap and adoption level of improved practices among farmers sericulture in Eastern Dry Zone of Karnataka

Author Contributions: All authors equally contributed

Author statement: All authors read, reviewed, agreed and approved the final manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

Study area / Sample Collection: 6 villages in Srinivasapur Taluk of Kolar district and 6 villages in Sidlagatta Taluk of Chikballapur

Cultivar / Variety / Breed name: Mulberry

Conflict of Interest: None declared

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.
Ethical Committee Approval Number: Nil

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