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Research Article

STUDY ON KNOWLEDGE LEVEL OF RECOMMENDED PRACTICES IN TREE MULBERRY IN KARNATAKA

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Abstract: The study was conducted during 2017-18 in Kolar and Chikkaballapur Districts of Karnataka. To study was taken undertaken to study the knowledge level of improved cultivation practices in tree mulberry, to study the training needs and advantages of tree mulberry. Majority 48% of sericulture farmers for belong to medium level of overall knowledge. Independent variables contributed 76% contribution of change in their knowledge level. Advantages of tree mulberry were including drought tolerant less water requirement, high quality and thickness of leaves and high-water use efficiency.

Keywords: *Sericulture, Tree type mulberry and improved practices*

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Introduction

The present study was conducted in Siddlagahatta and Chintamani taluks of Chikkaballapur district and Bangarpet and Srinivasapur taluks of Kolar district of Karnataka during 2017-18. This study was undertaken to study the knowledge level of improved cultivation practices in tree mulberry and to study the training needs and advantages of cultivating tree mulberry to farmers.

Objectives of the study

To study adoption level of improved practices among sericulture farmers in Kolar and Chikkaballapur districts.
To study the profile and relationship between adoption level of improved practices of Sericulturists and their socio-economic characteristics

Material and methods

The present study was conducted in Siddlagahatta and Chintamani taluks of Chikkaballapur district and Bangarpet and Srinivasapur taluks of Kolar district during 2017-18 in Karnataka. These taluks were purposefully selected for the study. A list of all the mulberry growing villages in each taluk were prepared in consultation with the respective sericulture extension officers of the state department of sericulture. From this list 3 villages from each taluk were selected based on the highest area under mulberry cultivation. Further ten sericulture farmers were selected from each village randomly for the study. Thus, a total sample for the study was 120 respondents from both the Districts.

Results and Discussion

More number of sericulture farmers had medium (48%) overall knowledge level followed by high (37%) and few were having low (15%) level of overall knowledge of improved sericulture practices. Almost all the sericulture farmershad correct knowledge on mulberry variety. Suitable month for planting, kind of soil, method of irrigation to mulberry, quantity of FYM to be applied, ideal age of mulberry cutting, method of pruning, method of controlling weeds, diseases and pest in mulberry, time of application of FYM, method of planting and spacing in mulberry. Majority of the sericulture farmers had correct knowledge on improved silkworm rearing practices which includes average yield of cocoons per 100 (DFLs), method of silkworm rearing, time of transporting cocoons to the market, kind of silkworm rearing house, no. of feedings in each in star, size of nylon mess for bed cleaning, type of cocoons fetches higher rate , method of marketing of cocoons, direction of rearing house, disinfection of rearing materials, method of feeding chawki worms, pest of silkworms, disinfection of rearing house, material used for packing of cocoons, breeds of silkworm to get high yield, method of feeding second instar worms. At the same time a great majority of farmers had incorrect knowledge about moisture content of leaf preservation and few farmers had incorrect knowledge on hormone used for uniform maturity of silkworm.

Table-1 *Categorization of sericulture farmers according to their overall adoption level of improved cultivation practices, (n=120)*

Category	Sericulture farmers	
	No.	Percent
Low	18	15
Medium	57	48
High	45	37
Total	120	100

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

Education, income, mass media participation, and extension participation of sericulture farmers had positive and significant relationship with their knowledge level and independent variables contributed 76 percent contribution of change in their knowledge level. Training needs of sericulture farmers in mulberry production are pest and disease management, calculation of NPK fertilizers and Pruning in mulberry, spacing in mulberry garden. Training needs of sericulture farmers in silkworm rearing were sorting and grading, leaf preservation, pest and disease management and disinfection of rearing house and rearing materials etc.

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	114	95	6	5
Mulberry variety	120	100	0	0
Ideal age of mulberry cuttings	108	90	12	10
Suitable month for planting	115	95.83	5	4.16
Method of planting	103	85.83	17	14.16
Spacing in mulberry	100	83.33	20	16.66
Method of pruning	107	89.16	13	10.23
Quantity of FYM to apply	110	91.66	10	8.33
Time of application of FYM	105	87.5	15	12.5
Fertilizer dose of NPK	70	58.33	50	41.66
Method of irrigation mulberry	112	93.33	8	6.66
Method of controlling of weeds	106	88.33	14	11.66
Disease in mulberry	106	88.33	14	11.66
Pest in mulberry	105	87.5	15	12.5

Table-3 Knowledge level of Sericulture farmers on Improved Silkworm rearing practices

Rearing practices	Knowledge level of Mulberry growers			
	Correct knowledge		Incorrect knowledge	
	No.	%	No.	%
Kind of silkworm rearing house	112	93.33	8	6.66
Separate rearing house	105	87.5	15	12.5
Size of rearing house	100	83.33	20	16.66
Direction of rearing house	110	91.66	10	8.33
Disinfection of rearing house	108	90	12	10
Disinfection of rearing materials	110	91.66	10	8.33
Breeds of silkworm to get high yield	107	88.33	14	11.66
Method of silkworm rearing	115	95.83	5	4.16
Method of feeding chawki worms	110	91.66	10	8.33
Method of feeding 2nd instar worms	106	88.33	14	11.66
No. of feeding in each instar	112	93.33	8	6.66
Diseases of silkworms	110	91.66	10	8.33
Pests of silkworms	110	91.66	10	8.33
Moisture content for leaf preservation	15	12.5	105	87.5
Size of nylon mesh for bed cleaning	112	93.33	8	6.66
Hormone for uniform maturity of silkworm	70	58.33	50	41.66
Method of marketing of cocoons	111	92.5	9	7.5
Materials used for packing cocoons	108	90.5	12	10
Time of transporting cocoons to the market	115	95.83	5	4.16
Type of cocoons fetches higher rate	112	93.33	8	6.66
Average yield of cocoons(100DFL's)	114	95	6	5

Table-4 Relationship between knowledge level and personal socio-psychological at Characteristics of sericulture farmers, (n=120)

SN	Variables	'r' values
1	Age	-0.276 NS
2	education	0.869*
3	Land holding	0.121NS
4	Income	0.116**
5	Mass media participation	0.515*
6	Social participation	0.023NS
7	Extension participation	0.349*
8	Risk or orientation	0.223NS
9	Level of aspiration	0.549NS

Note: ** Significant at 5% level

Table-5 Multiple regression of knowledge level of sericulture farmers with sociopsychological characteristics, (n=120)

SN	Variables	Regression coefficient	'R square' value
1	Age	-0.042NS	0.768
2	education	8.171**	
3	Land holding	-0.714NS	
4	Income	0.003NS	
5	Mass media participation	0.857**	
6	Social participation	0.131NS	
7	Extension participation	0.508**	
8	Risk or orientation	0.090NS	
9	Level of aspiration	0.379NS	

Note: ** Significant at 5% level

Advantages for shifting to tree type mulberry cultivation over row system

Majority of the sericulture farmers expressed reasons / advantages for shifting to tree type mulberry cultivation includes drought tolerant (100%), good cocoon yield (81.66%), less water requirement (100%), less labour requirement (81.66%), less susceptible to diseases (80.00%), high quality and thickness of leaves (91.66%), reduces no. of feedings (75.00%), less chemical fertilizer requirement (83.33%) and high water use efficiency (96.66%) (1:3 row system to tree type mulberry cultivation).

Table-6 Training needs of Sericulture farmers in mulberry production

Contents	Most required		Least required		Never required	
	No.	%	No.	%	No.	%
Land preparation	-	0	-	0	120	100
Time of planting	-	0	25	20.83	95	79.16
Method of planting	10	8.33	20	16.66	90	75
Spacing in mulberry garden	60	50	35	29.16	25	20.83
Pruning of mulberry	80	66.66	20	16.66	20	16.66
Application of FYM	8	6.66	12	10	100	83.33
Calculation of NPK fertilizers	92	76.66	20	16.66	8	6.66
Pest and disease management	115	95,83	5	4.16	-	-
Intercultural operations	-	-	20	16.66	100	83.33
Land preparation	-	0	-	0	120	100
Weeding	-		30	25	90	75
Irrigation	20	16.66	10	8.33	90	75
harvesting	-	-	-	-	120	100
Transportation	-		-	-	120	100

Title-7 Training needs of Sericulture farmers in Silkworm rearing practices

Silkworm rearing Practices	Most required		Least required		Never required	
	No.	%	No.	%	No.	%
Disinfection of rearing house	60	50	20	16.66	40	33.33
Disinfection of rearing materials	60	50	20	16.66	40	33.33
Procurement of silkworm breeds	31	25.83	9	7.5	80	66.66
Chawki rearing	18	15	5	4.16	97	80.83
Leaf chapping					120	100
Feeding of chawki worms	25	20.83	30	25	65	54.16
Lattage silkworm rearing	10	8.33	20	16.66	70	58.33
Feeding of lattage silkworm	10	8.33	20	16.66	70	58.33
Leaf preservation	106	88.33	12	10	2	1.66
Pest and disease management	100	83.33	20	16.66	0	0
Bed cleaning	10	8.33	15	12.5	95	79.16
Moulting	20	16.66	35	29.16	65	54.16
Harvesting	5	4.16	15	12.5	100	83.33
Sorting and grading	112	93.33	8	6.66	-	
transporting	10	8.33	15	12.5	95	79.16
marketing	22	18.33	10	8.33	88	73.33

Table-8 Advantages of tree type cultivation of mulberry

SNo	Advantages as expressed by sericulturists	Farmers	
		No.	%
1	Drought tolerant	120	100
2	Good cocoon yield	98	81.66
3	Less water requirement	120	100
4	Less labour requirement	98	81.66
5	Less susceptible to diseases	96	80
6	Higher quality & thickness of leaves	110	91.66
7	Reduces number of feedings	90	75
8	Less chemical fertilizer requirement	100	83.33
9	High water use efficiency (1:3) (row to pit system)	116	96.66

Conclusion

It is concluded that, tree type mulberry with wider spacing has got significant effect on leaf quality and high yield per unit area. The cocoon quality will be improved, when rearing was carried under tree type mulberry. This study helped to know the knowledge level of improved cultivation practices to enhance mulberry quality and silk cocoon productivity particularly in rural areas. To enhance income level of small and medium farmers by improving their socio-economic status and overall sustainable development of sericulture farmers. Sericulturists can be educated on improved practices including wider spacing through on farm training programmes.

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

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University: University of Agricultural Sciences, Bangalore, 560 065, Karnataka
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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 Chikkaballpur

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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