Knowledge of Sericulturists on Organic Farming Practices in Chickballapur District

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Abstract: *A survey on the knowledge of sericulturists on adoption of organic farming practices in Chickballapur district of Karnataka revealed that majority (44.16%) of the sericulturists had low knowledge about organic farming practices followed by medium (35.83%) and high (20.00%) knowledge, respectively. With respect to the recommended individual organic farming practices, majority of sericulturists had correct knowledge about application of FYM (88.33%) and use of Ankush (82.50%). None of the sericulturists (100%) had correct knowledge about use of Tank silt, Seri-VAM, Seri-nematoguard, FYM + Neem Cake +Marigold intercrop in mulberry and use of Nysolynx thymus to control uji pest. Only negligible percentage of sericulturists had correct knowledge about use of Seri-bioguard (0.83%), Sunhemp as green manure (1.67%), Seri-mildew guard (1.67%), Seri-comporich (2.50%) and Azatabacter biofertilizer (2.50%). Out of 11 variables studied, four variables viz., family size, land holding, area under mulberry and social participation had positive and significant relationship with knowledge of sericulturists. All these variables have explained only 72.60 per cent variation in knowledge of sericulturists. Hence, it is necessary to intensify extension activities like group discussion meetings, training programmes, field visits, demonstrations etc., to enhance the knowledge of the sericulturists on organic farming practices. This will result in desired level of adoption of organic farming practices among sericulturists.*

Keywords: *Sericulturists, Knowledge, Organic farming practices. Extension activities*

I.   Introduction

Mulberry sericulture is one of the prominent enterprises, which provides full time employment to entire family offering high income and better standard of living. India has got congenial environment to produce quality silk for both domestic use and export purpose. In the process of silk production the mulberry plays a vital role which receives several inputs during its growth including chemical fertilizers. However, unilateral usage of heavy doses of chemical fertilizers upset the availability of different plant nutrients. This has resulted in widespread deficiencies in mulberry field including micronutrients (Krishna and Bongale, 2001).The concept of organic farming as an eco-friendly approach has been realized to a greater extent in the present agricultural scenario. Organic manures, crop residues, green manures, dual-purpose legumes, non-edible oilcakes, vermicompost, mulching, press mud and biofertilizers are more relevant in mulberry cultivation too. Hence, production and use of various organic manures should be practiced not only for enhancing the crop productivity in mulberry but also reducing cost of cultivation, to protect environment and avoid pest and disease outbreaks. Use of organics in silkworm rearing is essential to improve cocoon quality which in turn fetches high price in the market. In view of the above, an attempt has been made to find out the knowledge of sericulturists on organic farming practices with the following specific objectives

1. To study the knowledge of sericulturists about organic farming practices
2. To find out the relationship between socio-economic characteristics of sericulturists with their knowledge.

II.   Materials And Methods

The present study was conducted in purposively selected Sidlaghatta and Chintamani taluks of Chikkaballapur district in Karnataka based on the maximum area under mulberry cultivation. From each taluk, three villages were selected considering the highest area under mulberry cultivation. In each selected village the list of sericulturists was prepared and from each village 20 farmers were selected by using simple random technique thus making a total sample size of 120. Only the recommended organic farming practices were considered. The data were collected by using pre-tested structured interview schedule. Analyzed the data by using statistical tools like frequency, percentage, mean, standard deviation, correlation and regression.

III.   Results And Discussion

Distribution of sericulturists based on their knowledge

Majority of the sericulturists (44.16%) had low knowledge about organic farming practices in sericulture whereas, 35.83 per cent were in medium level category. It was discouraging to note that only 20 per cent of sericulturists had high level of knowledge regarding organic farming practices in sericulture. Acquisition of knowledge is the first step in the use of any innovation. But majority of the sericulturists had less exposure to organic farming practices in sericulture (Table 1). The possible reason might be due to the fact that though the technologies pertaining to organic farming are available the sericulturists have not acquired the correct knowledge of these techniques. However, these findings are in contradictory with the earlier findings of Aswathanarayana (1989), Munikrishnappa *et al.* (2002), Narayanaswamy *et al.* (2005) and Dayananda and Kamble (2008). This necessitates on implementing the programmes on knowledge up gradation of sericulturists regarding organic farming practices.

Knowledge of the sericulturists with respect to specific organic farming practices

Majority of the sericulturists (88.33 %) had correct knowledge about application of FYM and use of Ankush (82.50 %). Whereas 42.50 per cent of sericulturists had correct knowledge on use of Harith and Neem Seed Kernal Extract (30.83%). Negligible percentage of sericuturists had correct knowledge on use of bio-fertilizer *Azatobacter* (2.50%), vermicompost (5.00 %), bio-digested slurry from biogas (5.00%), seri-prakruti(5.00 %), seriphos and seri-multiphos (5.83%). However, only 1.67 per cent of the sericulturists had knowledge about use of seri-mildew guard and sun hemp. Further, none of the of sericulturists (100 %) had knowledge about use of tank-silt, seri-VAM, seri-nematoguard, FYM + neem cake + marigold intercrop and use of *Nysolynx thymus*. Whereas equal (99.17%) number of sericulturists had incorrect knowledge about use of seri-bioguard and lady bird beetle. The incorrect knowledge on use of FYM was experienced by very few sericulturists (11.67 %) (Table 2). The possible reason may be due to easy availability of FYM at village level and farmers also know the production procedure of FYM from their ancestors. Similar findings were observed by Jaishankar and Dandin (2004).

The organic farming practices like Seri-vam, Seri-nematoguard, FYM+Neem cake + Marigold intercrop, use of *Nysolynx thymus*, FYM and Neem cake for control of root knot, Seri-bioguard, Seri-mildew guard were not much popular at village level. This might be due to lack of guidance about proper utilization of different organic resources, lack of knowledge regarding composting, vermicomposting, biofertilizers and non-availability of green manure seeds for intercropping. The present results are in agreement with the findings of Aswathanarayana (1989), Ranganatha (1997), Borkar *et al.* (2000) and Dayananda and Kamble (2008).

Relationship between personal and socio-economic characteristics of sericulturists with their knowledge

Out of eleven variables correlated with knowledge, four variables *viz.,* family size, land holding, area under mulberry and social participation had positive and significant relationship with their knowledge. However, age, education, mass media participation, extension participation, economic motivation, risk preference and employment potential were shown non-significant relationship (Table 3).

The positive and significant relationship of family size with knowledge level of sericulturists might be due to the fact that the members in the family with higher education, frequently contacted the sericulture extension personal, participated in different extension activities and utilized more mass media to gain more knowledge. These findings are in accordance with the findings of Srinivasa *et al.* (1996) and Lakshmanan and Geethadevi (2007). Similarly, the land holding had positively significant relationship with knowledge level of sericulturists. This might be due to the reason that land is one of the important economic assets which have direct reflection on wider range of variables, such as higher education, higher mass media use, etc. Therefore, it is likely that farmer with higher land holdings coupled with higher income have contacts with outside agencies which will certainly enhance the knowledge of them on organic farming practices. The present findings are in line with the findings of Sateesh (1990), Borkar *et al.* (2000), Munikrishnappa *et al.* (2002) and Lakshmanan and Geethadevi (2007).

The area under mulberry showed positive and significant relationship with knowledge levels of sericulturists. Sericulture can be practiced in small land holding and it is highly income generating enterprise with less investment. Similar findings were reported by Sateesh (1990) and Rajashekar Reddy (2006). The sericulture farmers might have frequently participated in the meetings of local institutions and interacted with the members of the co-operative society's *viz.,* milk producers' co-operative society, sericulture credit co-operative societies, youth clubs and Kisan Sangha. Hence, the social participation had significant relationship with the knowledge level of sericulturists. Similar findings were reported by Mahanthesh (2000), Lakshmanan and Geethadevi (2007) and Tippeswamy (2007).

Out of eleven independent variables (Table 4) only two variables *viz.,* family size and land holding were significant in explaining the variation on knowledge of sericulturists on organic farming practices. The remaining nine independent variables *viz,* age, education, area under mulberry, social participation, mass media

participation, risk preference and employment potential did not shown any significance. All these variables jointly explained 72.60 per cent variation in knowledge of sericulturists.

The present study inferred that more than one third of the sericulturists had low and medium level of knowledge about organic farming practices in sericulture. Majority of sericulturists had incorrect knowledge on practices like application of Tank silt, Seri-Vam, Seri-nematogaurd, FYM & Neem cake to control root knot nematode, Seri-bioguard, use of sunhemp for green manuring, Seri-mildew guard, Seri-comporich and use of *Azatabacter*. Out of 11 independent variables, only four variables namely family size, land holding, area under mulberry and social participation had positive and significant relationship with their knowledge. All the variables tested jointly explained 72.60 per cent variation in knowledge of sericulturists. Hence, it is necessary to intensify extension activities like group discussion meetings, training programmes, field visits, demonstrations etc., to enhance the knowledge of the sericulturists on organic farming practices especially for quality mulberry and cocoon production. This will result in desired level of adoption of organic farming practices among sericulturists, avoid dependency on costly inorganic nutrient sources, lead to eco-friendly farming environment and help to get better economic returns.

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Table 1: Distribution of sericulturists based on their knowledge level
N=120

Sl. No.	Knowledge level	Number	Per cent
1	Low (<10.54)	53	44.16
2	Medium (10.54-16.35)	43	35.83
3	High (>16.35)	24	20.00

Table 2: Knowledge of the sericulturists with respect to organic farming practices
N=120

Sl. No.	Recommended organic farming practices	Correct knowledge		Incorrect knowledge	
		Number	Per cent	Number	Per cent
1	FYM	106	88.33	14	11.67
2	Vermicompost	6	5.00	114	95.00
3	Seri-comporich	3	2.50	117	97.50
4	Biodegraded slurry from biogas unit	6	5.00	114	95.00
5	Tank silt	0	0.00	120	100.00
6	Seri-prakruti	6	5.00	114	95.00

7	Seriphos	7	5.83	113	94.17
8	Seri-Multiphos	7	5.83	113	94.17
9	Harith	51	42.50	69	57.50
10	Seri-Vam	0	0.00	120	100.00
11	Seri-mildew guard	2	1.67	118	98.33
12	Seri-bioguard	1	0.83	119	99.17
13	Neem Seed Kernal Extract (NSKE)	37	30.83	83	69.17
14	Ladybird beetle	1	0.83	119	99.17
15	Seri-nematoguard	0	0.00	120	100.00
16	FYM & Neem cake for control of root Knot	1	0.83	119	99.17
17	FYM + Neem cake +Marigold intercrop	0	0.00	120	100.00
18	*Azatobacter* biofertilizer	3	2.50	117	97.50
19	Sunhemp for green manuring	2	1.67	118	98.33
20	Ankush	99	82.50	21	17.50
21	*Nysolynx thymus*	0	0.00	120	100.00
22	Chetana	14	11.67	106	83.30

Table 3: Relationship between personal and socio-economic characteristics of sericulturists with their knowledge

N=120

Sl .No.	Independent variable	Correlation co-efficient (ŕ)
1	Age	-0.121
2	Education	0.103
3	Family size	0.286**
4	Land holding	0.300**
5	Area under mulberry	0.158*
6	Social participation	0.295**
7	Mass media participation	0.068
8	Extension participation	0.106
9	Economic motivation	0.075
10	Risk preference	-0.021
11	Employment potential	-0.057

 * Significant at 0.05 level of probability

** Significant at 0.01 level of probability

Table 4: Multiple regression analysis of knowledge of sericuturists with independent variables

N=120

Sl. No.	Independent variables	Regression co-efficient (b)	Standard error (SE)	't' value
1	Age	-0.114	0.046	-1.282
2	Education	0.114	0.509	0.814
3	Family size	-0.014	0.112	2.100*
4	Land holding	0.343	0.085	2.442**
5	Area under mulberry	0.110	0.199	1.145
6	Social participation	0.162	0.428	1.708
7	Mass media participation	-0.144	0.398	-1.029
8	Extension participation	-0.012	0.269	-0.131
9	Economic motivation	0.008	2.304	0.073
10	Risk preference	0.098	0.681	0.864
11	Employment potential	-0.091	0.016	-0.933

 $R^2 = 0.7264$ F-value = 3.20

* Significant at 0.05 level of probability

** Significant at 0.01 level of probability