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Awareness of sericulture farmers on organic package for mulberry in Kolar district

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Abstract

An awareness of sericulture farmers on organic package for mulberry in Kolar district of Karnataka revealed that majority (46.67%) of sericulture farmers had low knowledge about the organic packages followed by medium (32.67%) and high (20.67%) knowledge. respectively. With respect to the recommended individual organic farming practices, majority of sericulture farmers had correct knowledge about application of FYM (91.33%) followed by application of Neem Cake (65.33%) and Vermi Compost (54.67%). Only Negligible percentage of farmers had knowledge of application of Bio-Fertilizer (PSB) (2 equal spilts) - 13.33 per cent and Bio-fertilizer (Azotobacter) (2 equal splits) – 23.33 per cent. Out of 11 variables social participation, family size, land holding, area under mulberry and education of farmers had positive and significant relationship with knowledge of sericulture farmers. Hence, it is necessary to intensify extension activities like group discussion meetings, training programmes, field visits, demonstrations etc., to enhance knowledge of the sericulture on organic packages. This will result in desired level of adoption of organic packages among sericulture farmers.

Keywords: Sericulture farmers, Kolar, organic packages, extension activities

Introduction

Sericulture, the art and science of growing silkworm, food plants, rearing silkworms and production of silk is basically an agro-industry and an economically rewarding enterprise consisting of several sets of activities and play a predominant role in shaping the economic destiny of the rural

people. It has become a promising rural activity in India bec ause of its minimal gestation period, minimal investment and maximum employment potential and quick turnover for investment. Kolar is one of the traditional districts in sericulture covered in all most all the taluks and many farmers are depending upon sericulture for their livelihood. Sericulture is referred as "Golden crops" in Kolar district.

Silk productivity and profit of the farmers mainly depends upon the quantum as well as quality of mulberry leaves produced as the former influences on rearing capacity of silkworms i.e., the quantum of larvae to be reared and the later play vital role on their growth and development and economic parameters like effective rate of rearing, cocoon yield and silk ratio. Organic manures play vital role on soil health by improving its physical, chemical and biological properties. It enhances water holding capacity in sandy soils, facilitates aeration and infiltration in heavy soils, increases nutrient supply power of alkaline soil by reducing its pH, promotes the activities of beneficial microorganisms to make the soil more fertile besides it own nutrient values. The buffering nature of the organic matter is considered to be advantageous to overcome the problem of residues of pesticides, fungicides, herbicide and other heavy metals in agro-ecosystem. In the view of above, an attempt has been made to find out the knowledge of sericulture farmers on organic farming practices - mulberry in Kolar districts.

Materials and Methods

The present study was conducted in Bangarpet and Mulabagilu taluks of Kolar district in Karnataka based on 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 sericulture farmers was observed and from each village 20 farmers were selected by using simple random technique thus making total sample size of 120. The organic package developed by CSRTI, Mysore were considered i.e., FYM (2 equal splits) - 25 mt/ha/yr, sericompost/vermicompost (2 equal splits) - 20 mt/ha/yr, sowing green manure seeds (2 equal splits – during monsoon), Bio-fertilizer (Azotobacter) (2 equal splits) - 25 kg/ha/yr, Bio-Fertilizer (PSB) (2 equal spilts) - 05 kg/ha/yr and neem cake (one time) - 1000 kg/ha/yr. The data were collected by using pre - structured interview schedule. The data was analyzed using statistical tools like frequency, percentage, mean, standard deviation, correlation and regression.

Results and Discussion

Distribution of sericulture farmers based on their knowledge

Majority of the sericulture farmers (46.67%) had low knowledge about organic farming practices with regard to mulberry whereas, 32.67 per cent were in medium level category. It was discouraging to note that only 20.67 per cent of sericulture farmers had high level of knowledge regarding organic farming practices in sericulture. Acquisition of knowledge is the first step in the use of any

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innovation. But majority of the farmers 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 sericulture farmers have not acquired the correct knowledge of these techniques. However, these findings are in contradictory with the earlier findings of Aswathanarayana (1989)^[1], Munikrishnappa *et al.* (2002)^[7], Narayanaswamy *et al.* (2005)^[8] and Dayananda and Kamble (2008)^[3]. This necessitates on implementing the programmes on knowledge up gradation of sericulture farmers regarding organic farming practices.

Knowledge of the sericulture farmers with respect to specific organic farming practices

Majority of the sericulture farmers (91.33%) had correct knowledge about application of FYM%) followed by application of Neem Cake (65.33%) and Vermi Compost (54.67%). Only Negligible percentage of farmers had knowledge of application of Bio-Fertilizer (PSB) (2 equal spilts) - 13.33 per cent and Bio-fertilizer (Azotobacter) (2 equal splits) – 23.33 per cent. The incorrect knowledge on use of FYM was experienced by very few sericulture farmers (8.67%) (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)^[4]. The organic farming practices like sowing green manure seeds (2 equal splits - during monsoon), Biofertilizer (Azotobacter) (2 equal splits) - 25 kg/ha/yr and Bio-Fertilizer (PSB) (2 equal spilts) - 05 kg/ha/yr 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 biofertilizers and non-availability of green manure seeds for intercropping. The present results are in agreement with the findings of Aswathanarayana (1989)^[1], Ranganatha (1997)^[10], Borkar et al. (2000)^[2] and Dayananda and Kamble (2008)^[3].

Relationship between personal and socio-economic characteristics of sericulture farmers 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, risk preference and employment potential were shown nonsignificant relationship (Table 3). The positive and significant relationship of family size with knowledge level of sericulture farmers 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) ^[12] and Lakshmanan and Geethadevi (2007) ^[5]. Similarly, the land holding had positively significant relationship with knowledge level of farmers. 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) ^[11], Borkar *et al.* (2000) ^[2], Munikrishnappa *et al.* (2002) ^[7] and Lakshmanan and Geethadevi (2007) ^[5].

The area under mulberry showed positive and significant relationship with knowledge levels of sericulture farmers. 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) ^[11] and Rajashekar Reddy (2006) ^[9]. 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 sericulture farmers. Similar findings were reported by Mahanthesh (2000) ^[6], Lakshmanan and Geethadevi (2007) ^[5] and Tippeswamy (2007) ^[13].

Out of eleven independent variables (Table 4) the variables *viz.*, social participation, land holding, family sizes were significant in explaining the variation on knowledge of sericulture farmers on organic farming practices. The remaining independent variables *viz*, age, risk preference and employment potential did not show any significance.

Hence, it is necessary to intensify extension activities like group discussion meetings, training programmes, field visits, demonstrations etc., to enhance the knowledge of the sericulture farmers on organic farming practices especially for quality mulberry and cocoon production. This will result in desired level of adoption of organic farming practices among sericulture farmers to avoid dependency on costly inorganic nutrient sources, lead to eco-friendly farming environment and help to get better economic returns.

Table 1: Distribution of farmers ba	ased on their knowledge level
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			N = 150
Sl. No.	Knowledge Level	Number	%
1	Low	70	46.67
2	Medium	49	32.67
3	High	31	20.67

Table 2: Knowledge of the farmers with respect to organic farming practices

CI Na	Decomposed of Operation Remains Proting	Correct Knowledge		Incorrect Knowledge	
51. INO.	Recommended Organic Farming Fractices	Number	%	Number	%
1	FYM (2 equal splits=25 MT/ha/Year)	137	91.33	13	8.67
2	2 Vermi Compost (2 equal splits=20 MT/ha/Yr		54.67	68	45.33
3	Neem Cake (1 time=1000 kg/ha/Yr)	98	65.33	52	34.67
4	4 Sowing Green Manure Seeds (2 equal splits during mansoon=50 kg/ha/Yr)		42.00	87	58.00
5	Biofertilizers (Azato Bacter-2 equal splits=25kg/ha/Yr)	35	23.33	115	76.67
6	Biofertilizers (PSB-2 equal splits=05kg/ha/Yr)	20	13.33	130	86.67

Sl. No	Variables	Correlation Coefficient ('r')
1	Age of Farmers (X1)	-0.187
2	Education of Farmers (X2)	0.703**
3	Family Size (X3)	0.772**
4	Land Holdings (X4)	0.814**
5	Area Under Mulberry (X5)	0.751*
6	Social Participation (X6)	0.825**
7	Mass Media Participation (X7)	0.193
8	Extension Participation (X8)	0.746**
9	Economic Motivation (X9)	0.041
10	Risk Preference (X10)	-0.187
11	Employment Potential (X11)	-0.194
	4 4 0 0 5 1 1 6 1 1 114 **0	

Table 3: Relationship between personal and socio economic characteristics of sericulture farmers with their knowledge

*Significant at 0.05 level of probability, **Significant at 0.01 level of probability

Table 4: Multiple regression analysis of knowledge of sericulture farmers with independent variables

Sl. No	Variables	Regression Coefficient (b)	Standard Error (SE)	t-Value
1	Age of Farmers (X1)	-0.211	0.519	-0.407
2	Education of Farmers (X2)	0.623*	0.131	4.756
3	Family Size (X3)	0.701**	0.083	8.446
4	Land Holdings (X4)	0.753**	0.061	12.344
5	Area Under Mulberry (X5)	0.678**	0.092	7.370
6	Social Participation (X6)	0.791**	0.041	19.293
7	Mass Media Participation (X7)	0.192	0.254	0.756
8	Extension Participation (X8)	0.689**	0.097	7.103
9	Economic Motivation (X9)	0.064	0.246	0.260
10	Risk Preference (X10)	-0.151	0.364	-0.415
11	Employment Potential (X11)	-0.145	0.412	-0.352

*Significant at 0.05 level of probability, **Significant at 0.01 level of probability

Conclusion

The study reveals a concerning disparity in knowledge among sericulture farmers regarding organic farming practices, particularly in mulberry cultivation. Despite the availability of technologies, a significant majority lacks adequate knowledge, as highlighted by the low percentages in high knowledge categories. This underscores the urgent need for targeted educational programs to uplift their understanding and adoption of organic farming techniques. The positive associations found between knowledge levels and variables such as family size, land holding, area under mulberry, and social participation suggest strategic avenues for intervention. Strengthening extension activities and promoting community engagement are pivotal steps towards fostering sustainable agricultural practices and enhancing economic outcomes for sericulture farmers. These efforts are crucial not only for reducing reliance on expensive inorganic inputs but also for fostering eco-friendly farming practices conducive to long-term agricultural sustainability.

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