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Adoption of Recommended Technologies by Sericulture Farmers in Krishnagiri District

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A B S T R A C T

The adoption of mulberry cultivation and silkworm rearing technologies by the sericulture farmers was studied in Krishnagiri district. The data were collected from the selected sample ninety sericulturists with a structured schedule by using personal interview methods. Three categories of sericulturists viz. full adoption, partial and non-adoption were made. Adoption on mulberry cultivation practices was high on mulberry variety (100%), seriboost/ poshan (100 %), spacing (84.44 %) and chemical fertilizer (78.88 %). In silkworm rearing technologies, adoption was high on shoot rearing (100 %), IPM for uzifly (100 %), disinfection (86.66 %), hygienic maintenance (88.88 %), bed spacing maintenance (86.66 %), separate rearing house (82.22 %), bed cleaning (77.77 %), improved mountages (76.66 %), IPM for silkworm diseases (76.66 %) and room disinfection (74.44 %).

Introduction

Sericulture is an expanding industry in India. Among the sericulture developing country India stands second in the production of silk next to China. Sericulture plays a major role in the upliftment of rural population both socially and economically (Sreenivasa and Hiriyanna, 2014). Improved rearing techniques have been popularized on a large scale during the past 30 years in South India. As a result, it has been possible for the sericulturists adopting the new technique to step up the average yield from the earlier level of 40 kgs to 70 kgs/100 dfls at present. Also, total loss of one crop out of every 4-5 crop experienced earlier has been considerably reduced. Although, to a large extent, the new techniques have been fairly understood and practiced by most of the sericulturists today, the need still exists to educate them further and also others who are yet to take it, so that the average crop yield could be further improved to the level of 80 kgs/dfls.

Introduction of improved sericultural technologies will not only result in increasing the quality silk production in the country, but also helps in improving the quality and standard of living of rural population. It is a proven fact that adoption of recommended sericultural technologies gives good returns to the farmers.

Materials and Methods

The study was conducted in Krishnagiri, Hosur, Veppanapalli and Kaveripattinam blocks of Krishnagiri district.

Measurement of dependent variables (adoption level)

The data collection was done with the use of well constructed interview schedule. The level of adoption of sericulture farmers about sericulture technology was measured by computing adoption score. To find out the extent of adoption of the selected sericulture practices, adoption index was used. For each practice index was calculated as below.

Level of adoption of practice =

$$\frac{\text{Actual practice followed}}{\text{Recommended practice}} \times 100$$

For each of the recommended practices score of two was assigned for full adoption of practices. One score and zero score were assigned to partial adoption and non-adoption of practices, respectively. The data was presented in frequency and percentage.

Results and Discussion

Extent of adoption of different sericulture practices

The findings pertaining to the extent of adoption of recommended practices and differential adoption behaviour of farmers.

Extent of adoption of mulberry cultivation technologies

Adoption level of mulberry technologies tabulated and presented in Table 1. It indicates that the full adoption level was observed in mulberry variety (100 %), seriboost/poshan (100 %), spacing (84.44 %), chemical fertilizer (78.88 %), drip irrigation (77.77 %), farm yard manure (65.55 %), soil test and reclamation (62.22 %), IPM for leaf roller (53.33 %), IDM for root rot (53.33 %), green manuring (50 %), IPM for Papaya mealy bug (48.88 %) and biofertilizer (45.55 %). The reason for high level of adoption is sufficient knowledge about mulberry cultivation practices. Similar findings were observed by Meenal and Rajan (2006), Siddaramaiah and Prakash Kumar (1994).

Partial adoption was observed in green manure (42.22 %), IDM for root rot (41.11 %), IPM for leaf roller (38.88 %), IPM for Papaya mealy bug (38.88 %), farm yard manure (34.44 %), soil testing and reclamation (31.11 %), chemical fertilizer (21.11 %) and biofertilizer (15.55 %). The lack of thorough knowledge and interest are the reason for partial adoption.

Non-adoption was observed in biofertilizer (38.88 %), drip irrigation (22.22 %), spacing (15.55 %), IPM for Papaya mealy bug (12.22 %), soil testing (7.77 %), green manure (7.77 %), IPM for leaf roller (7.77 %) and IDM for root rot (5.55 %). This might be due to non-availability and lack of knowledge on sericulture technologies. The finding is in line with the findings of Kumaresan *et al.,* (2005).

Extent of adoption of silkworm rearing technologies

The silkworm rearing practices like shoot rearing and IPM for uzifly was found to be under high adoption level (100 %). Similar

findings were observed with Sariful Islam (2004).

The maintenance of hygienic condition (88.88 %), bed disinfection (86.66 %), bed spacing maintenance (86.66 %), separate rearing house (82.22 %), bed cleaning (77.77 %), improved mountages (76.66 %), IPM for silkworm diseases (76.66 %), room disinfection (74.44 %), temperature and humidity maintenance (64.44 %), silkworm race (56.66 %), incubation of dfls (22.22 %) and black boxing (22.22 %) have been adopted fully (Table 2).

Table.1 Extent of adoption of mulberry cultivation technologies (n=90)

SI.No.	Technologies	Full adoption		Partial adoption		Non-adoption	
		Number	Percentage	Number	Percentage	Number	Percentage
1.	Soil test & reclamation	56	62.22	28	31.11	6	7.77
2.	Mulberry variety: V1	90	100	-	-	-	-
3.	Spacing: 90 X 90	76	83.33	-	-	14	15.55
4.	Drip irrigation	70	77.77	-	-	20	22.22
5.	FYM application	59	65.55	31	34.44	-	-
6.	Green manuring	45	50.00	3	42.22	7	7.77
7.	Biofertilizer	41	45.55	14	15.55	35	38.88
8.	Chemical fertilizer	71	78.88	19	21.11	-	-
9.	Seriboost/ Boosan	90	100	-	-	-	-
10.	IPM for leaf roller	48	53.33	35	38.88	7	7.77
11.	IDM for root rot	48	53.33	37	41.11	5	5.55
12.	IPM for PMB	44	48.88	35	38.88	9	12.22

Table.2 Extent of adoption silkworm rearing technologies (n=90)

SI.No.	Technologies	Full adoption		Partial adoption		Non-adoption	
		Number	Percentage	Number	Percentage	Number	Percentage
1.	Silkworm race: CSR hybrid	51	56.66	-	-	39	43.33
2.	Separate rearing house	74	82.22	-	-	16	17.77
3.	Shoot rearing	90	100	-	-	-	-
4.	Room disinfection	67	74.44	23	25.55	-	-
5.	Bed disinfection: 4 kg/ 100 dfls	78	86.66	12	13.33	-	-
6.	Hygiene maintenance	80	88.88	20	22.22	-	-
7.	Incubation of dfls	20	22.22	-	-	70	77.77
8.	Black boxing	20	22.22	-	-	70	77.77
9.	Bed spacing maintained	78	86.66	12	13.33	-	-
10.	Bed cleaning	70	77.77	20	22.22	-	-
11.	Temperature & humidity	58	64.44	32	35.55	-	-
12.	Improved mountages	69	76.66	21	23.33	-	-
13.	IPM for Uzi fly	90	100	-	-	-	-
14.	IDM for Silkworm diseases	69	76.66	12	13.33	9	10

Partial adoption was observed in temperature and humidity maintenance (35.55 %), room disinfection (25.55 %), improved mountages (23.33 %), bed cleaning (22.22 %), maintenance of hygienic condition (22.22 %), bed disinfection (13.33 %), bed spacing maintenance (13.33 %) and IPM for silkworm diseases (13.33 %). Lack of adequate knowledge on improved technology and interest are the reason for partial adoption. Non-adoption was seen in IPM for silkworm diseases (76.66 %), silkworm race (43.33 %), separate rearing house (17.77 %), incubation of dfls (77.77 %) and black boxing (77.77 %). This might be due to non-availability and lack of knowledge about these practices.

Separate rearing house and maintenance of temperature and relative humidity were associated with high cost. Poor economic condition did not permit the farmers to construct separate house for silkworm rearing. Lack of knowledge to adopt recommended silkworm race is the reason for non adoption. The above findings are in line with Singhivi *et al.* (1994), Qadri *et al.* (2010) and Sujatha *et al.* (2006).

Summary

Full adoption level was observed in mulberry variety (100 %), followed by seriboost/ poshan (100 %), spacing (84.44 %), chemical fertilizer (78.88 %), drip irrigation (77.77 %), farm yard manure (65.55 %), soil test and reclamation (62.22 %), IPM for leaf roller (53.33 %), IDM for root rot (53.33 %), green manuring (50 %), IPM for Papaya mealy bug (48.88 %) and biofertilizer (45.55 %). The silkworm rearing practices like shoot rearing, IPM for uzifly had reported higher adoption level (100 %). Maintenance of hygienic condition (88.88 %), bed disinfection (86.66 %), bed spacing maintenance (86.66 %), separate rearing house (82.22 %), bed cleaning (77.77 %), improved mountages (76.66 %), IPM for silkworm diseases (76.66 %), room disinfection (74.44 %), temperature and humidity maintenance (64.44 %) and silkworm races (56.66 %) and have been adopted fully.

This study concludes, with respect to practice adoption of sericulture technologies, non-adoption was found against the practices viz., bio-fertilizer, silkworm races, egg incubation and black boxing. Hence, it is suggested to creating more awareness about the improved technologies among the sericulture farmers to produce the raw silk in to a desired level.

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