ADOPTION OF RECOMMENDED RICE CULTIVATION PRACTICES AMONG THE CULTIVATORS

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Abstract

The study was conducted in randomly selected Bhandara District of Vidarbha region. In Bhandara District there are seven talukas out of these, three talukas namely Lakhani, Lakhandur and Sakoli were selected. The study revealed that majority of farmers 66.67 per cent had medium level of adoption, followed by 20.00 per cent who had low level of adoption and 13.33 per cent who had high level of adoption.

Keywords: Adoption, Rice Cultivation, Recommended Practices, Cultivators

1. Introduction

Rice (Oryza sativa) is the most widely consumed stable food; Rice is grown in India during winter and summer seasons. Rice accounts for 20 per cent of the world's dietary energy supply, Rice is the most important food crop in terms of human nutrition and caloric intake, accounting for more than one-fifth of all calories consumed globally by humans. It is grown on an area of 164.19 million hectares worldwide, with an annual production of approximately 505.4 million tons. Asia is the world's largest continent, producing and consuming more than 90% of the world's rice. Maharashtra is a significant rice producing state in India. Cultivation is almost entirely mono-crop, with rice accounting for approximately 97 per cent of food grain production and approximately 80 per cent of total cropped area. The state has 14.99 lakh hectares of rice land, producing 32.37 lakh tons with a productivity of 2.01 tons per acre in 2020-21. (Statistical Abstract, Maharashtra, 2021). Farmers must have correct, reliable and sufficient knowledge about the rice crop package of practices because assimilation of technological knowledge and its actual adoption are the basic inputs for achieving higher yield. Knowledge of innovation is essential because it motivates people to use technology. Adoption of new knowledge, formation of favorable attitudes and investment of an individual's resources are the primary for increasing crop production. With the objective, to know the extent of adoption level of recommended rice cultivation practices among the cultivators study was conducted.

2. Methodology

The study was conducted in randomly selected Bhandara District of Vidarbha region. Out of seven talukas three talukas i.e Lakhani, Lakhandur and Sakoli were selected as area and rice production was more in these regions. The data collected from respondents using the personal interview schedule. The qualitative information was converted into quantitative form, and scores were computed for each of the independent and dependent variables. The statistical tests used in the present study for analysis of data were Frequency, Percentage, Mean and Standard deviation.

3. RESULTS AND DISCUSSION

The results are presented under the following heads.

3. 1. Adoption of respondent about rice production technology

Adoption refers to both mental acceptance and also covers use of production technology.

Table 1: Practice wise adoption of rice production technology by the respondents

Sr. No.	Recommended practices	Fully		Partially		No-adoption	
		Freq.	%	Freq.	%	Freq.	%
(A)	**Preparatory practices**						
	a) Selection of soil (yellowish to brown)	80	66.67	40	33.33	00	00
	b) Application of compost/FYM (25 to 30 carts/ha)	70	58.33	50	41.66	00	00
	c) Application of green manure (10 tonnes/ha)	60	50.00	40	33.33	20	16.66
(B)	**Seed**						
	a) Use improved and hybrid variety of rice (Shinewahi-75, Sakoli-7, PKV-HMT, Pandhari luchai-112, PKV Makarand, Sakoli-8, IR-36, BPT-5204)	56	46.67	32	26.67	32	26.66
	b) Seed rate (100 kg/ha)	115	95.83	05	04.17	00	00
(C)	**Sowing**						
	a) Recommended sowing time of rice (Jun to July)	120	100.00	00	00	00	00
	b) Seed treatment with Azatobactor before sowing (25gm/kg)	55	45.83	48	40.00	17	14.17
	c) Method of nursery (flat bed seedling)	110	91.67	10	08.33	00	00
(D)	**Biofertilizer and chemical fertilizer management**						
	a) Application of biofertilizer (blue green algae)	68	56.67	37	30.83	15	12.50
	b) Application of BGA (8 to 10 DAS)	50	41.67	70	58.33	00	00
	c) Application of fertilizer NPK 100: 50: 50 kg/ha	90	75.00	30	25.00	00	00
	d) Application of half nitrogen dose-one month after sowing	80	66.67	16	13.33	24	20.00
(E)	**Weed management**						
	a) Use of herbicide (Butachlor 3.75 litre/ha)	48	40.00	72	60.00	0	00
	b) Use of Conoweeder or sickle	45	37.50	68	56.67	7	05.83
(F)	**Irrigation management**						
	a) Recommended water level in rice field (5cm)	108	90.00	12	10.00	00	00.00
	b) Application of water in blooming stage	87	72.50	18	15.00	15	12.50
(G)	**Pest management**						
	Forate 10 per cent, 10 kg or Quinolphos 5 per cent, 15 kg per ha. For control of tuber or silvery bug in rice without growth of main stem.	67	55.83	32	26.67	21	17.50
(H)	**Disease management**						

	For the control of Xanthomonas compestrispvoryzae, Tricyclazole 75 per cent, 7 gram should be mixed with 10 litre of water and sprayed.	71	59.16	20	16.67	29	24.17
(I)	**Harvesting and Threshing**					
	a) Harvesting of rice crop is usually done when the rice coat is brownish yellow and the grain is firm.	104	86.67	16	13.33	00	00
	b) Threshing (10 days after harvesting)	79	65.83	22	18.33	19	15.84

The data from Table 1 showed that, 66.67 per cent of the farmers had full adoption of yellowish to brown soil for rice cultivation, while 33.33 per cent of the respondents had partially adopted. Whereas 58.33 per cent of the respondents were full adoption of applied of FYM or compost while, 41.66 per cent of the respondents had partially adopted and 50.00 per cent of the farmers had full adoption of application of green manure while, 33.33 per cent of the respondents had partially adopted and remaining 16.66 per cent of the respondents had non-adopted.

In case of seed, 46.67 per cent of the farmers had full adoption of improved and hybrid variety of rice, while, 26.67 per cent of the respondents had partially adopted. Whereas, 26.66 per cent of the farmers had non adopted. Also, 95.83 per cent of the respondents had fully adopted about seed rate for rice cultivation while, 04.17 per cent of the respondents had partially adopted.

According to the Table 1, show that all 100.00 per cent of the respondents had fully adopted recommended sowing time, whereas 45.83 per cent of the farmers had full adoption about seed treatment with azatobactor before sowing, while, 40.00 per cent of the respondents had partially adopted. And 14.17 per cent of the respondents had non-adopted. 91.67 per cent of the respondents had fully adopted flat bed seedling method of nursery. While,8.33 per cent of the respondents had partially adopted.

The data revealed in Table 1 shows that, 56.67 per cent of the farmers had full adoption of Application of biofertilizer, such that 30.83 per cent of the respondents had partially adopted, 12.50 per cent of the respondents had non-adopted. Similarly 41.67 per cent of the respondents had fully adopted the application of blue green algae (8 to 10 DAS), while, 58.33 per cent of the respondents had partially adopted. Also 75.00 of the farmers fully adopted about application of fertilizers, 25.00 per cent of the respondents had partially adopted, whereas, 66.67 per cent of the respondents had full adoption of application of half nitrogen dose-one month after sowing, 13.33 per cent of the respondents had partially adopted, remaining 20.00 per cent of the respondents had non-adopted.

Regarding weed management, 40.00 per cent of the farmers had fully adopted about use of herbicide, 60.00 per cent of the respondents had partially adopted, whereas, 37.50 per cent of the farmers had full adoption of use of conoweeder or sickle, such that, 56.67 per cent of the respondents had partially adopted. And 05.83 per cent of the respondents had non-adopted.

In case of irrigation management, 90.00 per cent of the farmers had full adoption of recommended water level in rice field (5cm), only 10.00 per cent of the respondents had partially adopted. While, 72.50 per cent of the farmers had fully adopted about application of water in blooming stage, 15.00 per cent of the respondents had partially adopted, and only12.50 per cent of the respondents had non-adopted.

From Table 1 shows that, 55.83 per cent of the farmers had full adoption of spraying of Forate 10 per cent, 10 kg or Quinolphos 5 per cent, 15 kg per ha. For control of tuber or silvery bug in rice without growth of main stem. Also, 26.67 per cent of the respondents had partially adopted and remaining, 17.50 per cent of the respondents had non-adopted.

It was observed from Table 1 that, 59.16 per cent of the farmers had fully adopted for the control of Xanthomonas compestrispvoryzae, Tricyclazole 75 per cent, 7 gram should be mixed with 10 litre of water and sprayed, also 16.67 per cent of the respondents had partially adopted, while, 24.17 per cent of the respondents had non-adopted.

About 86.67 per cent of the farmers had full adoption of harvesting of rice crop is usually done when the rice coat is brownish yellow and the grain is firm, while, 13.33 per cent of the respondents had partially adopted. Such that, 65.83 per cent of the farmers had fully adopted about threshing (10 days after harvesting), while, 18.33 per cent of the respondents had partially adopted, only few 15.84 per cent of the respondents had non-adopted.

4.2. Overall adoption level

Table 2: Distribution of respondents according to their level of overall adoption of rice production technology

Sr. No	Category	Frequency	Per cent
1	Low (Up to 26)	24	20.00
2	Medium (27 to 32)	80	66.67
3	High (Above 32)	16	13.33
	Total	**120**	**100.00**

Table 2 revealed that majority 66.67 per cent of farmers had medium level of adoption followed by low level 20.00 per cent farmers and high level 13.33 per cent of respondents.

This observation is same as More (2016), Prodhan, *et al.* (2017).

Conclusion:

The study revealed that majority of farmers 66.67 per cent had medium level of adoption, followed by 20.00 per cent who had low level of adoption and 13.33 per cent who had high level of adoption.

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