



Research Article

CONSTRAINTS PERCEIVED AND SUGGESTIONS OFFERED IN ADOPTION OF SUMMER RICE PRODUCTION TECHNOLOGY

DHRUW Y.S.*, SURYAWANSHI D.K. AND PRASAD G.

Department of Agricultural Extension, Indira Gandhi Agricultural University, Raipur, 492012, Chhattisgarh

*Corresponding Author: Email-yuvrajdhruw.igkv@gmail.com

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Abstract- The study was conducted during the year 2013-14 in the Dhamtari district of Chhattisgarh state. The primary data was collected through personal interview schedule of farmers from twelve villages covering two blocks. The constraints which were most perceived by summer rice growers were hand weeding is time and labour intensive, high cost of hybrid seed and lack of knowledge about light trap. Farmers offered suggestions regarding summer rice production technology were release of canal water at proper time, timely available of fertilizer and extension activities i.e. kisan mela, demonstration, exhibition, visits etc. should be conducted in village at proper time.

Keywords- Constraints, Suggestion, Summer rice, Adoption and Production technology

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Introduction

Rice (*Oryza sativa* L.) is one of the most important food crops of the world both in terms of area (147.30 million ha.) and production (518.40 million tons). It is consumed by more than half of the world population. About 90 per cent of world rice is grown and consumed in Asia and about 2.8 million people derive 35-39 per cent calories intake from rice. Rice is the staple food for more than 65 per cent of the people of India. At present, the rice is grown in 44.6 million ha and the production in the country is around 90 MT. In Asian countries, rice is the major staple crop covering about ninety per cent of rice grown in the world, with two countries, China and India, growing more than half of the total crop. Within the country, rice occupies one-quarter of the total cropped area, and contributes about 40 to 43 per cent of the total food grain production and continues to play a vital role in the food and livelihood security system. Rice being the main source of livelihood for more than 120-150 million rural household is the backbone of the Indian Agriculture. It occupies about 23.30 per cent of the food grain production and 55 per cent of cereal production. The rice plays a vital role in the national food security. The country's population of more than a billion is growing at 1.8 per cent per year, outpacing the 1.40 per cent annual growth rate of rice production. In order to maintain self-sufficiency, annual production needed to increase by 2 million tones every year [1].

Net sown area of the Chhattisgarh state is 4.828 m ha and the gross sown area is 5.788 m ha. In Chhattisgarh, rice is grown in 3.788 million ha during kharif season with average yield of 1751 kg/ha (2010-11). The area under Rabi crops is 1.707 million ha. During Rabi season irrigation is available for 0.361 million ha, in which share of summer rice is 45% (0.164 million ha) with average yield of 1941kg/ha [2].

Dhamtari district of Chhattisgarh state has geographical area of about 408.19 thousand hectares, area under kharif is 142 thousand hectares where as rabi area is 80.35 thousand hectares thus the total area under crops is 222.35 thousand hectares. The cropping intensity is 158 per cent. Total irrigated area is about

157.1 thousand hectares. The total area under rice cultivation is 46058 hectares and the total production of rice is 324692 MT. In this area rice is mainly grown in rainfed condition. The productivity of rice in rainfed area ranges between 10 to 11 q ha-1 whereas, it is 16 to 19q ha-1 in irrigated area. Out of 27 district of Chhattisgarh state, the production of rice is highest in Durg district (829.10 thousand tonnes), followed by Dhamtari (326.50 thousand tonnes) and lowest in Narayanpur district i.e. 27.10 thousand tones [3].

Countering the importance and facts in view, the present study was undertaken with the following specific objectives:

1. To find out the constraints faced by the farmers in adoption of recommended cultivation practices of summer rice, and
2. To obtain the suggestion from the rice growers to minimize the constraints and enhancing the adoption of recommended cultivation practices of summer rice.

Material and Methods

The study was conducted during the year 2013-14 in the Dhamtari district of Chhattisgarh state. The Chhattisgarh state consists of 27 districts, out of which Dhamtari district was selected purposively because the farmers of this district adopted highest cultivation of summer rice. There are 4 blocks in Dhamtari district namely; Dhamtari, Nagri, Kurud and Magarlod. Out of these, two blocks namely Dhamtari and Kurud were selected purposively for this study, because these blocks are highest cultivation area of summer rice. Six villages (6x2=12) were selected randomly from each selected block. Thus the total 12 villages had been selected for the study. The details about list of villages for the study are as follow: From Kurud block, Joratrai, Silouti, Khapri, Bhatagon, Maroud and Kodebeda and from Dhamtri block, Chhati, Kandel, Devpur, Dhimatikur navagon, Piparchhedi and Sankra. From each village, 12 summer rice growers were selected randomly. In this way a total of 72 farmers from each block were selected. Thus the total 144 farmers from two blocks were selected randomly for the study. The data were

collected personally through pre-tested interview schedule. The collected data were analyzed by the help of various statistical tools i.e. frequency and percentage.

Results and Discussion

Constraints in adoption of summer rice production technology: Attempts have been made in this study to identify the technological constraints, which were responsible for adoption of recommended cultivation practices of summer rice. The technology constraints reported by the respondents were given in below.

Table-1 Distribution of the respondents according to their technological constraints faced in adoption of summer rice production technology (n=144)

S.N.	Technological constraints	Number	Per cent
1	Lack of knowledge about proper land preparation	24	16.66
2	Implements is costly for land preparation	75	52.08
3	Non availability of improved seed at proper time	42	29.16
4	High cost of hybrid seed	82	56.94
5	Lack of knowledge about seed treatment	32	22.22
6	Lack of knowledge about proper seed rate	69	47.91
7	Lack of knowledge about transplanting time	22	15.27
8	Lack of knowledge about proper spacing	53	36.80
9	Frequent attack of stem borer in seedling	65	45.13
10	High cost of fertilizers	68	47.22
11	Imbalance dose of fertilizers	82	56.94
12	Non availability of fertilizers at proper time	45	31.25
13	Low availability of FYM	26	18.05
14	Release of canal water not available at proper time	68	47.22
15	Hand weeding is time and labour intensive	112	77.77
16	High cost of weedicide	74	51.38
17	Higher infestation of stem borer	66	45.83
18	High cost of insecticide	76	52.77
19	Lack of knowledge about light trap	92	63.88
20	Not available of resistance variety	52	36.11
21	Higher infestation of BLB	52	36.11
22	Difficulty in identification of disease infestation	68	47.22
23	Not availability of labour at harvesting time	74	51.38
24	Drying of harvested procedure not possible due to cloudy weather	21	14.58

*Data are based on multiple responses

The data indicated [Table-1] that regarding constraints in adoption of cultivation practices of summer rice. As regards to technological constraints, hand weeding is time and labour intensive (77.77 per cent), lack of knowledge about light trap (63.88 per cent), high cost of hybrid seed and imbalance dose of fertilizers (56.94 per cent), high cost of insecticide (52.77 per cent), implement is costly for land preparation (52.08 per cent), high cost of weedicide and non availability of labour at harvesting time (51.38 per cent), lack of knowledge about proper dose of seed rate (47.91 per cent), high cost of fertilizers and release of canal water not available at proper time and difficulty in identification of disease infestation (47.22 per cent), higher infestation of stem borer (45.83 per cent), frequent attack of stem borer (45.13 per cent), lack of knowledge about proper spacing 36.80 per cent), higher infestation of BLB and not available in resistance variety (36.11 per cent), non availability of fertilizers (45.13 per cent), non availability of improved seed (29.16 per cent), lack of knowledge about seed treatment (22.22 per cent), low availability of FYM (18.05 per cent), lack of knowledge about proper land preparation (16.66 per cent), lack of knowledge about transplanting time (15.27 per cent) and drying of harvested procedure not possible due to cloudy weather (14.58 per cent).

It can be inferred from the above findings that hand weeding is time and labour intensive, lack of knowledge about light trap, high cost of hybrid seed were major

constraints faced by the farmers in adoption of recommended cultivation practices of summer rice.

Jayasankar and Thyagarajan (2010) [4] revealed that majority of the rice farmers reported "non availability of labour" as their major constraint in the adoption of recommended biofertilizer practices.

Singh and Varshney (2010) [5] concluded that non availability of high yielding varieties, high cost of labour, lack of conviction in the new technology and weak extension activities at the village level were the major constraints faced by the farmers in rice production technology.

Table-2 Distribution of respondents as per the suggestions given to overcome the constraints (n= 144)

S.N	Suggestions	Number	Percent
1	Extension activities i.e. kisan mela, demonstration, exhibition, training, visits etc. should be conducted in village at proper time.	60	41.66
2	Hybrid rice seed available at low price	38	26.38
3	Transplanter should be available in low price	15	10.41
4	Release of canal water at proper time	74	51.38
5	Timely available of fertilizer	67	46.52
6	Stem borer and hopper resistance variety should be available	12	8.33
7	Agriculture equipment should be available in low price	45	31.25
8	Herbicides and pesticide should be available in low price	42	29.16
9	Support price of rice should be increased	46	31.94
10	Credit should be available at proper time	23	15.97
11	Crop insurance should be provided	4	2.77
12	R.A.E.Os should be convey right information at right time	48	33.33

*Data are based on multiple Responses

As regards to suggestions given by the respondents to overcome the constraints in adoption of summer rice production technology are presented in the [Table-2]. The data revealed that the majority of the respondents (51.38 per cent) suggested that release of canal water at proper time, 46.52 per cent of the respondents suggested that timely available of fertilizer, 41.66 per cent of the respondents suggested that the extension activities i.e. kisan mela, demonstration, exhibition, training, visits etc. should be conducted in village at proper time, 31.94 per cent of the respondents suggested that the support price of rice should be increased, 33.33 per cent of the respondents suggested that the R.A.E.Os should be convey right information at right time, 31.25 per cent of the respondents suggested that the agriculture equipment should be available in low price, 29.16 per cent of the respondents suggested that the herbicides and pesticides should be available at low price, 26.38 per cent of the respondents suggested that the price of hybrid rice should be low, 15.97 per cent of the respondents suggested that the credit should be available at proper time, 10.41 per cent of the respondents suggested that the transplanter should be available in low price, 8.33 per cent of the respondents suggested that the stem borer and hopper resistance variety should be developed and 2.77 per cent of the respondents suggested that the crop insurance should be provide.

Kushwaha (2005) [6] also revealed that proper irrigation facilities should be provided, fertilizer, plant protection, chemicals and other input material should be supplied at proper time, regular training programme should be imported in the village about recommended improved technology and seed of resistant high yielding varieties should be available in time on reasonable rates were the major suggestion given by rice growers.

Conclusion

It can be concluded that, major constraints were hand weeding and labour shortage, lack of knowledge about light trap and balance dose of fertilizers, high cost of hybrid seed, non availability of fertilizer at proper time and high cost of insecticide and pesticides. Most of the summer rice growers suggested that release of canal water at proper time, timely available of fertilizer, extension activities i.e. kisan mela, demonstration, exhibition, visits etc. should be conducted

in village at proper time, increase minimum support price of rice and crop insurance facility should be provide.

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Author Contributions: Dhruw Y.S.^{*}, Suryawanshi D.K.¹ AND Prasad G.²

Abbreviations: FYM (Farm Yard Manure), BLB (Bacterial Leaf Blight), R.A.E.O.(Rural agriculture Extension Officer) and ha (Hectare).

Conflict of Interest: None declared

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