SHORT COMMUNICATION

CONSTRAINTS AND SUGGESTIONS IN ADOPTION OF RICE VARIETIES

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Abstracts: The present study conducted during 2015-16 to 2016-17 in Chhattisgarh plains. 320 respondents were selected randomly for the data collection. 71.88 per cent respondents said that the lack of demonstration of IGKV released rice variety in farmer's field was barriers of speedy adoption because of farmers believe in varieties, after varietal production result. 15.63 per cent respondents said that extension worker also not aware about the new IGKV rice varieties. 71.88 per cent of the respondents suggested conducting a demonstration of IGKV released rice varieties in villages because most of the respondents believed in rice variety after their output.

Keywords: Constraints, Demonstration, Suggestions, IGKV rice varieties

INTRODUCTION

Rice (*Oryza sativa* L.) is the most important staple food in Asia. More than 90 per cent of the world's rice is grown and consumed in Asia, where 60 per cent of the world's population lives (Guyer *et al.*, 2013). It accounts for 73 per cent of the calorie intake in Bangladesh, 40 per cent in Nepal, and 30 per cent in India. South Asia has about 37 per cent of the world's total rice area and approximately 50 per cent of the rice-growing area in South Asia is rain fed. Rice is the only crop that grows well in large areas of wetlands in monsoon Asia. Most of these rain fed rice areas regularly suffer from various abiotic stresses such as droughts, floods and salinity. The productivity of rice in these stress-prone rains fed environments is less than 3.0 t ha^{-1}. Historical rice productivity trends in three countries of South Asia (India, Bangladesh and Nepal) show that growth in yield has been sluggish and unstable in rain fed areas due to the regular occurrence of abiotic and biotic stresses. Therefore, improving the productivity of rice through stress-tolerant technologies is a key entry point to enhance the income and livelihood of resource-poor farmers in these stress-prone environments (Behura *et al.*, 2012).

India has released a lot of rice varieties but only a few varieties are popular amongst farmers due to its characteristic. All released rice varieties are not completely disseminated amongst farmers (Anonymous, 2017).

Indira Gandhi Krishi Vishwavidyalaya is an autonomous non-profit, research and educational organization working for the uplifting of farmers livelihood of Chhattisgarh and it's headquarter is situated in Raipur.

Many rice varieties evolved from IGKV, Raipur. Mahamaya was evolved in 1996 from Asha x Kranti parentage, long bold grain with 45-55q ha^{-1} average yield. Further, year by year researches in rice increased and till 2015 about fifteen rice varieties were evolved *i.e.* Mahamaya, Poornima, Shyamla, Danteshwari, Indira Sugandhit Dhan-1, Bamleshwari, Samleshwari, Jaldubi, Chandrahasini, Indira sona, Indira barani dhan-1, Karma mahsuri, Maheshwari, Durgeshwari, Rajeshwari and Indira aerobic-1 (Sarawagi *et al.*, 2016)

There is a lot of rice varieties released for India as well as for Chhattisgarh also but only a few varieties have reached amongst the farmers. From IGKV also many rice varieties have been released but only a few varieties are well disseminated amongst the farmers and only a few varieties are popular amongst farmers.

MATERIALS AND METHODS

The study was conducted during the year 2015-16 to 2016-17 in the Chhattisgarh plains zone, there are total fifteen districts where four districts *i.e.* Raipur, Rajnandgaon, Dhamtari, Mahasamund were purposively selected because of here maximum newly released rice varieties distributed. Two blocks where maximum rice seed of newly released varieties was distributed were selected purposively from each selected district to make a total of eight blocks in the sample. Four villages where the maximum seed of newly released varieties was distributed were selected purposively from each selected block, thus total villages were thirty-two. Ten respondents were selected randomly from each selected village, thus total respondents were three hundred twenty. The data were collected through well structured and pre-tested interview schedule; an interview schedule consisting of various types of questions related to the objectives of the study was, therefore developed. Initially, the schedule was developed in English and was then translated to the local language *i.e.* Hindi. The schedule was pre-tested and as per the

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experience gained during pre-testing the language of some of the questions was suitably worded and was made more understandable and clear and the schedule was then finalized. The data were collected by personal interview method by contacting the respondents (farmers) at their home. The respondents did hesitate to give the required information in the beginning. To get the authentic information the help of local leaders, sarpanch, member of gram panchayat, Kisan Mitra, and Rural Agricultural Extension Officers (RAEOs) were sought and the rapport was developed with the respondents.

RESULTS AND DISCUSSION

Constraints of the respondents in speedy adoption of IGKV released rice varieties

The finding given in Table 1 revealed that 71.88 per cent respondents said that lack of demonstration of IGKV released rice variety in farmer's field was barriers of speedy adoption because of farmers believe on varieties, after varietal production result.

Table 1. Distribution of respondents according to their constraints in speedy adoption of released rice varieties by IGKV

Sl. No.	Constraints	Frequency	Percentage
1	Lack of knowledge of IGKV released rice variety	195	60.93
2	Seed unavailability of IGKV released rice variety	121	37.81
3	Lack of demonstration of IGKV released rice variety on farmers field	230	71.88
4	Non-availability of IGKV rice varieties in required quantity inappropriate time.	150	46.88
5	Low land-holding	172	53.75
6	Demanded seed also not available in the market *i.e.* Rajeshwari	120	37.50
7	There is no difference in yield to adopt IGKV rice variety	180	56.25
8	Extension workers also not aware about the new IGKV rice varieties	50	56.25
9	IGKV rice varieties not cultivated in surrounded field	110	34.38

The majority (60.93%) of the respondents had lack of knowledge of IGKV released rice variety followed by 56.25 per cent of the respondents said that no difference in yield between IGKV varieties and non-IGKV rice varieties, so they adopted only those varieties, which was cultivated in the previous year. 53.75 per cent of the respondents had low land holding so they were unable to try a new variety of IGKV, due to fear of fail of variety. 46.88 per cent of the respondents had constraints of nonavailability of IGKV rice varieties in required quantity in inappropriate time. 37.50 per cent of the respondents had constraints of demanded IGKV rice varieties also not available in the market. 34.38 per cent respondents had the problem of IGKV rice varieties not cultivated surrounding the field of other farmers. Whereas, 15.63 per cent respondents said that extension worker also not aware about the new IGKV rice varieties. Whereas Kumar *et al.* (2010) revealed that the main constraints faced by pulse grower were non availability of improved variety seeds, manure and fertilizers in time, lack of knowledge regarding weed control and back of regulated market for sale.

Suggestions for a speedy adoption of IGKV released rice varieties

The finding presented in Table 2, elaborated that 71.88 per cent of the respondents suggested conducting a demonstration of IGKV released rice varieties in villages because of most of the respondents believed in rice variety after their output. 60.93 per cent of the respondents suggested that required giving information of IGKV released rice varieties, followed by 56.25 per cent of the respondents suggested giving information related to yield of IGKV released rice varieties, 53.75 per cent of the respondents suggested that free crop insurance will be provided to the farmers for cultivation of IGKV released rice varieties especially for limited land holders, due to crop insurance some respondents may try to adopt of newly released rice variety of IGKV. 37.81 per cent of the respondents make sure of seed availability of IGKV rice variety. 37.50 per cent of the respondents suggested that make seed availability of demanded seed of IGKV rice, 34.38 per cent respondents gave suggestion to motivate farmers group to cultivate IGKV rice variety in their field, whereas only 15.63 per cent of the respondents gave the suggestion that gives information to extension workers also of IGKV released rice varieties.

All suggestion are valuable to make speedy adoption of IGKV rice varieties, IGKV rice varieties adoption area was only 25.69 per cent which have discussed in previous, this adoption area of IGKV rice varieties is very poor its mean not poor characteristic of rice variety, many IGKV rice varieties have efficiency of

better performance but due to above-discussed factors break the adoption rate.

Table 2. Distribution of respondents according to their suggestion to overcome the given constraints in the speedy adoption of released rice varieties by IGKV

Sl. No.	Suggestions	Frequency	Percentage
1	Providing information on released rice variety	192	60.93
2	Make seed availability of released rice variety by IGKV	121	37.81
3	Conduct demonstration in every village because villagers adopt new variety after seen production result.	230	71.88
4	Make availability of IGKV rice varieties in required quantity inappropriate time.	150	46.88
5	provide free crop insurance for new variety especially for low land-holders	172	53.75
6	Make seed availability of demanded seed of rice variety	120	37.50
7	Give information regarding the yield of IGKV rice varieties	180	56.25
8	Give information regarding new released IGKV rice varieties to extension workers	50	15.63
9	Motivate to cultivate IGKV rice varieties surrounding the field	110	34.38

CONCLUSION

Lack of demonstration of IGKV released rice varieties was major constraints in adoption, majority respondents not aware about IGKV rice varieties so that low adoption noted of IGKV rice varieties. Respondents suggested that conduct demonstration on farmers' field so that farmer aware about IGKV rice varieties.

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REFERENCES

Anonymous (2017). Seed net India Portal, http://seednet.gov.in

Behura, D., Koshta, A., Naik, D., Samal, P. and Malabayabas, M. (2012). Patterns of adoption of improved rice varieties and farm-level impacts in stress-prone rainfed areas in South Asia. Int. Rice Research Institute, 1-326.

Guyer, D., Tuttle, A., Rouse, S., Volrath, S., Johnson, M., Potter, S., Gorlach, J., Goff, S., Crossland, L. and Ward, E. (2013). Activation of Latent Transgenes in Arabidopsis Using a Hybrid Transcription Factor. Genetics, 149: 633-639.

Kumar, P., Peshin, R., Nain, M.S. and Manhas, J.S. (2010). Constraints in pulses cultivation as perceived by the farmers. Raj. J. of Ext. Edu., 17&18:33-36.

Sarawagi, A.K., Bhandarkar, S., Sharma, D., Sharma, B., Chandel, G. and Nair, S.K. (2016). Evolved improved rice varieties by Genetics and Plant breeding Department and its characteristic. Department of Genetics and Plant Breeding, Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.).