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Constraints Faced by Basmati Rice Growers and Suitable Extension Strategies in Adoption of Basmati Rice Production Technologies

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ABSTRACT
The study was conducted in district Saharanpur during 2014 to investigate the constraints faced by basmati rice growers. To this end, primary data was collected through structured questionnaire using a sample of size eighty allocating to four block selected purposively, each comprising two villages selected on the basis of proportional sampling technique. It was observed that the 100 per cent respondent where facing constraints high cost of fertilizers, it was ranked in first. The findings revealed that majority of the respondents (51.67 per cent) were found to have medium level of adoption about recommended bio-fertilizer technologies in rice cultivation followed by low and high level. Some respondent give suitable suggestion for high production. Rice growers giveSuitable extension strategies-The Govt. Should be reduces cost of fertilizers, chemical, new seeds and irrigation charges show farmers should be more adopted in new technique so basmati rice production will be increase and The extension workers should be proper visit at farmer`s field and provide timely need based information to the farmers and solve their problems on the spot
Key words*: Basamati Rice growers, Constraints and suitable extension strategies*

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INTRODUCTION

India was the world's largest rice exporter in the last two years, but traders say that India's non-basmati rice exports could decline around 25% (to around 4 million tonnes) this year due to competition from Thailand and Vietnam. However, India's basmati rice exports are steady, reaching around 4 million tonnes in 2013-14, up about 14% from about 3.5 million tones exported in 2012-13. Higher basmati rice production could boost exports and help India remain the world's largest rice exporter, say local sources. Basmati rice production is likely to surge also due to the introduction of the new basmati rice variety, PUSA 1509 which was released by the Indian Agricultural Research Institute (IARI) last year. IARI scientists say PUSA 1509 was received well by both farmers and traders and is likely to replace about 60-70% of area under PUSA 1121 which dominated the Indian basmati rice production for several years.
Scientists say that PUSA 1509 has a yield of around 5.5 - 6.25 tonnes per hectare, about 25% higher than PUSA 1121's average yield of about 4.5 - 5 tonnes per hectare. The new variety also consumes less water and may replace some non-basmati varieties as well due to growing water scarcity in the northern parts of India.
The new idea and information are of course basic to development and agriculture can't be an exception. However these are hardly accepted because of lack of scientific knowledge, skill and limitations at the farmers' level the transfer of the global population is expected to reach 8.5 billion and agricultural land

availability will decline appreciably. To meet the demand of rapidly increasing population of our country, the projection of India's rice production target for the year 2020 is 115-120 million tonnes, which can be achieved by increasing rice production by over 2.0 million tonnes per year in the coming decades. This has to be done against the backdrop of diminishing natural resource bases like land, labour and water, which is a great challenge [1]. The scarcity of productive agricultural land may force us to grow agricultural crops in harsher environments.

MATERIAL AND METHODS

Selection of respondents

After identifying the villages a list of major basmati rice growing families from each selected village were prepared with the help of V.D.O / V .L W. and village pradhan. Ten respondents from each village were selected purposively. Thus making sample size of 80 respondents for the present investigation of the study.

Preparation of survey schedule

An interview schedule was prepared on the basis of pilot study, review of literatures and discussion with extension personnel's of KVK, block officials, VLW and farmers of the study area.

Period of study

The research project was assigned with the commencement of the academic year of the final course. The study continued till the second week of July 2014.

Research tools applied.

Data were collected with the help of pre structured interview schedule covering all aspect of the present study. To make the procedure and information reliable and accurate, the researcher himself collected data with every individual respondent either at his farm or at his home. Interview schedule was developed and used for collecting information comprehensively. Before collecting information the purpose of the interview data collection and and study as a whole were explained to the respondents.
Statistical methods and analytical tools used for measuring and analyzing the data in the study were-

Percentage

Simple comparison has been made on the basis of percentage .For obtaining percent, the frequency of a particular cell was multiplied by 100 and divided by the total number of respondents in that particular category to which all of them belonged .The formula used to calculate the percentage is given below-

$$\text{Percentage} = \frac{\text{Frequancy}}{\text{number of respondants}} \times 100$$

Rank order:

The various rank were given on the basis of highest to the lowest frequency/ mean.

RESULT AND DISCUSSION

Table No. 1.Frequency and percentage distribution of respondents' according to various constraints in basmati rice.

S. No.	Constraints	Frequency	Per cent	Rank order
1.	Lack of knowledge about improved high yielding varieties.	51	63.75	IX
2.	Lack of knowledge about plant protection measurements.	46	57.50	X
3.	Unavailability of critical inputs in government's sales centers.	40	50.00	XII
4..	Lack of knowledge about quality seed and chemicals.	57	71.25	VIII
5.	High prices of new seeds.	63	78.75	VI
6.	High prices of new chemicals.	73	91.25	III
7.	Poor roads and transportation facilities.	77	96.25	II
8.	Less numbers of information centers.	60	75.00	VII
9.	Untimely availability of electricity.	71	88.75	V
10.	High irrigation charge.	35	43.75	XIV
11.	Government tub well are not proper functioning.	71	88.75	V
12.	High cost of fertilizers.	80	100.00	I
13.	Unavailability of organic manure.	46	57.50	X
14.	Lack of knowledge about bio- fertilizers.	72	90.00	IV
15.	Lack of knowledge about micro nutrients.	38	47.50	XIII
16.	Lack of knowledge about balance fertilizers.	45	56.25	XI

Constraints faced by basmati rice grower in adoption of basmati rice production technologies.

Thedata presented in the table 3, revealed that the 100 per cent respondent where facing constraints high cost of fertilizers, it was ranked in first. The findings revealed that majority of the respondents (51.67 per cent) were found to have medium level of adoption about recommended bio-fertilizer technologies in rice cultivation followed by low and high level by Jayasankar and Thyagarajan [3]. 96.25 per cent respondent was told poor road and transport facilities. It was ranked II. 91.25 per cent respondents were facing constraints high prices of new chemicals It was ranked III. Lack of knowledge about Bio- fertilizers were respondents 90.00 per cent rank is IV. Reported that the majority of the respondents were young aged (47.8%) having primary level education (45.6%), small family size (60%), medium farm size (51.1%), medium (75.6%) annual income, medium (63.3%) extension contact, poor (50%) training experience, high (38.9%) innovativeness, medium (70%) level knowledge on rice cultivation. Majority (52.3%) of the respondents had low adoption of BRRI dhan47 whereas 44.4% medium and only 3.3% under high adoption category by Chowdhury, *et al.,* [4]. 88.75 per cent respondents faced problems of untimely supply of electricity and government tube wells not proper functioning these were in ranked V.The result revealed that almost 68% of farmers had high tendency to adoption of electronic marketing and more than 70% of respondents chose rural ICT offices for rice e-marketing. Experience in using the internet services and internet skill had significant effects on e-marketing adoption by Alavioon, and Allahyari, [6]. High price of new seed respondent 78.75 per cent respondent it was ranked VI. 75 per cent respondents were told less number of information Centre it was ranked VII. 71.25 per cent respondent was facing constraints lack of knowledge about quality seed and chemicals of it were ranked VIII. IX constraints was lack of knowledge improved high yielding varieties, 57.50 per cent respondent were facing problem of plant protection measure in this regards have lack of knowledge an d unavailability of organic manures these were ranked X^{th}. Reported that the field experiment rice (*Oryza sativa*) Pusa Basmati, N, P and K uptake were significantly higher under transplanted (85.5-112.8 kg N, 10.8-17.0 kg P and 150.5-172.3 kg K/ha) than direct-sown rice (35.1-35.8 kg N, 4.4-5.9 kg P and 58.5-64.3 kg K/ha) by Subhash and Pandey [1]. XI^{th}place lack of knowledge about balance fertilizers in this category 56.25 per cent respondent.XII^{th}50 per cent respondent were facing constraints of unavailability critical inputs at government Centre 47.50 percent respondents were facing constraints lack of knowledge about nutrients. It was ranked in XIII. 43.75 per cent respondents were facing constraints of high irrigation charges. It was ranked XIV. It conducted that 100 percent respondents reported constraints high cost of fertilizers and other agricultural inputs. It was found that there were positive significant correlations between the variables: experience in familiarity with agricultural extension services, rate of paddy farmers' participation in extension-educational courses, FFS programs and as well the number of extension contacts and the variable of: adoption of IPM technology among the paddy farmers by Borkhani, F. R. *et al.* [5].

Suitable extension strategies for removal of constraints in adoption of basmati rice production technologies.

- **i.** On the basis of the finding of present study the following suggestions may be made to increase the adoption level of Basmati rice cultivation.
- **ii.** The Govt. Should be reduces cost of fertilizers, chemical, new seeds and irrigation charges show farmers should be more adopted in new technique so basmati rice production will be increase.
- **iii.** The Govt. should be provide proper facilities for transportation so cost of storage will reduce and provide good quality seed the farmers for increase production of basmati rice providing to conduct demonstration at farmers field on basmati rice.
- **iv.** To provide training to the basmati rice growers to increase knowledge and skills in the regards of plant protection measure and package of practices of basmati rice cultivation.
- **v.** Provide regular electricity in rural areas for proper irrigation in basmati rice.
- **vi.** In the Govt. Sale centres the quality critical inputs should be available at proper time.
- **vii.** Timely repairing and maintenance of government tube well for proper irrigation.

The extension workers should be proper visit at farmer`s field and provide timely need based information to the farmers and solve their problems on the spot. They should tell identification of various insects-pests and diseases of the farmers. Extension worker can support this strategy with other aids like photographs of pests causing the disease, life cycle of pest's harmful stage of insect's pests and disease. For the desire impacts better linkages should be within the extension personnel, agriculture department, K.V.Ks., NGOs, line departments experts.The investigate the effect of drying air temperature influenced the drying rate significantly by Tabassum and Jindal [2]**.**

CONCLUSION

this research study that most of the respondents were under the Similarly the major constraints observed in adoption of basmati rice production technologies were lack of knowledge about improved high yielding varieties, lack of knowledge about plant protection measurement, unavailability of critical inputs in government sales centres, poor roads and transportation facilities, less number of information centres, government tub well are not proper functioning, lack of knowledge about balances fertilizers and high prices of new seeds, untimely availability of electricity.

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