



E-ISSN: 2278-4136

P-ISSN: 2349-8234

www.phytojournal.com

JPP 2021; Sp 10(1): 356-358

Received: 13-11-2020

Accepted: 17-12-2020

Sachchidanand Upadhyay

Research Scholar,

Department of Agricultural
Extension, CSAUAT, Kanpur,
Uttar Pradesh, India**VK Singh**

Ex. Professor and Head,

Department of Agricultural
Extension, CSAUAT, Kanpur,
Uttar Pradesh, India**Ashwani Kumar Verma**Assistant Professor, Rama
University, Kanpur, Uttar
Pradesh, India**Anjani Kumar Singh**Assistant Professor, Department
of Agricultural Economics and
Statistics, CSAUAT, Kanpur,
Uttar Pradesh, India**Corresponding Author:****Sachchidanand Upadhyay**

Research Scholar,

Department of Agricultural
Extension, CSAUAT, Kanpur,
Uttar Pradesh, India

Suggestions analysis on hybrid rice perceived by farmers in Eastern Zone of Uttar Pradesh using Garrett ranking technique

Sachchidanand Upadhyay, VK Singh, Ashwani Kumar Verma and Anjani Kumar Singh

Abstract

The present study was carried out to measure the suggestions perceived by hybrid rice growers in farming. The study was conducted in Eastern zone of Uttar Pradesh and sample constituted 100 farmers. Ten villages and 50 respondents were selected from each district. Thus, a total of 100 farmers who actively involved in hybrid paddy farming were randomly selected from ten villages of Ambedkar Nagar and Sultanpur district of Uttar Pradesh. Data has been collected through personal interview schedule with the objective to know the suggestions perceived by hybrid rice growers in farming. A list of 9 suggestions was prepared and data were gathered on each one. The major in farming perceived by the respondents were; 'Higher pricing ability' that ranked 1st under (Rank II) under 'Better taste'. 'Hoping for knowledge about seed treatment' secured III. This revealed technical and input related suggestions followed by socio-economic factors need to be addressed first to bring the farmer in the farming activities.

Keywords: Hybrid rice, farmers, Garrett ranking technique, Uttar Pradesh

Introduction

Rice (*Oryza sativa* L.) is one of the most important crop in the world and major staple food for the millions of the people in the Asia-Pacific region. About 90 per cent of the total rice is produced today in this region alone and most of the countries grow rice. Hybrid rice farming acts a major role in social and economical livelihood of farmers. The technology was developed in China and was first used there in 1976. Since 1984, the area planted to hybrid rice in China reached about 50 per cent of the total rice area of the country. Rice is the most important crop of India also. It occupies 23.30 per cent of gross cropped area of the country. It contributes 43 per cent of total food grain production and 46 per cent of total cereal production. Thus, it continues to play a vital role in the national food grain supply. There are three seasons for growing rice in India viz. autumn, winter and summer. The main rice growing season in the country is 'Kharif'. It is known as winter rice as per the harvesting time. The sowing time of winter (Kharif) rice is June-July and it is harvested in November-December India is having largest area under rice that is, 43.86 million hectares and production of 104.80 million tons and productivity 23.9q/ha (Anonymous 2015a) and Suneel Pawar (2017).

Methodology

The present study was carried out by following ex post facto research design in the Ambedkar nagar and Sultanpur district of Uttar Pradesh. From each district, 2 blocks and 10 villages were selected randomly. Thus study carried out in 20 villages. Five hybrid rice growers were selected randomly from each of the selected village, making a total of 100 farmers. From these 100 farmers, the eldest male farmer available at the time of data collection was interviewed. One farmer from one family was considered as unit of data collection. Primary data was collected using a well structured interview schedule to elicit the information wherein respondents were asked to reveal the type of the suggestions. Based on the intensity of suggestion; they felt in farming for choosing as a career.

Henry Garrett's ranking technique

This technique was used to evaluate the constraints faced by the researchers. The orders of merit given by the respondents were converted in to rank by using the formula. To find out the most significant factor which influences the respondent, Garrett's ranking technique was used.

As per this method, respondents have been asked to assign the rank for all factors and the outcomes of such ranking have been converted into score value with the help of the following formula:

$$\text{Percent position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

Where

R_{ij} – Rank given for the i th variable by the j th respondents

N_j – Number of variable ranked by j th respondents

With the help of Garrett's Table, the percent position estimated was converted into scores. Then for each factor, the scores of each individual were added and then total value of scores and mean values of score was calculated. The factors having highest mean value was considered to be the most important factor Dhanavandan S. (2016).

Profile and communicational characteristics of hybrid rice growers

This section relates to the distribution of hybrid rice growers with respect to the selected profile and communication characteristics of 100 farmers viz., age, educational status, caste, land holding size, family type, annual income, information sources, experience and extension participation towards hybrid rice farming are as follows in the Table 1.

Table 1: Distribution of hybrid paddy growers based on their profile and communication characteristics, (N=100)

Category	Variable
Demographic	Age, education, family type
Economic	Land holding size, annual income
Extension and Communication	Extension participation, information sources

From the above Table 1 it was observed that, majority of the hybrid paddy growers had young and middle age group, high literacy rate, marginal landholding size, small family size, low annual income, information sources, experience and extension participation of hybrid paddy farming.

Table 2: Garrett's ranking for the suggestions perceived by respondents in cultivation of hybrid rice in Ambedkar nagar district of Uttar Pradesh (n=50)

S. No.	Suggestions	Total Score	Garrett Mean Score	Rank
1.	Proper knowledge about seed treatment	2707	54.14	III rd
2.	Provide minimum management practices	2280	45.6	VIII th
3.	Higher pricing ability	3561	71.22	I st
4.	Higher profitability	2302	46.04	VII th
5.	Better taste	2741	54.82	II nd
6.	Better adaptability	2497	49.94	V th
7.	Suitable for raw rice	2363	47.26	VI th
8.	Suitable for parboiling	2135	42.7	IX th
9.	Better resistance to lodging & pests/diseases	2701	54.02	IV th

From the Table 2 it has been clearly observed that 'Higher pricing ability' was the prominent suggestions faced by them Garrett's score 71.22. The next important suggestion was 'Better taste' with Garrett's score 54.82. The third important suggestion ranked was 'Hoping for knowledge about seed treatment' with Garrett's scoring 54.14. 'Better resistance to lodging & pests/diseases' was ranked fourth. A fifth

suggestion according to rank was 'Better adaptability' with Garrett's scoring 49.94. The sixth suggestion was 'Suitable for raw rice' with Garrett's scoring 47.26. The seventh suggestion ranked was 'Higher profitability' with Garrett's scoring 46.04. The next suggestion was 'Provide minimum management practices' with Garrett's score 45.6. 'Suitable for parboiling' was ranked ninth.

Table 3: Garrett's ranking for the reasons perceived by respondents in cultivation of hybrid rice in Sultanpur district of Uttar Pradesh (n=50)

S. No.	Suggestions	Total Score	Garrett Mean Score	Rank
1.	Proper knowledge about seed treatment	2950	59	III rd
2.	Provide minimum management practices	2489	49.78	VII th
3.	Higher pricing ability	2982	59.64	II nd
4.	Higher profitability	2547	50.94	VI th
5.	Better taste	3120	62.4	I st
6.	Better adaptability	2708	54.16	IV th
7.	Suitable for raw rice	2378	47.56	IX th
8.	Suitable for parboiling	2406	48.12	VIII th
9.	Better resistance to lodging & pests/diseases	2651	53.02	V th

The above Table 3 clearly shows that the most prominent facilitative factor was the 'Better taste', the next facilitative factor with Garrett's score 59.64 was 'Higher pricing ability'. 'Hoping for knowledge about seed treatment' was ranked third with Garrett's score 59. The next facilitative factor was 'Better adaptability' with Garrett's score 54.16. 'Better

resistance to lodging & pests/diseases' was ranked fifth with Garrett's score 53.02 and sixth was 'Higher profitability', the next facilitative factor with Garrett's score 49.78 was 'Provide minimum management practices'. The next suggestion was 'Suitable for parboiling' with Garrett's score 48.12. 'Suitable for raw rice' was ranked ninth.

Table 4: Garrett's ranking for the constraints perceived by the respondents in cultivation of hybrid rice in both district (Ambedkar nagar and Sultanpur district) of Uttar Pradesh (n=100)

S. No.	Suggestions	Total Score	Garrett Mean Score	Rank
1.	Proper knowledge about seed treatment	5657	56.57	III rd
2.	Provide minimum management practices	4769	47.69	VII th
3.	Higher pricing ability	6543	65.43	I st
4.	Higher profitability	4849	48.49	VI th
5.	Better taste	5861	58.61	II nd
6.	Better adaptability	5205	52.05	V th
7.	Suitable for raw rice	4741	47.41	VIII th
8.	Suitable for parboiling	4541	45.41	IX th
9.	Better resistance to lodging & pests/diseases	5352	53.52	IV th

From the Table 4 it has been clearly observed that 'Higher pricing ability' was the predominant suggestions faced by them with Garrett's score 65.43. The next important suggestions was 'Better taste' as compared to HYV paddy with Garrett's score 58.61. The third important suggestion ranked was 'Hoping for knowledge about seed treatment' with Garrett's scoring 56.57. 'Better resistance to lodging & pests/diseases' to farmers was ranked fourth. A fifth suggestion according to rank was 'Better adaptability' with Garrett's scoring 52.05. The next suggestion was 'Higher profitability' with Garrett's score 48.49. 'Provide minimum management practices' was ranked seventh. The next suggestion was 'Suitable for raw rice' with Garrett's score 47.41. Suitable for parboiling was ranked ninth.

Conclusion

The study conclusively concluded that farmer 'Higher pricing ability' of hybrid rice so as to more benefit to the farmers as compared to HYV rice, next important suggestion was 'Better taste' whereby they feel good eating quality and third important suggestion ranked was 'Hoping for knowledge about seed treatment' as a result of reduced disease attack were the major suggestions faced by hybrid rice growers, respectively. Being a research scholar I can say from my research experience that hybrid rice is not beneficial as comparison to high yielding rice. This is because it gets a low price on sale and cannot be planted with hybrid paddy in canal irrigated areas/more irrigated area/ as it gets ripened early and is not harvested in time. Most farmers grow hybrid paddy only to sale not to eat themselves. Most farmers plant hybrid paddy and non-hybrid paddy together. Hybrids are used to sell paddy and non-hybrid paddy is used for food.

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