The Pharma Innovation Journal 2022; SP-11(4): 1879-1882

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(4): 1879-1882

www.thepharmajournal.com
Received: 22-02-2022
Accepted: 24-03-2022

Vikas Singh Sikarwar
P.G. Student MBA (Agribusiness), Department of Agricultural Economics Sam Higginbottom University of Agriculture, Technology & Sciences Prayagraj (Allahabad)-211007 Uttar Pradesh, India

Dr. Ameesh John Stephen
Assistant Professor, Department of Agricultural Economics, Sam Higginbottom University of Agriculture, Technology & Sciences Prayagraj (Allahabad)-211007 Uttar Pradesh, India

Dr. Nitin Barker
Assistant professor, Department of Agricultural Economics, Sam Higginbottom University of Agriculture, Technology & Sciences Prayagraj (Allahabad)-211007 Uttar Pradesh, India

Jayant Zechariah
Assistant professor, Department of Agricultural Economics, Sam Higginbottom University of Agriculture, Technology & Sciences Prayagraj (Allahabad)-211007 Uttar Pradesh, India

Dr. Pratyasha Tripathi
Assistant Professor, Department of Mathematics and Statistics, Sam Higginbottom University of Agriculture, Technology & Sciences Prayagraj (Allahabad)-211007 Uttar Pradesh, India

Corresponding Author
Vikas Singh Sikarwar
P.G. Student MBA (Agribusiness), Department of Agricultural Economics Sam Higginbottom University of Agriculture, Technology & Sciences Prayagraj (Allahabad)-211007 Uttar Pradesh, India

Study on awareness and product promotion activities of hybrid paddy seeds in Prayagraj district of Uttar Pradesh

Vikas Singh Sikarwar, Dr. Ameesh John Stephen, Dr. Nitin Barker, Jayant Zechariah and Dr. Pratyasha Tripathi

Abstract
Rice is an important food crop which contributes nearly 39 per cent to total food grain production in India. The population of our country has increased around 18 crores but production of rice increased by around 10 million tonnes in last decade. The level of rice production may not be sufficient to feed the ever increasing population in the future. The scope for expansion of area under rice has already been exhausted; the only way to increase the production is by increasing the productivity of rice through frontier technologies. The hybrid rice may be potential technology to increase the average productivity level of rice in the country. Hybrid rice has potential to 20-30 per cent higher production than the inbred rice within same maturity duration as reported in previous studies. But farmers could not be able to realize higher yield of hybrid rice due to poor management practices, incidence of pest and diseases etc. A study was conducted to evaluate hybrid Paddy cultivation in Handia and Phulpur blocks of Prayagraj district as these blocks having highest area under hybrid rice. A three stage sampling technique was employed for constructing sampling plan. In the first stage of sampling plan was the selection of blocks, selection of villages on second stage and respondents selection was done at on stage third. Probability proportion to size method technique was followed to select respondents which make a sample size of 150 farmers from 15 villages. This paper examines the constraints faced by farmers in adoption of hybrid paddy and suggests suitable majors. For examine the constraints Garrett ranking table was used. The Pest and disease attack was the foremost constraint faced by farmers. It could be concluded from the study that company need to develop good quality hybrid paddy seed which is resist against pest and disease and company need to increase more promotional activities in the study area.

Keywords: Constraints in adoption of hybrid paddy seeds, Nuziveedu seeds, hybrid paddy

1. Introduction
Indian agriculture has come a long way since the Green Revolution of the late 1960s. India presents an interesting scenario both GDP and food grain production in the country has risen faster than the growth in population over the last 50 years. But now the situation is becoming alarming as the agricultural growth has been static in recent years. The enormity of the problem is indicated by the fact that the during the 10-year period 1997-98 to 2006-07, our food grain production has grown at an average annual rate of only 1%. Interestingly, while the nation rejoices at the recovery in food grain production at 241.6 million tonnes in 2010-11 with 6.6% growth, the fact remains that it is only marginal increase over the production of 233.88 million tons in 2008-09. The total demand estimate for food grains will touch 280 million tons by 2020. To achieve the forgoing amount of production a growth rate of 4% in agricultural sector has to be maintained over next 15 years. It is very important that the economic growth fosters social equity. For this the agricultural growth should be in the forefront of our national GDP growth (Anon., 2012a) [4].
Therefore, the focus of the Second Green Revolution or the so called "Evergreen Revolution" is on ensuring food and nutritional security to the Indian populace especially below poverty line population which constitutes around 28% of the Indian population. With practically no more land to farm and some depletion of the agricultural land, this miracle is not easy to achieve. Science and technology have to play a big role. High productive seeds, private sector involvement and expenditure on long stalled irrigation schemes are the keys to achieving higher production. Hence a Second Green Revolution that maximizes productivity and generates income and employment opportunities for the rural population is need of hour. As the most critical of all farm inputs in agricultural production, SEED holds the key for increased productivity.

Coupled with biotechnology and other crop improvement technologies, seeds offer tremendous opportunity for improving the productivity of Indian Agriculture.

Seed is the basic and most critical input for sustainable agriculture. The response of all other inputs depends on quality of seeds to a large extent. It is estimated that the direct contribution of quality seed alone to the total production is about 15 – 20% depending upon the crop and it can be further raised up to 45% with efficient management of other inputs. The developments in the seed industry in India, particularly in the last 30 years, are very significant. A major re-structuring of the seed industry by Government of India through the National Seed Project Phase-I (1977-78), Phase-II (1978-79) and Phase-III (1990-1991), was carried out, which strengthened the seed infrastructure that was most needed and relevant around those times. This could be termed as a first turning point in shaping of an organized seed industry. Introduction of New Seed Development Policy (1988 – 1989) was yet another significant mile stone in the Indian Seed Industry, which transformed the very character of the seed industry. The policy gave access to Indian farmers of the best of seed and planting material available anywhere on the world. The policy stimulated appreciable investments by private individuals, Indian Corporate and MNCs in the Indian seed sector with strong R&D base for product development in each of the seed companies with more emphasis on high value hybrids of cereals and vegetables and hi-tech products such as Bt. Cotton. As a result, farmer has a wide product choice and seed industry today is set to work with a 'farmer centric' approach and is market driven. However, there is an urgent need for the State Seed Corporations also to transform themselves in tune with the industry in terms of infrastructure, technologies, approach and the management culture to be able to survive in the competitive market and to enhance their contribution in the national endeavour of increasing food production to attain food & nutritional security.

The Indian seeds market reached a value of US$ 3.6 Billion in 2017, exhibiting a CAGR of around 17% during 2010-2017. Indian seeds market is further expected to grow at a CAGR of 14.3% during 2018-2023, reaching a value of more than US$ 8 Billion by 2023.

The Indian seed market has witnessed a major restructuring as a result of the implementation of some progressive policies by the government. Seed Development, 1988 and National Seed Policy, 2002 have helped in strengthening the Indian seed industry in the areas of R&D, product development, supply chain management and quality assurance. Owing to this, India has emerged as the fifth largest seed market across the globe. Moreover, the active participation of both, public and private sectors has also played a vital role in laying a strong foundation of the industry. This includes launching initiatives to promote the use of hybrid seeds among the farmers who had earlier used outmoded open pollinated varieties. Some other growth-inducing forces, such as growth in income levels, commercialization of agriculture, patent protection systems and intellectual rights over plant varieties, have given a great push to the market.

Grain seeds represent the largest seed type, accounting for more than a half of the total seed production. Other major seed types include oil, vegetable and fruit seeds. The major regions covered in the report are Uttar Pradesh, Madhya Pradesh, West Bengal, Rajasthan, Punjab, Maharashtra, Andhra Pradesh, Bihar and Karnataka. Amongst these, Uttar Pradesh represents the largest producer, accounting for around 12% of the total market share.

2. Materials and Methods

2.1 Selection of District: There are 75 districts in Uttar Pradesh state. Out of these Prayagraj district of Uttar Pradesh was selected. The Paddy is the major crop in this district. Paddy is cultivated on a commercial scale due to suitable agro-climatic conditions prevailing in the study are Prayagraj district was selected purposively for the study.

2.2 Selection of Block: Selection of the block is the second stage of sampling. There are 23 blocks in district; Where 2 blocks were selected. They were Handia, Phulpur purposively for the study.

2.3 Selection of Villages: Selection of the village is the third stage of the sampling. A complete list of the village of selected block was obtained from the block development office of the concerned block. There 5 % villages were selected randomly. After selection of block, total 15 villages from both blocks were randomly selected.

2.4 Selection of Respondents: - A village wise list of the entire respondent having paddy farm in the sample village was prepared along with the size of their operational holding. Further these respondents were stratified on the basis of their holding size. A complete list of all 10% farmers was selected randomly. After selection of village, 10 farmers who raised the paddy crop from each village were selected randomly. In this way, total 150 farmers were selected randomly for detailed study.

Table 1: Categorisation of Farmers

Sl. No.	Category	Size-Class
1.	Marginal	Below 1.00 hectare
2.	Small	1.00-2.00 hectare
3.	Semi- Medium	2.00-4.00 hectare
4.	Medium	4.00-10.00 hectare
5.	Large	10.00 hectare and above

(**Source:** https://pib.gov.in/Pressreleaseshare.aspx?PRID=1562687)

In agriculture Census, the operational holdings are categorised in five size classes as follows:-

Table 2: Selection of farmers from block of Prayagraj district

Sr. No.	Block	No. of village selected from each block	No. of farmers selected from each village	Total farmers selected
1	Handia	7	10	70
2	Phulpur	8	10	80
Total				150

3. Tools of Analysis

3.1. Henry Garrett's ranking Technique

This technique was used to evaluate the constraints faced by farmers in Adoption of Hybrid paddy Seeds. 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. In this method, the farmers were asked to rank the given factors according to the magnitude of its severity. As per this method, respondents were asked to assign the rank for all factors and the outcomes of such ranking were converted into score value with the help of the following formula:

$$\text{Percentage Position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

Where,
Rij = Rank given for i^{th} factor by j^{th} individual
Nj = Number of factors ranked by j^{th} individual

The per cent position of each rank thus obtained was converted into scores by referring to the Table given by Henry Garrett. Then for each factor the scores of individual responses were added together and divided by the total number of respondents for whom the scores were added. Then mean scores for all the factors were arranged in the order of their ranks and inferences were drawn.

3.2 Arithmetic mean or mean: Mean is one of the important and most commonly used measures of central tendency. Arithmetic mean or simply the mean of a variable is defined as the sum of the observations divided by the number of observations.

$$\text{Mean} = \frac{\text{Sum of Observation}}{\text{Total numbers of Observations}}$$

4. Result and Discussion

This study analysed the Constraints in Adoption of Hybrid paddy Seeds faced by the farmers and suggests suitable majors in Prayagraj District of Uttar Pradesh.

4.1 Constraints in Adoption of Hybrid paddy Seeds

Table 3: Constraints in Adoption of Hybrid paddy Seeds

Sr. No	Constraints	Total Score	Mean Score	Rank
1	Fluctuation in market prices	6409	42.72	7
2	Lack of knowledge about new variety	7819	52.12	3
3	High cost of seeds	6223	41.48	8
4	Irregular visit of technical staff	7623	50.82	4
5	Low prices of Paddy in market	7453	49.68	6
6	Lack of irrigation	7553	50.35	5
7	Pest and disease attack	10146	67.64	1
8	Germination losses	9618	64.12	2

(n=150)

Interpretation: - The detail of constraints faced by farmers is shown in Table 3.1 The Pest and disease attack ranked first with (mean score 67.64), followed by Germination losses (mean score 64.12) ranked second, lack of knowledge about new variety (mean score 52.12) ranked third, irregular visit of technical staff (mean score 50.82) ranked fourth, Lack of irrigation (mean score 50.35) ranked fifth, low price of paddy in market (mean score 49.68) ranked sixth, fluctuation in market price (mean score 42.72) ranked seventh and high cost of seeds (mean score 41.48) ranked eighth. This analysis suggests that company need to improve seed variety against pest and disease resistance was the foremost constraints faced by the farmers in the study area.

4.2 Suggestions

The following are the suggestions made to the Nuziveedu Seeds Pvt. Ltd. Company based on careful data analysis and interpretation of data for the Prayagraj District, which would help the company to prosper further.

- Information base is required for sound planning in the field of research, multiplication and marketing for this database of the farmers and market is to be updated from time to time.
- Estimating the market potential and consumer attitudes from time to time to modify the promotion strategies.
- Company can go for social marketing which can build emotional relationship with the farmers and society by promoting environmental campaigns like application of balanced fertilizers, usage of micronutrients, showing the benefits of adapting hybrid crops, safe and economically efficient use of pesticides, improved harvesting and weeding techniques etc.
- Starting mobile services to give technical suggestions by scientists can add to the company's advantage.
- Village adoption programs can be taken up through 'Public-Private extension' programs.
- Publishing the success stories of successful framers who have attained greater yield by adopting this new technology should be prorogated intensively. This can create interest among the other farmers to take up this hybrid paddy cultivation.
- Making the company seed available even at retail outlets or through big influential farmers may also be taken to intensify the company's sales.
- Since farmers believe in the concept of 'seeing is believing' conducting result demos and field visits as after sale service would help the company to increase its sales and brand image.
- Choosing the right marketing channel that is reliable, influential, financially sound and providing distributors and dealers with higher margins, attractive schemes to increase the sales as this acts as an effective awareness and promotion method besides significantly acting as a guide to the farmers in taking brand choice.
- To intensify the adoption of hybrid paddy cultivation, Nuziveedu seeds may go for intensive publicity about the benefits of adopting this new technology by conducting farmer's meeting, kisan melas, through various media and more company's personnel at field level.
- Number of field employees at the field level should be increased by the company to cover more area.
- Some big farmers or big people of the local area should support our product because common people are more influenced by experienced people than the company manager.
- Incentive to dealer and distributor Dealer and distributor margin is less as compared to other companies so their margin should be increased.

5. Conclusion

The study entitled "Study on awareness and product promotion strategies of Hybrid Paddy seeds in Prayagraj District of Uttar Pradesh" was undertaken with the objective to study the constraints faced by farmers in adoption of hybrid paddy and suggests suitable majors. Random sample technique was adopted as per the objectives of the study. Prayagraj district was selected randomly on the basis of availabilities of paddy farmers. The sample size consisted of 150 farmers from the study area. The tabular and graphical methods, Chi-square test, percentage, arithmetic mean and Garret's ranking technique were adopted for the analysis of

data. It was concluded from the result that the Pest and disease attack was the foremost constraint faced by farmers. It could be concluded from the study that company need to develop good quality hybrid paddy seed which is resist against pest and disease and company need to increase more promotional activities in the study area.

6. Acknowledgement
The authors warmly thank the contributions of faculty of Department of Agricultural Economics, Dr. Nitin Barker, Mr. Jayant Zechariah and Faculty of Department of Mathematics and Statistics, Dr. Pratyasha Tripathi, Sam Higginbottom University of Agriculture Technology and Sciences, Prayagraj. Many thanks and credit goes to Dr. Ashish S Noel (Head) & Chairman, Department of Agricultural Economics, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj, who supported and provided all possible resources to accomplish.

7. Competing interests
Authors have declared that no competing interests exist.

8. References
1. Amit K, Sabita S, Teshu K, Subhash J. Market Potential and Promotional Strategy for Akshay Seed Tech Co. in Sabarkantha and Gandhinagar Districts. Annals of Agri-Bio Research. 2014;19(4):757-762.
2. Aldas Janaiah, Ravi Kumar. Assessment of perception of farmers and Rice millers for newly developed NSL inbred paddy varieties over hybrid paddy in rice growing Districts of Bihar, 2010.
3. Anonymous. Company Overview Available at http://www.nuziveeduseeds.com/about-us/ last accessed on February 20, 2015a. 2022.
4. Anonymous, 2012a. Seed sector. Available at <http://www.ccsniam.gov.in> last accessed on February 15, 2022
5. Anonymous. The seed Indian Industry Available at https://researchreports.careratings.com last accessed on January 17, 2012b. 2022.
6. Anonymous. Indian seeds sector. Available at < http://seednet.gov.in> last accessed on January 5, 2015c. 2022.
7. Ajzen I. Constructing a TPB Questionaire: Conceptual and Methodological Consideration. Ohio, 2005.
8. Dhanavandan S. Application of garret ranking technique: Practical approach, International Journal of Library and Information Studies. 2016;6(3):135-140.
9. Darandale A, Bhatt P, Patel N. Constraints faced by cotton growers in management of cotton cultivation. Indian Journal of Marketing. 2010;10(5):80-82
10. David J, Spielman, Deepthi Kolady E, Patrick Ward S. The prospects for hybrid rice in India, 2013.
11. Gayathri Devi P, Seema. A Study on market potential for hybrid paddy in Medak and Ranga Reddy Districts, 2006.
12. Kothari CR. Research methodology, 3rd edition, Vikas Publishing House Pvt. Ltd, New Delhi, 1997.
13. Mahaboob Ali Shaik, Vikram Singh, Dhananjay Tiwari, Lakshman Jonnagorla, Harikrishna Balla. Studies on growth and yield of rice (*Oryza sativa* L.) Hybrids under eastern U.P conditions, 2020.
14. Rashmi Pandey, Senthil Vinayagam, Krishnan M, Akhila K. Factors Influencing the Buying Behavior of Hybrid Paddy Seed Growers, 2020.
15. Acharya SS, Agarwal NL. Agriculture Marketing in India, 4th Edition, Oxford and IBH publishing co. Pvt. Ltd., New Delhi.
16. Singh Harbir, Mathur P, Pal Suresh. Development of the Indian seed system: Policy and institutional options. Agricultural Economics Research Review. 2008;21(1):20-29.