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Farmer's perception for adoption of cotton varieties produced by Kaveri seeds, Yavatmal

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Abstract

Present study investigates the adoption of cotton varieties produced by Kaveri Seeds Pvt. Ltd. in Yavatmal district, Maharashtra. It aims to assess the market share of the company, understand farmer perceptions, and identify key advantages influencing adoption. Primary data from 60 farmers and 20 dealers in Wani and Maregaon talukas revealed that Kaveri Seeds holds a 22.27% market share. Farmers preferred KCH 100 and KCH 311 varieties for their high yield and fiber quality, though concerns were noted about disease resistance and drought tolerance. The study suggests the need for improved traits and greater technical support to enhance adoption rates and ensure sustainable cotton cultivation.

Keywords: Cotton adoption, Kaveri Seeds, Yavatmal district, market share, farmer perception

Introduction

cotton is one of the most important cash crops in India, significantly contributing to the agricultural economy and farmer livelihoods. In Maharashtra's Yavatmal district, cotton cultivation dominates due to its suitability to the region's Agro-climatic conditions. However, farmers here face several challenges, including erratic rainfall, pest infestations such as pink bollworm and whitefly, and rising input costs. Kaveri Seeds Pvt. Ltd., a major player in India's seed industry, supplies hybrid cotton seeds that are widely used in this region. The performance and adaptability of these seed varieties are crucial for ensuring high yields and farmer profitability. This study focuses on understanding farmers' perceptions of cotton varieties produced by Kaveri Seeds in Yavatmal, assessing their market share, and identifying the benefits and constraints related to their adoption. Key factors such as yield potential, fiber quality, drought tolerance, and disease resistance influence the adoption of these varieties. Additionally, socio-economic factors like education, income, landholding size, and farming experience play a significant role in decision-making. By analyzing these aspects, the study aims to provide insights for seed companies, agricultural extension services, and policymakers to improve seed quality, support services, and awareness programs, thereby promoting sustainable cotton cultivation and enhancing farmer satisfaction in the region.

Objectives

1. To study the market share of Kaveri Seeds Pvt. Ltd.
2. To study the farmer perception of Cotton varieties of Kaveri Seeds Pvt. Ltd.
3. To identify the advantages for adoption of Cotton variety of Kaveri seeds Pvt. Ltd.

Methodology

The study adopted a structured research approach involving data collection through surveys and interviews. Sampling techniques were applied to select farmers from Yavatmal district. The research aimed to analyze the market share of Kaveri Seeds, understand farmers' perceptions of its cotton varieties, and identify reasons for their adoption. Data analysis included evaluation of demographic characteristics, product-specific factors, farmers' knowledge, satisfaction levels, and feedback from dealers.

Area of study

The present study was conducted at Yavatmal District for cotton varieties of Kaveri Seeds Company.

Period of study

The data was collected for the period 2024-2025.

Sampling technique

Present study was conducted for Yavatmal district Two talukas of Yavatmal district was purposively selected namely Wani and Maregaon. Also from each taluka two villages were selected, from each village 15 farmers and 10 dealers from each taluka was selected. In all total 60 farmers and 20 dealers was selected for present study.

Source of data**Primary data**

The primary data was collected from farmers and dealers through specially design schedule.

Secondary data

Secondary data was collected varieties of Kaveri Seeds Company websites, report and various programs.

Product selection

The four Cotton varieties of Kaveri Seeds Company were selected for the present study namely KCH 100, KCH172, KCH 311, KCH 36.

Analytical tool**Market share of Kaveri Seeds Company in Yavatmal District**

Market share of Kaveri Seeds Company was calculated by formula,

$$\text{Market share} = \frac{\text{Selected Cotton varieties of Kaveri Seeds}}{\text{Total no. of others Cotton varieties}} \times 100$$

To evaluation the farmers perception of Cotton varieties of Kaveri Seeds Company: It can be analyses by means of some variables:

Demographic variables

- Age:** older farmers might have different perception due to experience or traditional methods, while younger open to modern products.
- Education:** Higher education levels may correlate with better understanding of product benefits and risks.
- Farm size:** Small scale farmers may have different needs and perceptions compared to larger-scale farmers.
- Income Level:** Economic status can affect a farmer's ability to afford or prioritize certain products.

Cognitive Variables (Knowledge and Attitudes)**Perceived value for money**

Farmers' perception of the product's cost relative to its benefits.

Behavioral Variables (Usage Patterns and Intentions)

Frequency of use: How often do farmers use Cotton Varieties of Kaveri Seeds Company.

3.6.3 Likert scale

To assess the perceptions of farmers regarding Kaveri seeds and the advantages of seed adoption, a structured questionnaire was developed incorporating Likert scale statements. This approach enabled the quantification of qualitative opinions and attitudes in a systematic and measurable form. For evaluation of perception following rating was used:

- Excellent
- Good
- Average
- Below Average
- Poor

Similarly for advantages of seed adoption following rating was used:

- Strongly agreed
- Agree
- Neutral
- Disagree
- Strongly disagree

Each statement was tasted statistically of its mean score. Further these statements were ranked according to their mean score.

Product- Specific Factors

Availability: Whether Cotton varieties of Kaveri Seeds are readily available in local markets or agricultural supply stores.

General Satisfaction

Overall satisfaction: Farmers general satisfaction with Kaveri Seeds Company based on their experience and the outcomes from usage.

The advantages for adoption of Cotton varieties of Kaveri Seeds Company

The advantages for adoption of Cotton varieties of Kaveri Seeds Company were analysis by simple tabular analysis.

Results and Discussion**Market share of selected seed company**

Table 1: Market share of different Seeds Company is present in table

Brand Name	Quantity Supply (in Kg)	Price Per Packet (450 grm)
Ankur Seed	2023.25 (23.11%)	808.5
Rashi Seed	1890.2 (21.59%)	830
Mahyco Seed	1257.3 (14.36%)	834.7
Kaveri Seed	1950 (22.27%)	825
Other seed (shreeram Seed, krishidhan seed, Crystal Seed)	1632.4 (18.67%)	824.5
Total	8753.15	

The seed market in Yavatmal district is dominated by a few key players. Ankur Seed holds the highest market share with 23.11% (2023.25 Kg), followed closely by Kaveri Seed at 22.27% (1950 Kg) and Rashi Seed at 21.59% (1890.2 Kg). Other seed brands, including Shreeram, Krishidhan, and Crystal, collectively contribute 18.67% (1632.4 Kg) to the

market. Mahyco Seed accounts for 14.36% (1257.3 Kg) of the total supply. The total quantity of seed supplied by all companies is 8753.15 Kg, with packet prices ranging from ₹808.5 to ₹834.7. This data highlights that Ankur, Kaveri, and Rashi are the leading seed suppliers in the region.

Demographic Details of Farmers

Table 2: Present the demographic details of farmers

Sr. No.	Category	Sub-Category	No. of Farmers (n=60)	Percentage (%)
1	Age Group	Below 30	15	25.00
		31-40	27	45.00
		41-50	7	11.66
		Above 50	11	18.34
2	Gender	Male	60	100.00
3	Landholding Size (ha)	Marginal (<1 ha)	1	1.66
		Small (1-2 ha)	10	16.66
		Semi-Medium (2-4 ha)	11	18.34
		Medium (4-10 ha)	18	30
4	Farming Experience (Years)	Large (>10 ha)	20	33.33
		Less than 5	19	31.66
		5-10	9	15.00
		11-20	12	20.00
5	Education Level	More than 20	20	33.34
		Illiterate	3	5.00
		Primary	4	6.66
		Secondary	10	16.67
6	Annual Income (INR)	Higher Secondary / Graduate	43	71.67
		Up to 50,000	1	1.66
		50,001 - 1,00,000	10	16.66
		1,00,001 - 2,00,000	11	18.33
		Above 2,00,000	38	63.33

The demographic profile of the 60 farmers surveyed shows that all were male, with the majority (45%) aged between 31 to 40 years, followed by 25% below 30 years. Most of the farmers (63.34%) had large landholdings ranging from 5 to 10 hectares, indicating better access to land resources. In terms of farming experience, 33.34% had more than 20 years of experience, while 31.66% were relatively new with

less than 5 years of experience. Educationally, a large proportion (71.67%) of the respondents had completed higher secondary or graduation, showing a well-educated farming population. Regarding annual income, 63.33% of farmers earned above ₹2,00,000, reflecting good economic conditions. Overall, the farmers surveyed were young, experienced, well-educated, and financially stable.

Farmer's Overall Perception of Kaveri Seeds Varieties

Table 3: Present the Overall perception of Kaveri seed varieties

Parameter	No. of Respondent	Excellent	Good	Average	Below Average	Poor	Total	Mean Score	Rank based on mean score
		1	2	3	4	5			
Yield Quantity	60	26	29	4	0	1	101	1.68	I
Yield Quality	60	18	22	17	3	0	125	2.08	II
Disease Resistance	60	0	1	20	21	18	236	3.93	IV
Drought Tolerance	60	0	7	6	18	29	249	4.15	V
Grain Quality (Size, Taste)	60	15	22	18	5	0	122	2.21	III

The table titled "Farmer's Overall Perception of Kaveri Seeds Varieties" summarizes the feedback from 60 respondents on various parameters of Kaveri seeds, including Yield Quantity, Yield Quality, Disease Resistance, Drought Tolerance, and Grain Quality (Size, Taste). Ratings are categorized as Excellent, Good, Average, Below Average, and Poor, with mean scores and ranks derived from the data. Yield Quantity leads with a

mean score of 1.68, reflecting strong approval, followed by Yield Quality at 2.08. Grain Quality ranks third with a mean of 2.21, while Disease Resistance (mean 3.58) and Drought Tolerance (mean 4.15) rank lower, indicating significant farmer concerns in these areas. The rankings highlight the strengths and weaknesses of Kaveri seeds as perceived by farmers.

Advantages of Kaveri Seeds Varieties

Table 4: Present the advantage of Kaveri seed varieties

Parameter	No. of respondent	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total	Mean score	Rank based on mean score
		1	2	3	4	5			
Good germination rate	60	29	21	2	1	7	116	1.93	I
Higher yield	60	4	32	20	3	1	145	2.41	II
Pest resistance	60	4	10	22	4	10	156	2.6	IV
Low input cost	60	22	6	8	20	4	148	2.46	III

This table, titled "Advantages of Kaveri Seeds Varieties as perceived by farmers," presents the opinions of 60 respondents on various advantages of Kaveri seeds. The parameters evaluated are Good Germination Rate, Higher Yield, Pest Resistance, and Low Input Cost. Responses are categorized as Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree, with total scores and mean scores calculated. The mean scores (where 1 = Strongly Agree, 5 = Strongly Disagree) and rankings are as follows: Good Germination Rate (1.93, rank I), Higher Yield (2.41, rank II), Low Input Cost (2.46, rank III), and Pest Resistance (2.6, rank IV). This indicates that farmers perceive good germination rate as the strongest advantage, while pest resistance is the least favorably viewed.

Conclusion

A study investigating the adoption of cotton varieties from Kaveri Seeds Pvt. Ltd. in Maharashtra's Yavatmal district found that the company holds a 22.27% market share. Farmers expressed a preference for KCH 100 and KCH 311 varieties due to their high yield and fiber quality, though concerns were raised regarding their disease resistance and drought tolerance. The study suggests that to improve adoption rates and promote sustainable cotton cultivation, enhancements in these traits and increased technical support are necessary. Overall, farmers showed high satisfaction with the yield quantity and quality of Kaveri Seeds varieties, but less satisfaction with their disease resistance and drought tolerance. Key advantages perceived by farmers included a good germination rate, higher yields, and lower input costs, while pest resistance was a less favored attribute.

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