International Journal of Advanced Biochemistry Research

ISSN Print: 2617-4693
ISSN Online: 2617-4707
NAAS Rating (2025): 5.29
IJABR 2025; SP-9(8): 541-543
www.biochemjournal.com
Received: 25-05-2025
Accepted: 29-06-2025

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An analysis of market share and promotional strategies of vegetable seed companies in Durg district, Chhattisgarh

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DOI: https://www.doi.org/10.33545/26174693.2025.v9.i8Si.5204

Abstract
The current study was carried out on analysis of vegetable seed marketing during 2024-25 in Durg district, Chhattisgarh, with the objective of analysing current market shares of seed companies in selected vegetables and examining promotional strategies adopted by seed companies in study area. For fulfilment of the objectives of study, Durg district of Chhattisgarh state was selected purposively. Data collection was carried out using structured interviews, supplemented with field observations and dealer interactions. Analytical tools used included Percentage analysis for analysing current market share of vegetable seed companies and Likert scale for product promotion. The market was dominated by BASF (Nunhems) with 25.6% share, followed by VNR (22.3%) and Syngenta (17.3%). Promotional strategies involving direct engagement proved most effective, with farmers' meetings (4.61), company representatives (4.49), and field days (4.38) ranking highest. Dealers preferred financial incentives, such as cash discounts (4.26), advance booking (3.93), and deferred payments (3.80).

Keywords: Vegetable seed marketing, market share, promotional activity

Introduction
The seed industry is the backbone of global agriculture, playing a crucial role in ensuring food security and sustainable farming practices. As one of the most dynamic sectors in agribusiness, it is driven by biotechnology developments, rising demand for high-yield and stress-tolerant crops, and the growth of agricultural land. India is the world's fifth-largest seed market Compared to export-oriented seed sectors such as the Netherlands' Rs. 276.58 billion (USD 3.2 billion), France's Rs. 198.79 billion (USD 2.3 billion), the United States' Rs. 155.58 billion (USD 1.8 billion), and Germany's Rs. 95.07 billion (USD 1.1 billion). Indian exports are at Rs. 12, 964.70 Mn (USD 150 Mn) in a Rs 1296.47 Bn (USD 15 Bn) global export market. (ISF Seed Statistics, 2023-2024).
In the year 2023-2024, the state of Chhattisgarh in India had a total crop area and production i.e. 824.706 thousand hectares and 10720.594 thousand Mt respectively, out of which 491.393 thousand hectares were utilized for vegetable cultivation, with a production of 6789.147 thousand Mt. Because of diverse agro-climatic conditions prevailing across Chhattisgarh offers significant opportunity in horticulture sector. (Source: Directorate of Horticulture and Farm Forestry, 2023-24). This study aims to analyze the current market share of vegetable seed companies in selected vegetables and examine the product promotion strategies adopted by the seed companies in the study area.

Materials and Methods
This study outlines the methodological framework adopted for conducting the present study. It provides a detailed account of the study area, sampling design, procedures followed for data collection, and the techniques used for data analysis.

Sampling Methodology
Chhattisgarh is divided into 33 districts, each with varying levels of agricultural activity. For this study, Durg District was deliberately chosen because it leads the state in vegetable cultivation. Durg has the largest area under vegetable farming, approximately 41.809 thousand hectares, and records the highest vegetable production, around 768.137 thousand

metric tonnes.(Source: Directorate of Horticulture and Farm Forestry, 2023-24) Durg District is divided into three blocks—Durg, Dhamdha, and Patan—all of which were selected for this study. A total of 15 villages were selected—5 villages from each of block: Durg (Arasnara, Tirga, Jhola, Kachandur, Karanja Bhilai), Dhamdha (Barhapur, Danni Kokakdi, Pendri, Jatagharra, Temri), and Patan (Auri, Funda, Bathena, Gujra, Somni). From each of the selected villages, seven vegetable-growing farmers were chosen using a simple random sampling method, resulting in a total of 105 respondents.

Method of Data Collection

To achieve the objectives of the study, both primary and secondary data were systematically collected. Field visits and informal discussions were also conducted to understand the contextual realities of vegetable cultivation. Primary data were collected through personal interviews with the 105 selected vegetable growers across 15 villages using a structured and pre-tested questionnaire designed to gather information on promotion strategies used by companies. In addition, interactions with 15 seed dealers provided valuable insights into the availability, popularity, and distribution of various vegetable seed brands in the study area. The survey was undertaken during the agricultural year 2024-2025, and Secondary data were obtained from reliable government sources, including the Directorate of Horticulture, Government of Chhattisgarh, the Census of India, and district-level agricultural and statistical handbooks

Data Analysis

Analytical tools employed included Percentage analysis for analysing current market share of vegetable seed companies and Likert scale for examining promotional strategies. Percentage was utilized in the descriptive analysis to facilitate straightforward comparisons and in this study, a five-point Likert scale was adopted, and the responses were analyzed using the weighted mean.

$$\text{Weighted Mean} = \frac{\Sigma(\text{wi} \times \text{xi})}{\text{n}}$$

where:
wi = weight of the ith response (e.g., 1-5 for SD to SA)
xi = number of respondents choosing that option
n = total number of respondents

Results and Discussion

Analysis of the Current Market Share of Vegetable Seed Companies in Selected Vegetables

Table 1 presented the total sales and market share of different vegetable seed companies in the Durg district of Chhattisgarh. The data clearly showed that BASF (Nunhems) holds the largest share in the vegetable seed market, accounting for 25.62% of total sales, amounting to Rs.3.24 crore. This is followed by VNR Seeds, which helds a 22.34% share with total sales of Rs.2.83 crore. Syngenta stood third with a 17.29% market share, followed by Advanta (11.63%) and Namdhari (9.61%). Mahyco and other minor companies contributed 5.50% and 8.01%, respectively. The data indicated that the vegetable seed market in the region was dominated by a few major players, particularly BASF (Nunhems) and VNR, who together controlled nearly half of the total market. The findings revealed that a few leading companies dominated the market in crops like tomato, chili, okra, brinjal, bottle gourd, and cauliflower while other companies held smaller shares. This indicated a competitive market structure where brand performance varied significantly by crop. Also, similar result was reported by Raj (2023).

Table 1: Market share of vegetable seed companies in selected vegetables

S. No	Name of companies	Total sales of vegetable seed (Rs.)	Share of vegetable seed company (%)
1	VNR	2.83 Cr	22.34
2	BASF (Nunhems)	3.24 Cr	25.62
3	Syngenta	2.19 Cr	17.29
4	Advanta	1.47 Cr	11.63
5	Namdhari	1.21 Cr	9.61
6	Mahyco	0.70 Cr	5.50
7	Others	1.01 Cr	8.01
	Total	12.64 Cr	100

Sources of information of farmers and their opinions on various promotional activities of vegetable seed companies

Table 2 presented farmers' opinions on various promotional strategies adopted by vegetable seed companies in the study area. The data was ranked based on the mean score of effectiveness as perceived by the respondents. Farmers' meetings emerged as the most effective promotional activity, receiving the highest mean score of 4.39, indicating that direct interactions and knowledge-sharing sessions were highly valued by the farming community. This was followed by interaction with company employees (marketing personnel) with a mean score of 4.28 and field days (4.17), which offer practical demonstrations and exposure to new seed varieties. Other notable strategies included mega crop shows (3.94) and media-based outreach such as television, YouTube, and WhatsApp groups (3.66). While these were somewhat effective, farmers rated sample displays/distribution and call campaigns moderately, with mean scores of 3.62 and 3.46, respectively. Posters, banners, wall paintings, pamphlets, and POP displays were ranked lower with a score of 3.30, and video-on-wheel or jeep campaigns were considered least effective with a mean score of 1.90. Also, similar result was reported by Banjare *et al.* (2018) [1]. This analysis indicated that personal interaction and experiential learning platforms are preferred over passive promotional tools. To enhance outreach and influence, seed companies should emphasize direct engagement through practical demonstrations, participatory events, and one-on-one communication. These approaches were more effective in building product awareness, credibility, and trust among the farming community.

Dealers' ranking of sales promotional activities adopted by vegetable seed companies to enhance sales at the dealer level

Table 3 presented the perception of vegetable seed dealers regarding various sales promotional strategies. The findings indicate that cash discounts were perceived as the most effective promotional strategy, receiving the highest mean score of 4.26, suggesting that immediate financial incentives were highly appreciated by dealers, followed by advance booking schemes ranked second with mean score 3.93, indicating that schemes ensuring assured supply and planning convenience were also favoured, followed by deferred payment options ranked third with a mean score of 3.80, reflecting dealers' appreciation for financial flexibility in managing their inventory. Overall, the table suggested that financial incentives and operational convenience are the most motivating factors for dealers when it comes to supporting and promoting vegetable seed brands. Seed companies should consider tailoring their strategies around these preferences to strengthen dealer engagement and improve market penetration

Table 2: Farmers' Information sources and opinions on seed companies promotional activities

S. No	Promotional activity	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total sum	Mean score n = 105	Rank
1.	Farmers meeting	235	220	3	2	1	461	4.39	1
2.	Company employee	235	188	15	10	1	449	4.28	2
3.	Field day / Field demonstration	275	80	72	10	1	438	4.17	3
4.	Mega crop shows	195	144	48	26	1	414	3.94	4
5.	Media (Television/YouTube/ WhatsApp group)	45	264	48	26	1	384	3.66	5
6.	Sample display and distribution	140	112	105	18	5	380	3.62	6
7.	Call campaigns	80	172	60	50	1	363	3.46	7
8.	Posters/ Banner/ Wall paintings/ POP display	25	144	153	24	1	347	3.30	8
9.	Jeep campaign	5	4	96	48	47	200	1.90	9

Table 3: Dealers' ranking of promotional activities to boost seed sales

S. No	Promotional Activities	SA (5)	A (4)	N (3)	D (2)	S.D (1)	Mean Score n = 15	Rank
1	Cash discount	35	24	3	2	0	4.26	1
2	Advance booking scheme	20	28	9	2	0	3.93	2
3	Deferred payment	30	16	6	4	1	3.80	3
4	Joint promotion (posters, banners, events)	25	8	21	2	0	3.73	4
5	Loyalty, rewards, or point system	25	20	0	6	2	3.53	5
6	Gift coupons	15	12	18	4	1	3.33	6

Conclusion

BASF (25.62%) and VNR (22.34) held the highest market share due to strong trust, while Mahyco (5.50%) had the lowest, showing significant disparities in brand performance and farmer preferences. Farmers found farmers' meetings (4.61) most effective due to direct interaction and learning opportunities, while jeep campaigns (2.00) were least effective, offering little engagement or knowledge transfer. Dealers valued cash discounts (4.26) as the most motivating promotional strategy for increasing sales, whereas gift coupons (3.33) were least impactful, reflecting preference for immediate, tangible financial benefits over indirect incentives.

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