Plant Archives Vol. 26, Supplement 1, 2026 pp. 1136-1140 e-ISSN:2581-6063 (online), ISSN:0972-5210

Plant Archives

Journal homepage: http://www.plantarchives.org
DOI Url : https://doi.org/10.51470/PLANTARCHIVES.2026.v26.supplement-1.151

DETERMINANTS OF FARMERS' PURCHASE DECISION AND ASSOCIATED CONSTRAINTS IN THE ACQUISITION OF BIOSTIMULANTS IN CHURU DISTRICT OF RAJASTHAN INDIA

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(Date of Receiving : 29-08-2025; Date of Acceptance : 16-11-2025)

ABSTRACT

The study aims to find out the determinants of farmers' purchase decision and associated constraints in the acquisition of biostimulants in Churu district of Rajasthan. In this regard a total of 150 farmers were surveyed from two Talukas of Churu district, Rajasthan. The study was carried out to attain the objectives; to find out the factors that influence farmers and constraints faced towards the purchase of biostimulant. For the collection of primary data interview schedule was used. Recent secondary data was collected from the internet, agricultural department and various other sources. The demographics and socio-economic profile reveal that all surveyed farmers were male and the majority of farmers are between the ages of 46-55. The study revealed that farmers' purchase decisions are most strongly influenced by dealer recommendations, desirable results, past experience, progressive farmers' influence, price, and quality. Factors such as advertisement, product availability, packaging size, and long-lasting effect received relatively lower agreement levels, suggesting areas for improvement in marketing and product development strategies. Further, it was found that the major constraints perceived by farmers while purchasing biostimulants include dealer's influence, lack of credit availability, and absence of discounts.

Keywords **:** Purchase decision, biostimulants and determinants.

Introduction

Biostimulants have the potential to enhance crop yields, improve soil health, and increase farmer income sustainably, making them an attractive option for the Indian agricultural sector. Despite facing challenges such as erratic weather patterns, soil salinity, and declining soil health due to the climate crisis, India's agricultural sector has made remarkable strides in becoming a leading food provider worldwide. As the world's population continues to grow, sustainable agricultural practices, such as the use of seaweed biostimulants will become increasingly important in maintaining soil health and meeting food demand.

When it comes to increasing crop yields in an environmentally friendly and sustainable way, an increasing number of Indian farmers are turning to biostimulants. Biostimulants are compounds and microorganisms that promote plant growth and health by boosting the soil's beneficial microbe population, increasing the plant's resistance to stress, and facilitating better nutrient uptake. Both organic and conventional farming in India are adopting biostimulants, which have been integrated into the National Programme for Organic Farming by the Indian government. In India, biostimulants such as seaweed extracts, humic and fulvic acids, amino acids, and beneficial microorganisms like mycorrhizal fungus and rhizobacteria are frequently used. Biostimulants have been found to increase crop yields, particularly under adverse conditions such as drought or high temperatures, and can also reduce the use of toxic and expensive synthetic fertilisers and pesticides. Despite the fact that the use of biostimulants is still relatively novel

in India, its usage in agriculture is on the rise. As new studies are published, the broad application of biostimulants is expected to increase further.

Although still in its nascent stage, the biostimulant market in India holds significant growth potential, driven by the increasing emphasis on sustainable agriculture and the need to reduce dependence on chemical fertilizers. Multinational corporations currently dominate the market but rely on local distributors for product sales. Considering the current scenario of biostimulant use, the present study was undertaken with the following objectives:

1. To find out the factors that influence farmers towards the purchase of biostimulants
2. To identify the constrains faced by farmers while purchasing biostimulants

Materials and Methods

Sample Size and Participants

The study was carried out in Churu and Bidasar Talukas of Churu district of Rajasthan state with a sample size of 150 farmers by using the convenience sampling method. 100 Farmers were selected from Bidasar taluka and 50 farmers were selected from Churu Taluka of Churu district. Out of the 150 farmers, 100 per cent of the farmers were male and none of them were female farmers. Majority (53%) farmers were under the age group of 46-55 years, followed by (19%) farmers were under the age group of 36-45 years.

Measure and Procedure

Descriptive research design was used for the study as it enabled us to identify the various attributes affecting the buying behaviour and usage pattern. Primary data regarding the basic information pertaining to their socio-economic profiles, factors that influencing the purchase of biostimulants for farmers and constraints perceived while purchasing were collected with the help of a well-structured interview schedule. Interview schedule was administered to the selected 150 farmers. Secondary data were collected from various sources like relevant research papers, company's website, various published reports, Journals and articles.

Statistical analysis

After compiling, the data were analysed using tabular method and statistical tools such as averages, frequency distribution, mean and Likert's scale rating and Garrett's ranking.

Results and Discussion

Table 1: Factors that influence farmers towards the purchase of biostimulant (n=150)

Attributes	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	CS	Mean	Rank
Advertisement	150(30)	108(27)	78(26)	60(30)	37(37)	433	2.88	10
Availability	95(19)	100(25)	90(30)	72(36)	40(40)	397	2.64	12
Brand image of company	200(40)	128(32)	60(20)	60(30)	28(28)	476	3.17	8
Credit availability	165(33)	128(32)	90(30)	56(28)	27(27)	466	3.10	9
Dealer recommendation	290(58)	184(46)	75(25)	26(13)	8(8)	583	3.88	1
Desirable result	245(49)	172(43)	81(27)	44(22)	9(9)	551	3.67	4
Easy to use	145(29)	104(26)	75(25)	60(30)	40(40)	424	2.82	11
Field demonstration activity	185(37)	132(33)	96(32)	52(26)	22(22)	487	3.20	7
Long lasting effect	35(7)	76(19)	105(35)	78(39)	50(50)	344	2.29	14
Packaging size	30(6)	92(23)	96(32)	80(40)	49(49)	347	2.31	13
Past experience	250(50)	180(45)	72(24)	40(20)	11(11)	553	3.68	3
Price	230(46)	156(39)	78(26)	40(20)	19(19)	523	3.48	5
Progressive farmers influence	260(52)	196(49)	63(21)	30(15)	13(13)	562	3.74	2
Quality	220(44)	148(37)	78(26)	46(23)	20(20)	512	3.41	6

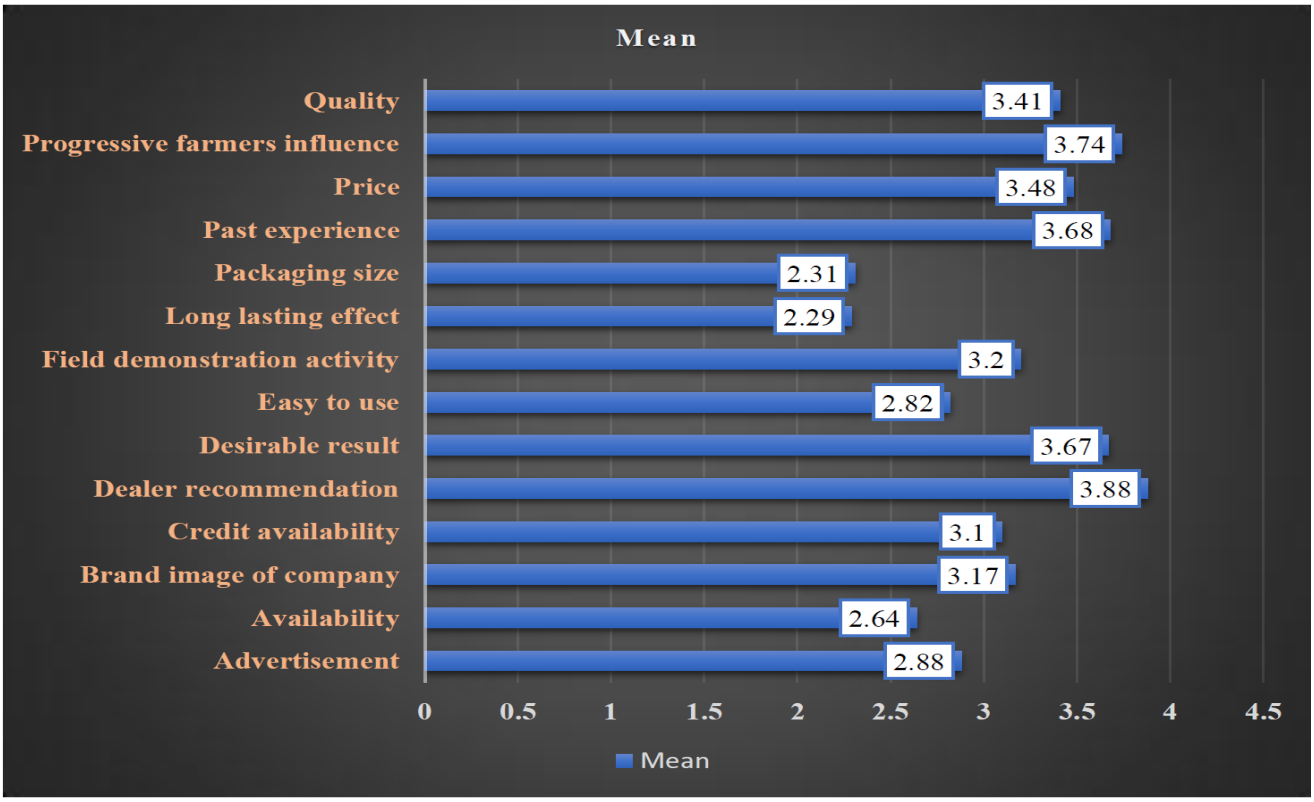

Fig. 1: Factors that influence farmers towards the purchase of biostimulants

To find out the factors that influence farmers towards the purchase of biostimulants

In the table 1 and fig. 1, Likert's scale with 5 pointing method was used and from the analysis it can be concluded that factors that influence farmers towards the purchase of biostimulant were Dealer recommendation (1st rank) with cumulative score of 583 (Mean 3.88), Progressive farmers influence (2nd rank) with cumulative score of 562 (Mean 3.74) and Past experience (3rd rank) with cumulative score of 553 (Mean 3.68). Desirable result and Price also plays a significant role on purchasing behaviour of biostimulants by farmers. Similar type of results was found by Vikash Kumar Singh, Kuldeep Choudhary and Shalini Dash (2025) in their study on Purchasing behaviour and brand preferences toward packaged spices: Evidence from Gondal City, Gujarat.

The analysis of farmers' perceptions across different factors reveals mixed opinions with notable variations in agreement levels:

Advertisement: Opinions were divided, with the highest proportion (24.6%) strongly disagreeing, indicating limited influence of advertisements on purchase decisions.

Availability: Most farmers (26.6%) strongly disagreed that availability influences their purchase, suggesting product accessibility issues.

Brand Image: A positive inclination was observed, as 26.6% strongly agreed and 21.3% agreed, showing that brand reputation significantly affects buying behavior.

Credit Availability: Responses were relatively balanced, with 22% strongly agreeing and 21.3% agreeing, indicating moderate importance of credit facilities.

Dealer Recommendation: This emerged as a major influencing factor, with 38.6% strongly agreeing and 30.6% agreeing, highlighting the strong role of dealers in farmers' decisions.

Desirable Result: A majority (32.6% strongly agree, 28.6% agree) perceived desirable results as a key motivator for purchase.

Ease of Use: Mixed responses were recorded, though 26.6% strongly disagreed, indicating that not all farmers found the products easy to use.

Field Demonstration Activity: A favorable view was noted, as 24.6% strongly agreed and 22% agreed, showing field demonstrations positively influence adoption.

Long Lasting Effect: Most farmers (33.3%) strongly disagreed, suggesting dissatisfaction with the product's duration of effect.

Packaging Size: A large proportion (32.6%) strongly disagreed, implying packaging options may not meet farmers' preferences.

Past Experience: Positive past experience plays a crucial role, with 33.3% strongly agreeing and 30% agreeing.

Price: A majority (30.6% strongly agree, 26% agree) viewed price as an important determinant of purchase.

Progressive Farmers' Influence: Strong influence was observed, as 34.6% strongly agreed and 32.6% agreed.

Quality: Quality was also a key consideration, with 29.3% strongly agreeing and 24.6% agreeing.

Overall Interpretation: Farmers' purchase decisions are most strongly influenced by dealer recommendations, desirable results, past experience, progressive farmers' influence, price, and quality. Factors such as advertisement, product availability, packaging size, and long-lasting effect received relatively lower agreement levels, suggesting areas for improvement in marketing and product development strategies.

Table 2: Ranking of constrains as perceived by farmers while purchasing biostimulants

Constrains as perceived by farmers	Garret score	Mean score	Rank
Availability of Product	28992	193.28	5
Dealer's influence	31446	209.64	1
Fear of adulteration	29472	196.48	4
High price	28394	189.29	7
Lack of credit availability	31096	207.3	2
No discount	29584	197.22	3
Packaging size	28941	192.94	6
Poor quality of products	26005	173.36	10
Poor result of products	26317	175.44	9
Integration with other chemicals	27842	185.61	8

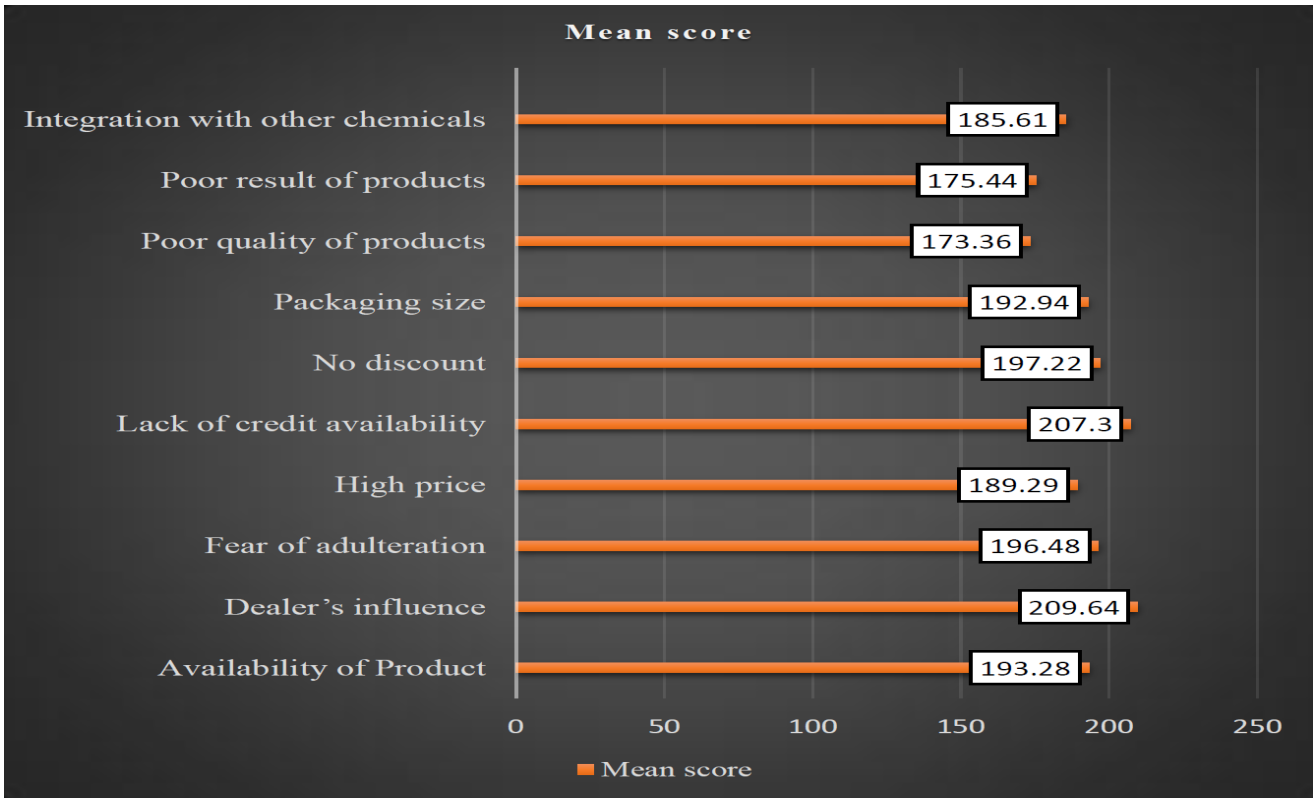

Fig. 2 : Ranking of constrains as perceived by farmers while purchasing biostimulant

To identify the constrains as perceived by farmers while purchasing biostimulants

Table 2 and Fig. 2, indicates that ranking of constrains as perceived by farmers while purchasing biostimulant. Dealer's influence (31446) secured 1st rank among all the constrains followed by Lack of credit availability (31096) and No discount (29584). It concluded that most of farmers perceived constrains are Dealer's influence, Lack of credit availability and No discount. The similar results were found in the study conducted by Kusumah, E.P.; and Christianingrum, M. (2018).

Conclusion

The study revealed that farmers' purchase decisions are most strongly influenced by dealer recommendations, desirable results, past experience, progressive farmers' influence, price, and quality. Factors such as advertisement, product availability, packaging size, and long-lasting effect received relatively lower agreement levels, suggesting areas for improvement in marketing and product development strategies. Further, it was found that the major constraints perceived by farmers while purchasing biostimulants include dealer's influence, lack of credit availability, and absence of discounts.

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