



## Brand Preferences and Satisfaction Level of Farmers and Dealers' Preferences for Cotton Pesticides in Rajkot District of Gujarat

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**ABSTRACT:** The agrochemicals industry is crucial to the modern agricultural sector because it provides a wide range of vital inputs, including fertilizers, pesticides, and crop protection products and services, which are vital to farmers all over the world. Agrochemicals are a crucial component of modern agriculture and a crop-saving input for agricultural produce. The Indian agrochemical industry consists of about 125 industrial grade companies, 800 registered manufacturers, more than 145,000 distributors and 60 classes of pesticides. In this context, the present empirical research paper utilized a descriptive cross-sectional research design for examining the Brand Preferences and Satisfaction Level of Farmers and Dealers' Preferences for Cotton Pesticides in Rajkot District of Gujarat State. Socio-economic profile of cotton growing farmers, brand preferences and satisfaction level of farmers towards cotton pesticides, dealers' preferences for cotton pesticides and the constraints faced by farmers related to cotton pesticides were the main objectives covered under the study. By utilizing multistage sampling, 150 cotton growing farmers and 30 dealers selling cotton pesticides were selected and surveyed through a structured interview schedule. The results indicate that the farmers' brand preference is mainly influenced by dealers' influence. Dealers' brand preference is mainly influenced by margin percentage. Farmers are to be well satisfied with factors like pesticide availability and price. Higher prices and fear of adulteration are the main constraints perceived by farmers in the purchase of cotton pesticides.

**Keywords:** Agrochemical, Brands Preferences, Cotton, Dealers' Preferences, Pesticides, Satisfaction Level.

### INTRODUCTION

The value of the pesticide is accounted at the beginning of the development of agriculture. Nonchemical methods such as cultivation, crop rotation breeding, multiple protection and biological control are widely used, and pesticides are used as the last line of defence because many pests cannot control without chemicals. Inorganic pesticides such as sulphur, arsenic and mercury compounds and botanical insecticides such as pyrethrum, although less effective, represent significant advances in pest control. However, the development of DDT, 2,4-D and other pesticides in the 1950s introduced in a new era in pest control (Kennedy *et al.*, 1997).

Pesticides are products (natural or manmade) used to control pests, weeds, and diseases in many agricultural practices. Herbicides, insecticides, Fungicides, Rodenticides, Nematicides and other pesticides are examples of pesticides. Crop losses from pests are high in both developed and developing countries. Reduction of crop yields will play a significant role, and improving pest control, including diseases and weeds, will require great efforts. Pesticides have become

important tools for plant protection and crop improvement in agricultural development. According to the research of A and study in the journal Nature, Ecology and Evolution, diseases and pests are causing world rice production to decrease from 10 percent to 28 percent, rice production from 25 percent to 41 percent, Maize production from 20 percent to 41 percent, and potato production from 8 percent to 21 percent and soybean from 11 percent to 32 percent. The 15-20-fold increase in pesticide use worldwide for agricultural production and profit shows that efforts are increasing to protect crops. Despite the increase in pesticide use, crop losses have not decreased in the last 40 years. The shift to higher quality food, e.g. Increase meat and dairy products and use more grains in animal feed, the population growth in developing countries will need to increase food consumption by more than 70%. . In the twenty-first century alone, the world population has increased from 1.65 billion to 7.7 billion. The world population is also expected to reach approximately 8.5 billion by 2030, 9.7 billion by 2050, and 10.9 billion by 2100. Pesticides are used to increase agricultural productivity but are misused and pollute the biota. Non-target species are harmed by pesticide changes in the

environment. Some pesticides can harm human health and the environment. It is believed that only 0.1% of pesticides reach the intended organisms while the rest harm and damage the environment (Nayak and Solanki 2021).

Cotton is an important cash crop and fiber grown in more than 100 countries, with China, India, and the United States leading the global markets. China has developed a new type of cotton that is more productive, less susceptible to diseases and pests, and easier to grow (Rizwan *et al.*, 2023). It is a perennial crop with an unpredictable growth pattern and a complex root system, greatly affected by physicochemical and environmental conditions, but is usually grown as an annual. It is an important crop in the world, providing food for many industrial uses and many household uses. Cotton fibers are used in the manufacture of many textile products, in medicine, and in the operations of many financial institutions. Cottonseed is separated from its fiber by a collection process called ginning, and is a good source of cooking oil, animal feed protein, and soil amendments. The cotton industry employs about 7% of all workers in developing countries and directly and indirectly employs more than 350 million people worldwide, from agriculture to textile manufacturing. The global cotton industry is estimated to be worth more than \$44 billion, and in the United States alone, cotton generates more than \$21 billion annually and employs more than 125,000 people. In China, cotton is grown in about 70% of its 35 provinces, employing about 300 million people. The chart shows the importance of cotton to the global economy. Traditionally, cotton has been grown in tropical and subtropical regions between 46°N and 36°S due to the large amount of solar radiation it receives annually during good weather. In addition, traditional cotton cultivation has been a major consumer of the world's freshwater for decades (as a major part of agriculture, where part of the world's freshwater is used for irrigation). Approximately 73% of the world's cotton is irrigated with freshwater, while the remaining 27% is rain-fed. Due to the high consumption of chemicals (pesticides, insecticides, etc.) and heavy machinery (for farming, management, harvesting), cotton is being source of ground and surface water pollutant (Adeleke, 2024).

This study was focused on five objectives, which are socio-economic profile of cotton growing farmers, brand preferences and satisfaction level of farmers towards cotton pesticides, dealers' preferences for cotton pesticides and the constraints faced by farmers related to cotton pesticides.

## LITERATURE REVIEW

The literature review shows the results of various studies on this topic. It helps to identify the knowledge on research problems and suggests areas for further research. The summary of the main studies is as follows.

Kennedy *et al.* (1997) provided an overview of cotton insecticides. This discussion paper attempts to put the issues of pesticide use into perspective. This paper

focuses on the determination of physical, chemical and biological properties of chemicals required for cotton. It provides an field monitoring system for pesticides and treatments. Through collaboration with LWRDC and CRDC, this information is being incorporated into best management practices for the cotton industry.

Lokesh *et al.* (2017) identified the limitations faced by farmers while using safe and healthy pesticide usage techniques and give suggestions to overcome these limitations faced by farmers. The study was conducted in three selected Tehsils (Mudhked, Himaathnagar and Kinwat) of Nanded district; four villages were selected from each Tehsil; and ten respondents from each village were selected for the study, comprising 120 respondents. The results showed that the main problems of the farmers were inadequate knowledge, ignorance and lack of guidance regarding pesticides for human health.

Zalavadiya *et al.* (2018) studied the constraints faced by fungicide sellers in Junagadh district of Saurashtra region. A total of 20 sellers were selected from 4 talukas through multi-stage sampling. Garrett's ranking system was used to analyze the data. The study shows that the main economic problems faced by the sellers are low profits, followed by competitive products in the market and competition among sellers.

Pravin *et al.* (2020) assessed consumer attitudes and satisfaction towards herbicides in Gujarat. 65 farmers were selected from each district, forming a total sample of 130 farmers. Data analysis was done using Likert scale and multiple regression analysis. Most farmers find herbicides very effective. The coefficients of area and brand image are positive and significant. The coefficient of advertisement is found negative and significant. The results showed that most of the farmers are satisfied with the quality of pesticides in the study area, followed by satisfaction and dissatisfaction with price, brand image, availability and effectiveness.

Nayak and Solanki (2021) documented the differential distribution of pesticides, pesticide use patterns, and pesticide use incidents. Pesticides and fertilizers are indispensable products of agriculture today. Commonly used pesticides include insecticides, fungicides, and herbicides used to control uncontrolled weeds and pests in agricultural lands. However, insecticides account for the largest share of pesticide use in India. India accounts for only 1% of global pesticide use. In China, Japan and the United States, pesticide use is about 13.07, 11.76 and 3.57 kg ha<sup>-1</sup> respectively. Therefore, it is true that India uses fewer amounts of pesticides per hectare of agricultural land but the uncontrolled and indiscriminate use of pesticides is responsible for the high level of pesticides in the natural and physical environment. Bio pesticides have been proven to be an excellent alternative to pesticides, promoting sustainable development of agriculture while also reducing pollution from pesticides.

A study in selected districts of Bhadradi and Kothagudem, Telangana. Two villages were selected from each talukas; each village had 20 cotton farmers, making a total sample of 120 people. The proportion of cotton farms with medium scale farms is high. Most of

the respondents are joint families, have annual income and their main occupation is agriculture only.

A study to understand pesticide purchasing and satisfaction among farmers in Mangrol talukas, Gujarat. Research shows that most farmers are between the ages of 35 and 45 and have a high school education or above. There is a gender imbalance with 96% of the population being male. Agricultural Service Centers are shopping destinations where quality products and advice are provided to help farmers make decisions. Customers appreciate the performance, efficiency, price, quality and availability of this pesticide. Retail recommendations are the most relevant advertisements, followed by demonstrations and wall paintings.

Harish *et al.* (2023) conducted this study to determine the factors affecting the preferred type of pesticide in Guntur district of Andhra Pradesh. The study was based on Ex-post facto research design. Farmers' pesticide preferences are mostly influenced by dealer influence (mean score 2.76), price (mean score 2.69), experience (mean score 2.55), availability (mean score 2.48) and brand image (mean score 2.30). The results show that the major problems faced by farmers while purchasing pesticides are price, lack of credit, non-availability to purchase the pesticides they need and lack of knowledge about what to buy and how much to spend. Rizwan *et al.* (2023) have examined what are the main problems of cotton production, what measures can change the position according to Chinese policies and practices, and what are the results of action farm R&D. This study investigates the role of R&D in affecting cotton production, cotton crop production and sustainability. It will also analyze technological changes, innovations, agricultural practices and policies in the cotton sector. This study also focuses on the importance of research and development results related to cotton, shows the problems faced by cotton and what can be done to change the business in terms of Chinese law and practice.

Sahoo and Dudhagara (2023) studied purchasing behavior and problems faced by farmers and dealers related to insecticides. The study was conducted in Keshod taluka in Junagadh district of Gujarat. Semi-structured schedule was used to complete the primary survey. A total of 100 farmers and 30 dealers from the Keshod taluka made up the sample of 130 respondents. It was observed that the majority of farmers were between the age of 21-60. Most of the respondents had a joint family. A major portion of the respondents were small and marginal farmers. The major issues faced by farmers were the high cost of pesticides and the lack of after-sales support. The major issues faced by farmers were the relatively high price and after-sale service.

Sahu *et al.* (2023) studied the problems faced by farmers and dealers regarding pesticide procurement. The study was conducted in Keshod taluka of Junagadh district of Gujarat. A semi-structured schedule was used to complete the preliminary assessment. Out of 130 respondents in the sample, 100 were farmers and 30 were dealers from Keshod taluka. It was observed that majority of the farmers are between the ages of 21-60. Most of the respondents have a joint family. Most of the interviewees are small and marginal farmers. The

main problems of the farmers are high cost of pesticides and lack of after sales support. The main problem of the farmers is high price and after sales service.

A studied the type of brand preference of farmers in Tamil Nadu towards agrochemicals. We collected vital information from 93 farmers across 7 districts of Tamil Nadu and then conducted field surveys. The study shows that most farmers prefer Rimon (65%) and Coragen (25%). For minor diseases, Curzate (75%) and Moximate (25%) are preferred by most farmers. For turmeric rhizome rot, most farmers prefer Rodomil Gold (65%), Matco (20%) and Kemoxyl (15%). The study also concluded that farmers prefer plant breeding products such as Fruit Energy (65%) and Isobion (35%).

A study titled as "Farmers' awareness, buying behaviour and problems for insecticides for sesame crop" found that the top 3 factors influencing farmers' decision to purchase insecticides for sesame crop include past experience, dealer recommendation and brand image of the company. It was also suggested that the companies interested to become market leader should also try to resolve farmers' major problems of high price, no discount, poor quality of products, fear of adulteration and product availability.

Adeleke (2024) attempted to identify the major issues in cotton farming, technological innovation and advancement in cotton farming, precision farming technology for cotton crops, drone monitoring and remote sensing technology, water quality management strategies, harvesting and growth management for crops in general.

Dabhi and Thakkar (2024) in their pioneering study on "Awareness, Buying Behaviour and Constraints of Farmers for Fungicides in Botad District of Gujarat"; found that dealer recommendation followed by past experience and price were the most influencing factors for purchase of fungicides in the study region. They also suggested that the companies should therefore emphasize on dealer relationships and strongly recommended the companies to focus on having dealer oriented sales promotion schemes, as they have been the prime influencers for the farmers. Using past positive experiences and keeping competitive pricing of the products were also emphasized.

## METHODOLOGY

The present study attempts to identify Brand Preferences and Satisfaction Level of Farmers and Dealers' Preferences for Cotton Pesticides in Rajkot District of Gujarat.

**Research Design.** This study adopted a descriptive cross-sectional study to determine the pesticide preferences and choices of farmers and business owners in Rajkot district of Gujarat. The main objective of descriptive study is to describe the state of affairs as it exists at present. The key to this method is that the researcher has no control over the variables; the main data was collected only once from the farmers and dealers, addressing the differences in the study. Since this study was conducted at a particular point in time, it was classified as a cross-sectional study. It attempts to

determine the characteristics or behaviour of the population at a particular point in time. This involves understanding the types of preferences of farmers and retailers at that time, which is important in determining the changes and trends affecting the pesticide industry.

#### Data Collection

**1. Primary data:** This study is based on primary data. Primary data was collected from cotton farmers and pesticide dealers in Rajkot district.

**2. Secondary data:** Secondary data has also been used in this study which includes extensive literature review, review of previous studies and further data collection from government departments, research articles, newspapers, books and information published online. Secondary data comes from various media including books, journals, magazines, newspapers, other published and unpublished materials as well as electronic and online sites of fire documentation.

**Sampling Procedure.** A multi-stage sampling method, a form of probability sampling, was adopted for the selection of respondents. In the first stage, out of 11 talukas, 3 talukas from Rajkot district were selected randomly. In the second stage, from each talukas, five villages were selected randomly. In the third stage, from each village, 10 cotton growing farmers were selected purposively; thus making a total sample size of 150 farmers. 30 dealers selling cotton pesticides were selected randomly from the Rajkot district.

**Sample Size.** In this study, 150 farmers and 30 dealers were selected and surveyed from the Rajkot District of Gujarat.

## RESULTS AND DISCUSSION

### Socio-Economic Profile of Cotton Growing Farmers.

Based on the frequency analysis of the responses of 150 respondents, as shown in Table 1, the socio-economic

profile of cotton growing farmers were classified according to their age, education level of respondents, land holding size (ha), annual family income and area under cotton cultivation. Out of 150 respondents, most (44.00%) of the respondents belong to the 26–40 years of age, followed by 36% of farmers who belong to the 41–55 years age group, 15.3% of farmers belong to the above 55 years age group, and the rest, 4.7% of farmers, belong to the below 25 years age group. Most of the respondents, 56.7%, had a below SSC or SSC education level, followed by 26.7% with an HSC education level, 10% with a graduate education level, 4% with a postgraduate education level, and the remaining 2.7% with other education levels. The majority of respondents, 38% were small farmers and had 1–2 ha of land, followed by 30.7% of farmers who were marginal farmers and had up to 1 ha of land, 14% of farmers were semi-medium farmers and had up to 2.01–4 ha of land, 10.7% of farmers were medium farmers and had 4.01–10 ha of land, and 6.6% of farmers were large farmers and had more than 10 ha of land. The majority of respondents, 34.7%, had an annual family income of 1,00,000–3,00,000, followed by 29.3% of farmers with an annual family income of below 1,00,000, 20% of farmers had an annual family income of 3,00,001–5,00,000 and the rest of 16% of farmers had an annual family income of above 5,00,000. The majority of respondents, 37.3% have less than 1.00 ha of land under cotton cultivation, followed by 34.7% having 1.00–2.00 ha of land under cotton cultivation, 13.3% of farmers having 2.01–4.00 ha of land under cotton cultivation, 9.3% of farmers having 4.01–10.00 ha of land under cotton cultivation, and the rest of 5.4% of farmers having more than 10 ha of land under cotton cultivation.

**Table 1: Socio-economic profile of cotton growing farmers (n = 150).**

Variables	Parameters	Frequency	Percentage
Age of Respondents	Below 25	7	4.7%
	26 – 40	54	36%
	41-55 years	66	44%
	Above 55 years	23	15.3%
Education Level of Respondents	Below SSC or SSC	85	56.7%
	HSC	40	26.7%
	Graduate	15	10%
	Post Graduate	6	4%
	Others	4	2.7%
Land holding size (ha)	Marginal (up to 1 ha)	46	30.7%
	Small (1-2 ha)	57	38%
	Semi Medium (2.01-4)	21	14%
	Medium (4.01-10 ha)	16	10.7%
	Large (more than 10 ha)	10	6.6%
Annual family income	Below 1,00,000 ₹	44	29.3%
	1,00,000 to 3,00,000 ₹	52	34.7%
	3,00,001 to 5,00,000 ₹	30	20%
	Above 5,00,000 ₹	24	16%
Area under cotton cultivation	Less than 1.00 ha	56	37.3%
	1.00 – 2.00 ha	52	34.7%
	2.01 – 4.00 ha	20	13.3%
	4.01 – 10.00 ha	14	9.3%
	More than 10.00 ha	8	5.4%

### Farmers Brand Preference Towards Cotton Pesticides

**Factors Influencing Farmers Brand Preference towards Pesticides.** Table 2, regarding the factors influencing farmers' pesticide preferences, shows that most of the respondents are affected by the influence of dealers. "Dealers Influence" has the highest score with

an average of 3.83 and ranks first. "Competitive price" is in second place with an average score of 3.79, while "Previous Experience" is in third place with an average score of 3.76. "Timely Availability" and "Quality" were ranked fourth and fifth, respectively, followed by other statements.

**Table 2: Factors Influencing Farmers Brand Preference towards Pesticides (n = 150).**

Sr. No.	Factors	SA	A	N	D	SD	CS*	Mean**	Rank
1.	Previous Experience	56 (280)	45 (180)	21 (63)	13 (26)	15 (15)	564	3.76	3
2.	Progressive Farmers Opinion	24 (120)	42 (168)	23 (69)	31 (62)	30 (30)	449	2.99	8
3.	Competitive Price	59 (295)	43 (172)	17 (51)	20 (40)	11 (11)	569	3.79	2
4.	Timely Availability	49 (245)	52 (208)	16 (48)	12 (24)	21 (21)	546	3.64	4
5.	Quality	40 (200)	57 (228)	20 (60)	20 (40)	13 (13)	541	3.60	5
6.	Dealers Influence	61 (305)	40 (160)	23 (69)	15 (30)	11 (11)	575	3.83	1
7.	Brand Image	36 (180)	52 (208)	28 (84)	15 (30)	19 (19)	521	3.47	6
8.	Sales and Promotional Activities	32 (160)	43 (172)	27 (81)	25 (50)	23 (23)	486	3.24	7
9.	Advertisement	22 (110)	39 (156)	28 (84)	32 (64)	29 (29)	443	2.95	9

\*Cumulative Score (CS) = Maximum Scale × No. of Farmers

\*\*Mean = Cumulative Score (CS) / Total No. of Farmers (150)

SA(Strongly Agree)-5; A(Agree)-4; N(Neutral)-3; D(Disagree)-2; SD(Strongly Disagree)-1

### Dealers Brand Preference Towards Cotton Pesticides

**Factors Affecting Dealers' Preference towards Pesticides.** As mentioned in Table 3 regarding the factors affecting dealers' preference towards pesticides. "Margin percentage" received the highest score, with a mean value of 4.23, and ranked first. Following this,

"Timely Availability" secured the second rank with a mean score value of 3.96, followed by "Credit Facility" with a mean score value of 3.76, ranked third. "Progressive Farmer Opinions" and "Previous Experience" were ranked fourth and fifth, respectively, followed by other statements.

**Table 3: Factors Affecting Dealers' Preference towards Pesticides (n = 30).**

Sr. No.	Factors	HA	A	N	D	HD	CS*	Mean**	Rank
1.	Margin percentage	16 (80)	7 (28)	5 (15)	2 (4)	0 (0)	127	4.23	1
2.	Timely Availability	12 (60)	10 (40)	4 (12)	3 (6)	1 (1)	119	3.96	2
3.	Credit Facility	7 (35)	9 (36)	9 (27)	6 (12)	3 (3)	113	3.76	3
4.	Services Provided	4 (20)	6 (24)	9 (27)	10 (14)	1 (1)	86	2.86	6
5.	Previous Experience	2 (10)	9 (36)	12 (36)	4 (8)	3 (3)	93	3.10	5
6.	Progressive Farmer Opinions	4 (20)	14 (56)	7 (21)	2 (4)	3 (3)	104	3.46	4
7.	Sales and Promotional Activities	3 (15)	4 (16)	11 (33)	7 (14)	5 (5)	83	2.76	7

\*Cumulative Score (CS) = Maximum Scale × No. of Farmers

\*\*Mean = Cumulative Score (CS) / Total No. of Farmers (150)

SA (Strongly Agree)-5; A (Agree)-4; N (Neutral)-3; D (Disagree)-2; SD (Strongly Disagree)-1



## Satisfaction Level of Farmers Towards Cotton Pesticides

### Factors Affecting Satisfaction Level of Farmers towards Cotton Pesticides

Table 4 clearly brings out the factors affecting satisfaction level of farmers towards cotton pesticides. It shows "Availability of Insecticides" received the

highest score, with a mean value of 3.72, and ranked first. Following this, "Price" secured the second rank with a mean score value of 3.70, followed by "Increased Yield" with a mean score value of 3.53, ranked third. "Quality of Insecticides" and "Brand Image" were ranked fourth and fifth, respectively, followed by other statements.

**Table 4: Factors affecting satisfaction level of farmers (n= 150).**

Sr. No.	Factors	HS	S	N	U	HU	CS*	Mean**	Rank
1.	Increased Yield	44 (220)	40 (160)	33 (99)	18 (36)	15 (15)	530	3.53	3
2.	Residue Problem	24 (120)	29 (116)	46 (138)	30 (60)	21 (21)	455	3.03	7
3.	Brand Image	30 (150)	43 (172)	34 (102)	24 (48)	19 (19)	491	3.27	5
4.	Price	52 (260)	44 (176)	25 (75)	15 (30)	14 (14)	555	3.70	2
5.	Packaging	31 (155)	39 (156)	33 (99)	25 (50)	20 (20)	480	3.20	6
6.	Quality of Insecticides	40 (200)	38 (152)	36 (108)	17 (34)	19 (19)	513	3.42	4
7.	Availability of Insecticides	58 (290)	34 (136)	28 (84)	18 (36)	12 (12)	558	3.72	1

\*Cumulative Score (CS) = Maximum Scale × No. of Farmers

\*\*Mean = Cumulative Score (CS) / Total No. of Farmers (150)

SA (Strongly Agree)-5; A (Agree)-4; N (Neutral)-3; D (Disagree)-2; SD (Strongly Disagree)-1

### The Constraints Faced by Farmers Related to Cotton Pesticides.

As mentioned in Table 5 regarding the constraints faced by farmers related to cotton pesticides. "High prices" ranked first with the highest score of 3.67 on average. "Fear of Adulteration" ranked second with an average score of 3.66, and "Lack of

technical knowledge" ranked third with an average score of 3.60. Five, follow other statements. "Lack of Credit Availability" and "Poor Quality of Pesticides" were ranked fourth and fifth, respectively, followed by other statements.

**Table 5: Constraints Faced by Farmers Related to Cotton Pesticides (n= 150).**

Sr. No.	Factors	HA	A	N	D	HD	CS*	Mean**	Rank
1.	Higher price	46 (230)	40 (160)	42 (126)	13 (26)	9 (9)	551	3.67	1
2.	Poor Quality of Pesticides	43 (215)	37 (148)	32 (96)	23 (46)	15 (15)	520	3.46	5
3.	Timely Unavailability of Product	30 (150)	43 (172)	40 (120)	17 (34)	20 (20)	496	3.30	7
4.	Packaging Size	29 (145)	32 (128)	47 (141)	26 (52)	14 (14)	480	3.20	8
5.	Lack of Credit Availability	49 (245)	27 (108)	35 (105)	26 (52)	13 (13)	523	3.48	4
6.	Lack of Technological Knowledge	39 (195)	53 (212)	28 (84)	20 (40)	10 (10)	541	3.60	3
7.	Not Aware about Recommended Dose	32 (160)	43 (172)	39 (117)	26 (52)	10 (10)	511	3.40	6
8.	Fear of Adulteration	44 (220)	50 (200)	26 (78)	22 (44)	8 (8)	550	3.66	2

\*Cumulative Score (CS) = Maximum Scale × No. of Farmers

\*\*Mean = Cumulative Score (CS) / Total No. of Farmers (150)

SA (Strongly Agree)-5; A (Agree)-4; N (Neutral)-3; D (Disagree)-2; SD (Strongly Disagree)-1

## CONCLUSIONS

The study determines the brand preferences and satisfaction level of farmers and dealers' preferences for cotton pesticides in Rajkot District of Gujarat. For the fulfillment of the study, 150 farmers and 30 dealers were chosen through multistage sampling method. The findings suggest that most of the farmers belong to 41-55 years age group and have low education, which is below SSC or SSC; most farmers were small farmers

with an annual family income of 3 to 5 lakh. Dealer influence was found to be the main factor in farmers' brand preference and margin percentage was the most important factor affecting dealers' preference for cotton pesticides. Availability of Insecticides is the main factors that led to farmers' high levels of satisfaction and the high cost of pesticides was main constraint perceived by most of the farmers. Strategies based on given recommendations can certainly help the

companies to strengthen their existing relationships with the farmers and dealers and help to improve the profit picture by boosting the sales also.

## RECOMMENDATIONS

1. Since dealers are found to be the primary factor for brand preference of farmers, the company should try to convince them to recommend farmers.
2. Margin percentage was the most affecting factor for dealers' preference. So, it is essential to offer competitive margin incentives to dealers, as they are more likely to promote a product that provides them with higher profit margins.
3. The high cost of pesticides was the most commonly encountered constraint by farmers. To overcome this constraint, companies should focus on introducing cost-effective pesticide solutions by investing in research and development to develop innovative pesticide formulations that provide effective pest control at a lower cost.
4. Lack of technical knowledge was also reported to be one of the constraints faced by farmers. So, the organization should arrange farmers' meeting regularly to provide training and guidance on technical aspects.

## REFERENCES

- Adeleke, A. (2024). Technological advancements in cotton agronomy: a review and prospects.
- Dabhi, Divya, G. & Thakkar, Mehul, G. (2024). Awareness, Buying Behaviour and Constraints of Farmers for Fungicides in Botad District. *Biological Forum – An International Journal*, 16(8), 290-295.
- Harish, M., Vani, C. S., Sarada, O. R. and Kumari, P. L. (2023). Identifying the Factors influencing brand preference for pesticides in guntur district. *Andhra Pradesh J Agril. Sci.*, 9(3), 223-226.
- Kennedy, I. R., Harris, C. R., Sánchez-Bayo, F., Kimber, S. W. L., Southan, S., Hugo, L. and Skerritt, J. H. (1997). Cotton pesticides in perspective. *CRC for Sustainable Cotton Production*.
- Lokesh, S. B., Suradkar, D. D. and Dhage, S. V. (2017). Identification of constraint faced by farmers with respect to pesticides and suggestions to overcome constraints. *Journal of Pharmacognosy and Phytochemistry*, 4(2), 1068-1070.
- Nayak, P., and Solanki, H. (2021). Pesticides and Indian agriculture—a review. *International Journal of Research - Granthaalayah*, 9(5), 250-263.
- Pravin, P., Lakhakani, C. D. and Trivedi, S. M. (2020). Consumer behavior and satisfaction level towards herbicide in Gujarat state. *Journal of Pharmacognosy and Phytochemistry*, 9(3), 2058-2061.
- Rizwan, M., Zaheer, J., Tahir, M. N., Ansar, M., and Ali, M. (2023). Benefits of Research and Development on Cotton Crop: Lessons from China. *Dinkum Journal of Natural & Scientific Innovations*, 2(9), 509-513.
- Sahoo, A. and Dudhagara, C. R. (2023). Purchasing Behaviour and Problems Faced by Farmers and Dealers Related to Insecticide. *Journal of Experimental Agriculture International*, 45(8), 118-125.
- Zalavadiya, K. J., Trivedi, S. M. and Lakhani, C. D. (2018). Competitive advantages and marketing constraints faced by dealers of fungicides. *International Journal of Trend in Research and Development*, 5(3), 800-801.

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