



Research Article

STUDY ON HERBICIDE MARKET AND FARMER PURCHASING BEHAVIOUR TOWARD USE OF HERBICIDE IN DAHOD DISTRICT

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Abstract: The agrochemical industry is one of the most globalized in the world. The study was undertaken in Dahod with objectives are to know the market of herbicide, to know useful promotional tools for marketing and development of herbicide, and to know the farmer purchasing behavior toward herbicide products. Dahod district of Gujarat was selected purposely as per convince for the researcher for the study. In Dahod district, three talukas and twelve villages were selected intentionally. Further, one hundred twenty farmers were selected randomly from twelve villages included in the study. The primary data was collected with the help of the schedule for the year 2017-18. The major crops cultivated were maize, soybean, black gram, peanut, flowers, and vegetables. The promotional tools for marketing and development of herbicide products are field demonstration, farmer's meeting, jeep campaign, TV add, Newspaper advertisement, wall printing, and testimonial. The farmers purchasing decisions toward herbicide is depend on quality, packaging, price, availability, and services.

Keywords: *Herbicide, Brand, Market, Purchasing behavior, Promotional tools*

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Introduction

The agrochemical industry has grown year by year. The current environmental regulations and improving cropping patterns affect agrochemical usage. Changing farming practices and genetically modified (GM) seeds have been changed agrochemical businesses in Argentina and Brazil to more than double during 2006 and 2011. Brazil defeats the US to become the world's largest agrochemical market. China is the fourth key market as increasing agrochemical production, improved domestic agrochemical availability, and facilitated shortly rising utilization rates (World Agricultural Pesticides, 2017). An improvement in agrochemical demand returns to more sustainable levels. Significant opportunities for agrochemical are also present in India. The US was the second-largest market for agrochemical due to its massive amount of cropland and agrochemical use rates that are higher than the world average. China's growth was resistant to a sustainable level but remained above average as growers change from generic products to newer proprietary formulations.

Agrochemical production and consumption are also present in the Asian market, where China is highly developed. Relevant data reveal the sales value of the Chinese agrochemical market of 2014 was 5.2 billion dollars, which ranked No.3 in the world. China's CAG rate is expected to grow at 5.1 percent (globally 2.7%).

The Indian agrochemical industry is the second largest in Asia after China and the twelfth largest globally. With India's 60 percent community depending on agriculture, India's agrochemical industry performs an essential role in India's economy. In India, the average agrochemical usage per hectare is less at 381 grams than the average world usage of 500 grams. Less use can be associated with uneven land holdings, lower level of irrigation, dependence on monsoons, low awareness among farmers about the effect of pesticide usage, etc. India, the usage pattern is more diversified towards insecticides. Rice is the highest pesticide consuming crop of the overall pesticide usage, 25.9 percent absorbed by the rice. Andhra Pradesh is the highest pesticide consuming state, followed by Punjab & Maharashtra.

The utilize of biopesticides, and Genetically Modified (GM) seeds have increased. GM seeds are mainly utilized for commercial crops like cotton, maize, soybean, and canola. The use of GM seeds may diminish insecticide use, but the use of herbicides may improve.

Objectives of The Study

To know the market of herbicide

To know useful promotional tools for marketing and development of herbicide products

To know the farmer's purchasing behavior toward herbicide products

Material and Methods

The study was carried out from 1st June 2017 to 15th July 2017 in the Dahod district of Gujarat. A total of three talukas and twelve villages were selected purposely. A sample of one hundred twenty farmers was taken from twelve villages. A primary survey was carried out with the help of a structured schedule. Secondary data have been taken from various websites, organizations, and reports. A weighted mean is an average. Instead of each data point contributing equally to the final mean, some data points add more weight than others. Weighted means are prevalent in statistics, especially when studying populations.

Weighted average mean = $\frac{\sum wx}{\sum w}$

Where, Σ = the sum of, w = the weights, x = the value.

Result and Discussion

The market of herbicide

The Dahod district has 38204204-hectare geographical area that divided into seven talukas and six-hundred-ninety-six villages. In Dahod 490222 are rural farmers, and 4947 are urban farmers. The study showed that in Dahod district, major crops cultivated were Maize, Soybean, Black gram, peanut, flowers, vegetables.

Out of 120 farmers, more than half of the farmers (61 percent) were small. About 25 percent of farmers were medium farmers, and 14 percent were large farmers. Around 80 percent area was covered by maize, soybean, and paddy. Almost 2.11 lakh hectare area cultivated different crops; it shows a good market for the herbicides.

Table-1 Area under cultivation of major agronomical crops in 2015-2016 in Dahod

Sr.	Name of Crop	Area (Ha)	Percentage
1	Maize	105055	50
2	Soybean	36852	17
3	Green Gram	8727	4
4	Pigeon pea (Tur)	13234	6
5	Paddy	42435	20
6	Vegetables	5477	3
Total		2,11,780	100

The useful promotional tools for marketing and development of herbicide products The field demonstration, meeting, jeep campaign, TV/Newspaper, and wall printing are the primary tools for the marketing of herbicide or agrochemicals in India. Most of the respondent was aware of all the tools. Field demonstration is the most effective tool, among others. Through field demonstration, surrounding people can see the effect of herbicide or agrochemical on the field. After that conducting the farmer's meeting and discuss the product is effective more. In farmer's meetings, discuss the products as well as handling practices of herbicides or agrochemicals. The study was conducted in a tribal area so that the availability of Newspapers in villages was less and the peoples also don't have a reading habit of reading newspapers so that the TV/Newspaper ads and wall printing is not working well. A testimonial is working well in farmer meetings, but if testimonial directly distributed to the farmers, then peoples are avoiding reading.

Table-2 Useful promotional tools for marketing and development of herbicide products

No	Factors	WAM	RANK
1	Demo	4.12	1
2	Meeting	3.96	2
3	Jeep Campaign	3.21	3
4	TV/PAPER	2.78	4
5	Wall Printing	2.49	5
6	Testimonial	1.86	6

The farmer purchasing behavior toward herbicide products

The purchase of herbicide is affected by quality, packaging, price, availability, and services. The purchase of herbicide is 75 percent by cash and 25 percent by credit. The purchasing of herbicide, quality of the herbicide, or agrochemical affects more because farmers believe that it better to invest litter more ones rather than reinvest. In the study area, 61 percent of farmers are small and marginal, so that the packaging size of herbicide or agrochemical is affected after quality. Price is a concern, because of the high cost of farming, as well as the low income of small farmers. Most of the farmers compare prices of herbicide or agrochemical with friends & other farmers, and only a few farmers compare with the dealer. The purchasing behavior of farmers changed due to seasonal changes and the crop loss of last season, as well as the effect of the previously used product. The opinion leaders also have a role in the farmer purchasing decision; mostly, small farmers have a habit of taking help from them. Some early grower farmers also affect due first to use the herbicide.

Table-3 Farmer purchasing behavior toward herbicide products

NO	Factors	WAM	RANK
1	Quality	3.82	1
2	Packaging	3.12	2
3	Price	2.69	3
4	Availability	2.3	4
5	Services	1.81	5

Conclusion

The study conducted in Dahod district. There was 100 percent of respondents using herbicide in the study area. It shows an excellent demand for herbicide in the domain. The different company's product is doing well, according to previous and current user's feedback. Medium & small farmers are more in that area so that through field demonstration or farmer's meetings create awareness of the

effectiveness of product create a good market. For the marketing and promotion of herbicide products, different tools used by companies like field demonstration, farmers meeting, testimonial, TV, Newspaper add, jeep campaign. But the most effective tool is field demonstration and farmer's meeting. Furthermore, the quality, as well as the packaging size of the product, is more effective in the farmer's purchasing behavior.

Application of research: This research helps an organization know the herbicide potential related to crop and useful marketing tool. The organization can redesign the strategy to increase its market share.

Research Category: Agricultural Extension

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Study area / Sample Collection: Dahod district

Conflict of Interest: None declared

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