ASSESSMENT OF FARMERS' PURCHASING BAHAVIOUR ABOUT AGROCHEMICALS IN VEGETABLE CROPS OF BANASKANTHA DISTRICT OF GUJARAT

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ABSTRACT

In India, use of agrochemicals is increasing in agricultural sector to increase the crop yield. By using agrochemicals, farmers control the insect/pest attack, disease attack, weeds, etc. The use of agrochemicals in vegetable crops is very essential part of cultivation of crops. The present study was conducted in Deesa and Dantiwada talukas of Banaskantha district of Gujarat. Total ten villages were selected based on consumption of agrochemicals. Further, 15 farmers from each village were selected on random basis. Thus, total 150 farmers were surveyed in present study. The information was collected regarding purchasing behaviour of farmers about agrochemicals. The study revealed that the reasons behind selection of a particular brand by the farmers were effective result of crops, easily availability in market and fair price. Majority of farmers gave first priority to results and price of agrochemicals. They purchased agrochemical based on their own experience as well as companion farmer's opinion. Mostly the farmers purchased agrochemicals by cash from retailer. Awareness of farmers toward agrochemicals was good. The effective means to make aware the farmers about agrochemicals products of company were, company meeting, demonstration and field visits by company executive. Farmers felt convenient to have agrochemicals products in plastic bottle. Retailers and friends/peer groups were the major sources of farmers' information about agrochemicals.
KEY WORDS: Agrochemicals, Farmers, Knowledge

INTRODUCTION

The Indian agrochemicals market is highly fragmented in nature with over 800 formulators. The competition is fierce with large number of organized sector players and significant share of spurious pesticides. The market has been witnessing mergers and acquisitions with large players buying out small manufacturers. Key market participants include United Phosphorus Ltd., Bayer Crop Science Ltd., Rallis India Ltd., Gharda Chemicals Ltd., Syngenta India Ltd., and BASF India Ltd., etc. Top ten companies control almost 80 per cent of the pesticide market share. The market share of the large players depends primarily on product portfolio and introduction of new molecules. Strategic alliances with competitors are common to reduce to risks and serve a wider customer base. India ranks 10th in the world in pesticide consumption, as its total consumption were about 500 million tones. India is presently the largest manufacturer of pesticides among the South Asian and African countries, with the exception of Japan. The Indian pesticides market is the 12th largest in the world (Hundal *et al*., 2006). Overall, it can be said that there is a

bright future for agrochemicals companies in India. The use of agrochemicals in vegetable is very essential part of cultivation of crops. There are numerous companies which are engaged in production and marketing of agrochemicals in India which include multinational, national and some local companies. All are in effort to increase their market share in India. These companies produce various types of agrochemicals including pesticides such as insecticide, herbicide, rodenticides, fungicides, *etc*. Hence, the present study entitled "Assessment of farmers' purchasing behaviour about agrochemicals in vegetable crops of Banaskantha district of Gujarat" was planned to study the farmer's preference of various companies in purchase of agrochemicals, farmers purchase behavior towards agrochemicals, and farmers knowledge about various agrochemicals in vegetable crops.

METHODOLOGY

Deesa and Dantiwada talukas of Banaskantha district were purposively selected, because in these talukas, area under vegetable cultivation is higher as compared to other talukas of district. Ten vegetables growing villages were randomly selected from these two talukas. Therefore, total of 150 vegetable growers were selected by proportionate random sampling technique and all 150 vegetable growers considered as a sample and as farmers. The data were collected with the help of well structured, pre-tested scheduled through personal contact and data were compiled, tabulated and analyzed to draw valid conclusions. A simple ranking technique was applied to measure the problems faced by vegetable growers. The statistical tools used were percentage, mean score, rank and standard deviation.

RESULTS AND DISCUSSION

Farmers' preference about purchase of agrochemicals

Important factors that considered for purchase of agrochemicals by selected farmers in Deesa and Dantiwada talukas are depicted in Table 1.

Price:

Price is an important factor for purchasing of agrochemicals. Study revealed that 74.67 per cent selected farmers were grouped into high considered price and 18.67 per cent farmers were moderately considered price while purchase of agrochemicals.

Quantity:

Farmers were check quantity with relative price of agrochemicals. Total of 44 per cent selected farmers were falls under no considered categories about quantity followed by 34 per cent of selected farmers were under less considered categories about quantity and 14 per cent of selected farmers were fall under moderately considered categories. Only four per cent of selected farmers were highly considered the quality, while purchase of agrochemicals.

Quality:

Quality is an important factor that impact on purchase of agrochemicals by selected farmers. Results showed that 88.67 per cent selected farmers were highly considered quality of agrochemicals; followed 11.33 per cent of selected farmers, were moderately considered quality.

Brand name:

Brand name was affects the preference of farmers towards quality of product. Results showed that 35.34 per cent of selected farmers were moderately considered the brand name followed by 52.00 per cent farmers, highly considered the brand name of agrochemicals and 11.33 per cent of selected farmers, were less considered the brand name. Only 1.33 per cent of selected farmers were not considered the brand name during purchase of agrochemicals.

Easily availability in market:

Farmers always wanted availability of agrochemicals when needed. Of the total 150 farmers, 90.00 per cent farmers were highly considered easily availability in market factor, while purchase of agrochemicals. Only 11.33 per cent farmers moderately considered easily availability in market factor while purchase of agrochemicals.

Less side effect:

It was observed that 68.67 per cent of selected farmers less considered about side effects due to agrochemicals followed by 14.00 per cent selected farmers no considered this factor, while purchase of agrochemicals and 13.33 per cent of selected farmers were moderately considered this factor. Only 4.00 per cent of selected farmers highly considered this factor while purchasing of agrochemicals.

Promotional activities:

Promotional activities were important factor that impacts on purchase of agrochemicals by selected farmers. Results showed that 75.33 per cent of selected farmers were less considered about promotional activities followed by 12.00 per cent of selected farmers moderately considered promotional activities, while purchasing of agrochemicals. Only 7.33 per cent selected farmers high considered about promotional activities while purchasing agrochemicals.

Friends and peer group:

The friends' suggestions were important factor that impacts on purchase of agrochemicals. Results showed that 49.33 per cent of selected farmers highly considered friends suggestion followed by 30.67 per cent of selected farmers less considered friends suggestion while purchasing of agrochemicals. Only 1.00 per cents of selected farmers were no considered friends' suggestion.

Shopkeeper suggestion:

Shopkeeper / Agri-input dealers in the country are a prime source of information to the farming community, besides the supply of inputs and credit. Table shows that 50 per cent selected farmers highly considered shopkeeper suggestion. Only 13.33 per cent farmers less considered shopkeeper suggestion while purchasing of agrochemicals.

Farmers' knowledge about different categories of agrochemicals used in agriculture

The data presented in Table 2 showed the details of the awareness of farmers about different categories of agrochemicals. It was observed that more than 90 per cent farmers were aware about insecticide (98.00%) and herbicide (92.67%) and 44.00 per cent farmers were aware about fungicide. The awareness of other agrochemical was found very low among farmers.

Time of spray of agrochemicals in vegetable crops by the farmers

The data collected from the vegetable growers about time of purchase of agrochemicals and were classified accordingly are presented in Table 3. The results revealed 67.33 per cent of farmers purchased agrochemical at the time of pest attack on vegetable crop followed by 27.33 per cent of farmers purchased agrochemicals after certain loss on vegetable crop.

Purchase sources of agrochemical by the farmers

Farmers purchases the agrochemicals were categorized in four categories. The results presented in Table 4 revealed that majority farmers (89.33%) preferred to purchase agrochemicals from retailer shop and retailer was choice for product of various companies. Farmer's selection of chemical product can be made as per previous experience and results. Retailer also consults about crop protection. So that majority of farmers 89.33 per cent preferred retailer to purchase agrochemicals. The farmer bought agrochemicals from dealer found only 5.33 per cent.

Farmers' knowledge about vegetable crops

An attempt has been made to assess the knowledge level of the farmers regarding purchasing behaviour of agrochemicals of vegetable crops. The teacher made test of 15 items was prepared to assess the knowledge level of the farmers. The score of 'one' was assigned to correct answer and 'zero' to incorrect answer. Based on knowledge score attained, the index for each farmers was calculated. The farmers on the basis of knowledge index were classified in to three categories. The data in this regard presented in Table5. It could be seen from the results that 64.67 per cent of the farmers had medium knowledge of purchasing behaviour

of agrochemicals in vegetable crops, whereas 28.67 per cent farmers had low level of knowledge. Only 6.66 per cent of the farmers were found having high level of knowledge about purchasing agrochemicals of vegetable crops.

Reasons behind selection of a particular brand by the farmers

It was found that majority of the farmers (96.00%) select brand because easily availability in market followed by 94.67 per cent farmers select brand due to high effectiveness of crops and 92.67 per cent farmers select brand because price factor (Table 6). Only 12.67 per cent select brand for promotion activity.

The results obtained in the present study are more or less in accordance with the findings of Kuponiyi and Adewale (2008) and Nishad and Pathak (2015).

CONCLUSION

Farmers were very conscious about purchasing agrochemicals for vegetables crops in Deesa and Dantiwada talukas. They preferred appropriate agrochemicals for particular crop. Farmers mostly demanded for the agrochemical which gives better results without spoiling the crops soil health as well as environment. The main source of farmers to get information about agrochemicals companies and its products were dealers and friends. Highly considered factors by majority of the selected farmers were shopkeepers' suggestions, friends and peer groups, brand name, quality and price. Most of the farmers preferred retailer shop to purchase agrochemicals by cash payment method. Awareness of farmers towards agrochemicals was medium to good. The reasons behind selection of a particular brand by farmers were due to its high effectiveness, easily availability in market and price.

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Table 1: Distribution of respondents according to preference about purchase of Agrochemicals

(n=150)

Sr. No.	Factors	High Considered		Moderately Considered		Less Considered		No Considered		Total
		Frequency	Per cent	Frequency	Per cent	Frequency	Per cent	Frequency	Per cent	
1	Price	112	74.67	28	18.67	10	6.67	0	0.00	150/100
2	Quantity	12	8.00	21	14.00	51	34.00	66	44.00	150/100
3	Quality	133	88.67	17	11.33	0	0.00	0	0.00	150/100
4	Brand name	78	52.00	53	35.34	17	11.33	2	1.33	150/100
5	Easy availability in the market	135	90.00	15	10.00	0	0.00	0	0.00	150/100
6	Less side effect	6	4.00	20	13.33	103	68.67	21	14.00	150/100
7	Promotional activities	11	7.33	18	12.00	113	75.33	8	5.33	150/100
8	Friends/ Peer group	74	49.33	30	20.00	46	30.67	0	0.00	150/100
9	Shopkeeper suggestion	75	50.00	55	36.67	20	13.33	0	0.00	150/100

Table 2: Distribution of respondents according to knowledge about different categories of agrochemicals used in agriculture

(n=150)

Sr. No.	Name of Agrochemical	Frequency			Per cent		
		Yes	No	Total	Yes	No	Total
1	Insecticide	147	3	150	98.00	2.00	100
2	Fungicide	66	84	150	44.00	56.00	100
3	Herbicide	139	11	150	92.67	7.33	100
4	Other	2	148	150	1.33	98.67	100

Table 3: Distribution of respondents according to time of spray of agrochemicals in vegetable crops by the farmer

(n=150)

Sr. No.	Time of Purchase	Frequency	Per cent
1	Before pest attack	8	5.33
2	Time of pest attack	101	67.33
3	After certain loss	41	27.34
Total		**150**	**100**

Table 4: Distribution of respondents according to purchase sources agrochemicals by Farmers

(n=150)

Sr. No.	Where Purchase	Frequency	Per cent
1	Dealer shop	8	5.33
2	Retailers shop	134	89.33
3	Co-operative society	8	5.34
4	Other	0	0.00
Total		**150**	**100**

Table 5: Distribution of the farmers' according to their knowledge about vegetable crops

(n=150)

Sr. No.	Categories	Frequency	Per cent
1	Low (up to 61.00 score)	43	28.67
2	Medium (between 62.00 to 75.00 score)	97	64.67
3	High (above 75.00 score)	10	6.66
Total		**150**	**100**
Mean X=68.18		**S. D. = 7.42**	

Table 6: Distribution of respondents according to reasons behind selection of a particular brand by the farmers

(n=150)

Sr. No.	Particulars	Frequency			Per cent		
		Yes	No	Total	Yes	No	Total
1	High effectiveness	142	8	150	94.67	5.33	100
2	Easily availability in market	144	6	150	96.00	4.00	100
3	Price	139	11	150	92.67	7.33	100
4	Promotion activity	19	131	150	12.67	87.33	100
5	Other	6	144	150	4.00	96.00	100

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