

## CONSTRAINTS FACED BY FARMERS IN PURCHASE OF AGROCHEMICALS IN VEGETABLE CROPS

V.V.Prajapati<sup>1</sup>, C.A.Gohil<sup>2</sup> and M.A.Tunvar<sup>3</sup>

1 Principal, Polytechnic in Agriculture, SDAU, Deesa - 385535  
2&3 Assitant Professor, Polytechnic in Agriculture, SDAU, Deesa - 385535  
E-mail : vvprajapati1963@gmail.com

### ABSTRACT

*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. The use of agrochemicals in vegetable crops are 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. Majority of the farmers awareness about insecticides were medium to high but less awareness about other chemicals. Majority of the farmers spray insecticides at the time of pest attack. Most of the farmers preferred retailer shop to purchase agrochemicals. Knowledge of farmers towards agrochemicals was low to medium. The reasons behind selection of a particular brand by farmers due to its high effectiveness, easily availability in market and price. The main important constraints perceived by the vegetable growers in purchasing of agrochemicals where high price of agrochemicals, lack of technical knowledge ,poor quality of agrochemicals, lack of training and lack of finance.*

**Keywords:** constraints, knowledge, agro chemicals

### 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. Exports currently constitute almost 50.00 per cent of Indian crop protection industry and are expected to grow at a CAGR of 16.00 per cent to reach USD 4.2 billion by FY 2019, resulting in 60.00 per cent share in Indian crop protection industry. Domestic market on the other hand would grow at 8.00 per cent CAGR, as it is predominantly monsoon dependent, to reach USD 3.3 billion by FY 2019. Globally, India is fourth largest producer of crop protection chemicals, after United States, Japan and China. The crop protection companies in India can be categorized into three types –Multi-National, Indian including public sector companies and small sector units. According to the Pesticide Monitoring Unit, there are about 125 technical grade manufacturers, including about 10 multinationals, more than 800 formulators and over 145,000 distributors in India. More than 60 technical grade

pesticides are being manufactured indigenously. The market share of large players depends primarily on product portfolio and introduction of new molecules. Strategic alliances with competitors are common to reduce risks and serve a wider customer base. 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.* There are many constraints faced by farmers in purchase of agrochemicals. Hence, the present study entitled; “constraints faced by farmers in purchase of agrochemicals in vegetable crops “was planned.

### OBJECTIVES

- (1) To know the farmers awareness regarding agrochemicals in vegetable crops by farmers
- (2) To know the constraints faced by farmers in purchase of agrochemicals

**METHODOLOGY**

Deesa and Dantiwada talukas of Banaskantha district were purposively selected, because this talukas of have higher area under vegetable cultivation as compared to other talukas of district. Ten vegetables growing villages were randomly selected from those two talukas. For this study 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' awareness regarding agrochemicals in vegetable crops by farmers**

**Table 1: Distribution of the respondents according to farmers' knowledge about different categories of agrochemicals used in agriculture**

n=150

Sr. No.	Name of agro-chemical	Frequency		Total	Percent	
		Yes	No		Yes	No
1	Insecticide	147	03	150	98.00	02.00
2	Fungicide	66	84	150	44.00	56.00
3	Herbicide	139	11	150	92.67	07.33
4	Other	02	148	150	1.33	98.67

The data presented in Table 1 shows details of the awareness of farmers about different categories of agrochemicals. It was observed that more than ninety 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 grower about time of purchase agrochemical were classified according to their time of purchase which are presented in Table 2.

**Table 2: Distribution of the respondents according to time of spray of agrochemicals in vegetable crops by the farmers**

n=150

Sr. No.	Time of purchase	Frequency	Per cent
1	Before pest attack	08	05.33
2	Time of pest attack	101	67.33
3	After certain loss	41	27.34

Table 2 represented the time of purchase of agrochemicals 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. It was shows that, majority of farmers purchased agrochemicals at the time of pest attack.

**Purchase sources of agrochemical by the farmers**

Farmers purchases of agrochemicals were categorized in four categories first are dealer shop, second are retailer shop, third are co-operative society and fourth are other.

**Table 3: Distribution of the respondents according to purchase sources agrochemicals by farmers**

n=150

Sr. No	Where purchase	Frequency	Per cent
1	Dealer shop	08	5.33
2	Retailers shop	134	89.33
3	Co-operative society	08	5.34
4	Other	00	0.00

Table 3 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 result. 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 Table:

**Table 4: Distribution of the farmers' according to their knowledge about vegetable crops**

n=150

Sr. No	Categories	Frequency	Percent
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

Mean X=68.18

S.D.=7.42

It could be seen from the Table 4 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

**Table 5: Distribution of the respondents according to reasons behind selection of a particular brand by the farmers**

n=150

Sr No	Particular	Frequency		Per cent	
		Yes	No	Yes	No
1	High effectiveness	142	08	94.67	05.33
2	Easily availability in market	144	06	96.00	04.00
3	Price	139	11	92.67	07.33
4	Promotion activity	19	131	12.67	87.33
5	Other	06	144	04.00	96.00

It is found in Table 5 there majority of 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. Only 12.67 per cent select brand for promotion activity.

#### Constraints faced by farmers in purchase of agrochemicals

Farmers always faced problems about

agrochemicals, from the study following Constraints were identified.

**Table 6: Distribution of the respondents according to constraints faced by farmers**

n=150

Sr. No	Factor	Frequency	Per cent	Rank
1	Lack of technical knowledge	126	84.00	II
2	High price of agrochemicals	128	85.33	I
3	Lack of timely available	08	05.33	VII
4	Residual effect on the crop/next crop	10	6.67	VI
5	Poor quality of agrochemicals	109	73.67	III
6	Lack of finance	65	43.33	V
7	Lack of Training	107	71.33	IV
8	Others	05	03.33	VIII

Data revealed in Table 6 that the main important constraints perceived by the vegetable growers in purchasing of agrochemicals where high price of agrochemicals (85.33%), lack of technical knowledge (84.00%), poor quality of agrochemicals(73.67%), lack of training(71.33%) and lack of finance(43.33%)The least important constraints faced by farmers were residual effect on (6.67%) and lack of timely available (5.33%).It can be concluded that high price of agrochemicals and lack technical knowledge were major important constraints faced by farmers.

#### 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. Majority of the farmers awareness about insecticides were medium to high but less awareness about other chemicals. Majority of the farmers spray insecticides at the time of pest attack. Most of the farmers preferred retailer shop to purchase agrochemicals. Knowledge of farmers towards agrochemicals was low to medium. The reasons behind selection of a particular brand by farmers due to its high effectiveness, easily availability in market and price. The main important constraints perceived by the vegetable growers in purchasing of agrochemicals where high price of agrochemicals, lack of technical

knowledge ,poor quality of agrochemicals, lack of training and lack of finance.

**REFERENCES**

- Chaudhary, M. L (2012). Pesticide using behaviour of paddy growers of Khambhat Taluka of Anand district of Gujarat state. M. Sc (Agri.) Thesis (unpublished), Anand Agricultural University, Anand
- Chaudhary,M.R.and Kadam, A.L. (2000).Constraints in resources management of orange orchard. *Agril. Extension Education Review*.30-32.
- Chauhan N. M. (2016) Constrains in Adoption of Export Oriented Okra Production Technology in Tapi Distract of South Gujarat. Society of Extension Education, Gujarat : 259
- Chothe. G. D, and Borkar, M. M. (2000). Constraints faced by farmers in adoption of fertilizers. *Maharashtra J. Extension Education*. 19; 298-299
- Maity, B, and Chatterjee, (2010). Assessing farmer awareness indices of modern inputs in India. *European journal of social science*, 14(3).
- Pankaj Nishad and Hulas Pathak (2015). An analysis of market structure and farmers' preferences of vegetable seed marketing in Raipur district of Chhattisgarh *International Journal of Commerce and Business Management 2015 Vol. 8 No. (2) : 199-202*
- Raut, V. D, Deshpande, S. K. and Raut, D. D. (2012). Utility perception about skill demonstrated in training programme on IPM practices in cotton. *Green farming*. 3(2): 230-233

---

*Received : August 2016 : Accepted : November 2016*