

AWARENESS OF VEGETABLE GROWERS ABOUT HAZARDOUS EFFECT CAUSED THROUGH PESTICIDE RESIDUES IN VEGETABLES

P. H. Vihariya¹, Mukesh R. Patel ¹and P. C. Patel²

1 Ph.D. Scholar, Department of Extension Education, NMCA, NAU, Navsari - 396450

2 Officer In Charge SSK, Office of DEE, AAU, Anand -388110

3 Assistant professor, AAU, Office of DEE, Anand -388110

Email : payal14.vihariya@gmail.com

ABSTRACT

India is the second largest producer of vegetables, next to China and vegetables are being grown in open as well as under protected environment. The productivity of different vegetables in our country is comparatively lower than the world's average productivity because of insect –pest infestation. For better yield and quality, pesticides are repeatedly applied by farmers during the entire period of vegetable farming including the fruiting stage. Indiscriminate use of pesticides particularly at fruiting stage and non adoption of safe waiting period leads to accumulation of pesticide residues in consumable vegetables. If farmers become more aware about the judicious use of pesticides it will reduce the hazards related to pesticide residues. It can only be achieved when the farmers will get the right information about hazards caused by improper, careless, and excessive use of pesticides from the various sources of information. Keeping all the above facts in mind, the present study entitled “Awareness of vegetable growers about hazardous effect caused through pesticide residues in vegetables ” The present study was conducted on a random sample of 120 vegetable growers selected from the 12 random villages of Anand, Borsad and Petlad Taluka of Gujarat state. Data of the research study presented more than half (54.17 per cent) of the vegetable grower had medium level of awareness about hazardous effect caused through pesticide residues in vegetable cultivation, followed by 25.83 per cent, 9.17 per cent, 6.67 per cent and 4.17 per cent, who had high, low, very high and very low level of awareness about hazardous effect caused through pesticide residues in vegetables, respectively. Thus, the majority (80.00 per cent) of the vegetable growers had medium to high level of awareness about hazardous effect caused through pesticide residues in vegetables.

Keywords : awareness, vegetable growers, hazards caused through pesticide residues.

INTRODUCTION

Agriculture is truly a significant sector that produces food for humanity. However, due to an expansion of industrial sector and urban growth and the expansion of communities, lands for agricultural activities have a tendency to reduce by time. An increase of uses of high technology and pesticides to accelerate productivity of crops to meet population demands is also another factor that worsens the cause of soil damage. Besides, use of chemical pesticides is not safety for workers in agricultural farm lands. With the limitation of their literacy level, these farmers have less awareness of danger from using chemical pesticides, while the behaviour of use is not friendly to users, consumers and the environment. Toxic substances caused from the over use or misuse of pesticides have become pollutant to the air, soil and water. Soil and water are

the vital source of foods and food production for human, thus pesticide residues in these natural resources have a significant negative impact to human lives.

Vegetables crops are essential component of the human diet and have third place along with taking over the pesticides load next to cotton and rice. Vegetables consume 13.00% of total pesticide use in India. The persistence of pesticides among the vegetables brinjal, okra,, and chilly require frequent application of pesticides even at fruiting stage. It has been estimated that 85.00-90.00% of pesticides in human bodies are received through foods vegetables are of direct concern with respect to the buildup of pesticides residues from point of hazards to consumers. Exposure to pesticides both occupationally and environmentally causes a range of human health problems. It has been observed that

the pesticides exposures are increasingly linked to immune suppression, hormone disruption, diminished intelligence, reproductive abnormalities and cancer. Currently Pesticide residue in several crops has also affected the export of agricultural commodities in the last few years. The presence of pesticide residues in vegetables is major bottleneck in the international trade of food commodities. If farmers become more aware of the judicious use of pesticides and to adopt recommended environmental protection measures it will reduce the hazards related to pesticide residues. It can only be achieved when the farmers will get the right information about hazards caused by improper, careless, and excessive use of pesticides from the various sources of information.

Keeping all the above facts in mind, the present study entitled “To study the Awareness of vegetable growers about hazardous effect caused through pesticide residues in vegetables ” With following Objective:

OBJECTIVE

To extent the level of awareness among vegetable growers about hazardous effect caused through pesticide residues in vegetables

METHODOLOGY

The present study was conducted among eight districts under the jurisdiction of Anand Agricultural University, Anand district was purposively selected for the study because vegetable crops grown more or less in all the talukas of the Anand district. Out of 8 Talukas of Anand district Anand , Borsad and Petlad talukas where vegetables (Brinjal, Okra and Chilli) are grown on maximum areas were selected purposively. Thereafter, four villages from each taluka were selected by using simple random sampling for study purpose. From 12 selected villages 120 respondents were selected by proportionate random sampling technique for study purpose. The investigator collected data by using personal interview method. The collected data were analyzed by using Frequency and Percentage.

Measurement of Awareness

Awareness is the consciousness of an individual about existence of the hazardous effect caused through pesticide residues in vegetable cultivation. Thus, awareness, as a cognitive behaviour is operational as the respondent’s consciousness, i.e. being aware or not aware about hazardous effect of pesticide residues in vegetables. The awareness score of an individual was computed by putting together the

dichotomous response, i.e. aware and not aware by assigning the score 1 or 0, respectively. The respondents were classified into five categories using arbitrary method of classification as under: (1) Very low (2) Low (3) Medium (4) High and (5) Very high level of awareness which was calculated through this formula:

$$AI = \frac{\text{Total numbers of questions – number of ques. Known by individual farmers}}{\text{Total numbers of Questions}} \times 100$$

(AI = Awareness Index)

RESULTS AND DISCUSSION

The data presented in Table 3.1 make it clear that, more than half (54.17 per cent) of the vegetable grower had medium level of awareness about hazardous effect caused through pesticide residues in vegetable cultivation, followed by 25.83 per cent, 9.17 per cent, 6.67 per cent and 4.17 per cent, who had high, low, very high and very low level of awareness about hazardous effect caused through pesticide residues in vegetables, respectively.

Thus, the majority (80.00 per cent) of the vegetable growers had medium to high level of awareness about hazardous effect of pesticide residues.

Table 1: Distribution of vegetable growers according to their level of awareness

n=120

Sr. No.	Awareness (Score)	Frequency	Per cent
1	Very low (up to 20 score)	05	4.17
2	Low (21 to 40 score)	11	09.17
3	Medium (41 to 60 score)	65	54.17
4	High (61 to 80 score)	31	25.83
5	Very high (81 and above score)	08	06.67

It might be due to educational level of the vegetable growers and their mass media exposure. These two personal traits, coupled with experience might have made them able to collect information about hazardous effect caused through pesticide residues for vegetable cultivation. So also,

their better status with regard to scientific orientation, risk orientation and economic motivation might have played important role in motivating them to seek information about hazardous effect of pesticide residues in vegetable cultivation.

CONCLUSION

Majority (80.00 per cent) of the vegetable growers had medium to high level of awareness about hazardous effect of pesticide residues. Thus, the outcome of this study would be helpful in generating data based existing level of awareness about environmental hazards which will serve as a guideline to planners and extension agencies to understand the better ways and means of promoting eco-friendly measures among the group of clientele to check environmental hazards.

SUGGESTIONS FOR FURTHER RESEARCH

This type of study should be conducted in different areas to assess the awareness regarding hazardous effect caused through pesticide residues in vegetables. The research should be extended to large number of farmers to

draw valid conclusions. Some other characteristics of the farmers, other than those included in this study, might be affecting their awareness regarding hazardous effect caused through pesticide residues in vegetables should be identified and studied. Such study should be repeated after some lapse of time on large sample size to increase its validity.

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