FACTORS INFLUENCING ADOPTION LEVEL OF COTTON GROWERS ABOUT IPM TECHNOLOGY

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ABSTRACT

The study was conducted in Vadodara district of Gujarat State with total 240 respondents including 120 trained and 120 untrained cotton growers who were selected from sixteen villages of the district. A perusal of the data indicated that majority of the trained (66.67 per cent) cotton growers had medium extent of adoption of IPM technology in cotton crop followed by 30.83 per cent with high and only 2.50 per cent with low extent of adoption of IPM technology. In case of untrained cotton growers, more than half (53.33 per cent) of them had medium extent of adoption followed by 45.00 per cent with low and only 1.67 per cent with high extent of adoption of IPM technology in cotton crop. Independent variables of trained cotton growers like age, education, extension contact, training received, land holding, productivity, economic motivation, scientific orientation, risk orientation and awareness about IPM technology were significantly correlated with extent of adoption of IPM technology. While, mass media exposure, area under cotton crop, occupation and attitude towards IPM technology of trained cotton growers had no significant relationship with extent of adoption. In case of untrained cotton growers, there was no significant relationship between selected variables and extent of adoption of IPM technology.

INTRODUCTION

Cotton is an important cash crop in India. During recent years cotton is becoming more susceptible to different insects, pests especially bollworms in the country. This is because of excessive and indiscriminate use of pesticides against certain pests and also disturbance of natural balance. Koranne(1996) reported that out of the total pesticides used in agriculture in India, cotton alone consumed more than 55 percent of them. This figure reflects the excessive use of pesticides on cotton. The approach to minimize the use of pesticides and thereby to overcome its ill effects to a certain extent is adoption of Integrated Pest Management practices in cotton. Hence, it was thought imperative to study the status of adoption regarding IPM technology by cotton growers. IPM is an approach that envisages combination of techniques that may contribute to suppression of pests by cultural methods, conservation and augmentation of natural enemies and specific chemical pesticides as needed so as to keep pests populations at levels below those causing economic injury.

METHODOLOGY

The study was conducted in Vadodara district of Gujarat state. Vadodara district was selected purposively because of its higher hybrid cotton growing area. Out of eleven blocks/talukas of Vadodara district, four blocks viz. Karjan, Dabhoi, Shinor and Sankheda were selected on the basis of maximum coverage of hybrid cotton area in the district. Two IPM trained villages and two neighbouring untrained villages from each block were selected. Thus, total sixteen villages eight IPM trained and eight IPM untrained villages

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were selected for the study. From each village, 15 cotton growers were selected randomly. Thus all in all, total 120 respondents were selected as untrained cotton growers and 120 were selected as trained cotton growers making total sample of 240 respondents. The data were collected with the help of pre tested well structured schedule by using interview with the cotton growers.

The data were statistically analyzed with the help of frequencies percentage and rank. To measure the Adoption of the respondents about Integrated Pest Management Technology, a simple adoption scale developed by Sengupta(1967) was used in the present study with some modification. To find out the relationship between dependent and independent variables the Pearson Product Moment Method (Garette-1967) was used for computing correlation Coefficient in this study.

FINDING AND DISCUSSION

1 Extent of adoption of ipm technology by the ipm trained and untrained cotton growers.

In the present study an attempt has been made to investigate the extent of adoption of IPM technology in cotton crop. The data in this regard are presented in Table-1.

Table:1 Distribution Of The Cotton Growers According To Their Extent Of Adoption Of IPM Technology In Cotton Crop

n = 240

Adoption level	Category of farmers			
	Trained $n_1 = 120$		Untrained $n_2 = 120$	
	Number	Per cent	Number	Per cent
Low	03	2.50	54	45.00
Medium	80	66.67	64	53.33
High	37	30.83	02	1.67
Total	120	100.00	120	100.00

Category	Mean	S.D.
Trained	20.75	1.46
Untrained	13.20	1.92
Pooled	16.97	1.69

't' value : 34.25**

A perusal of the data in Table –1 indicated that majority of the trained (66.67 per cent) cotton growers had medium extent of adoption of IPM technology followed by 30.83 per cent with high and only 2.50 per cent with low extent of adoption of IPM technology. Incase of untrained cotton growers, more than half (53.33 per cent) of the cotton growers had medium extent of adoption of IPM technology followed by 45.00 per cent with low and only 1.67 per cent with high extent of adoption of IPM technology in cotton crop.

The calculated't' value (34.25) was observed significant at 1 per cent level of probability indicating highly significant difference between trained and untrained cotton growers in respect of their extent of adoption of IPM technology in cotton crop.

2 Relationship Between Selected characteristics Of Ipm Trained And Untrained Cotton Growers And Their Adoption Level

Adoption behaviour of users is affected by numerous factors such as personal, social,

communicational, economic and psychological characteristics of the cotton growers. The data in this regard are presented in Table-2

Table-2: Relationship Between Personal, Social, Communicational, Economic And Psychological Characteristics Of Trained And Untrained Cotton Growers And Their Extent Of Adoption.

n=240

Sr. No.	Characteristics (Independent Variables)	Correlation co-efficient with adoption ('r' value)	
		Trained	Untrained
1	Age	0.2675**	0.0344 NS
2	Education	0.2176**	0.0323 NS
3	Extension contact	0.2094**	0.0958 NS
4	Mass media exposure	0.0183 NS	0.0395 NS
5	Training received	0.2364**	0.1520 NS
6	Land holding	0.3771**	0.2530 NS
7	Area under cotton crop	0.0259 NS	0.0135 NS
8	Occupation	0.0942NS	0.0627 NS
9	Productivity	0.5262**	0.0169 NS
10	Economic motivation	0.3414**	0.0860 NS
11	Scientific orientation	0.3795**	0.0363 NS
12	Risk orientation	0.1782**	0.0412 NS
13	Attitude towards IPM technology	0.0272 NS	0.1172 NS
14	Awareness about IPM technology	0.2958**	0.0416 NS

The data presented in Table-2 revealed that in case of trained cotton growers, the independent variables viz. age, education, extension contact, training received, land holding, productivity, economic motivation, scientific orientation, risk orientation, and awareness about IPM technology had positive and highly significant correlation with adoption of IPM technology. In other words, these are the influential factors for adoption of IPM technology by trained cotton growers. Further, mass media exposure, area under cotton crop, occupation and attitude towards IPM technology didn't exert any significant influence on adoption of IPM technology by trained cotton growers. In case of untrained cotton growers, not a single variable under study showed significant association with adoption of IPM technology. Hence for them, these factors were not influential for adoption of IPM technology.

CONCLUSIONS

The vast majority of IPM trained (97.50 per cent) and untrained (98.33 per cent) cotton growers had medium to high and low to medium level of adoption regarding IPM technology in cotton, respectively. It was also seen that in case of trained cotton growers, independent variables like age, education, extension contact, training received, land holding, productivity, economic motivation, scientific orientation, risk orientation, and awareness about IPM technology had highly and significantly correlation with adoption of IPM technology, while in case of untrained cotton growers, not a single variable showed significant correlation with adoption of IPM technology.

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