RELATIONSHIP BETWEEN SELECTED CHARACTERISTICS OF COTTON GROWERS AND THEIR KNOWLEDGE ABOUT INTEGRATED PEST MANAGEMENT

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ABSTRACT

The present investigation was carried out in three talukas of surendranagar district of Gujarat state, where maximun land under cotton cultivation. From each selected taluka four villages were selected randomly. Thus, total twelve villages were surveyed during the study. From each selected village, 10 farmers were considered as respondents, thus total 120 farmers, who grow the cotton crop, were considered as respondents for the present study. The ex-post facto research design was used for the research study. It can be enunciated that among the selected twelve variables. Nine variables viz. Education, farm experience, training received, annual income, social participation, mass media exposure, scientific orientation, risk orientation and innovativeness had exerted positive and significant influence on knowledge of cotton growers about Integrated Pest Management. Three variables viz. age, size of family and land holding failed to show any significant contribution in knowledge of cotton growers about Integrated Pest Management.

Keywords : *cotton, farmers, integrated pest management, knowledge*

INTRODUCTION

Cotton is one of the major *Kharif* crop grown under both irrigated and rain-fed conditions in India. On one hand, cotton crop gives high economic return to the farmers, while on the other hand, there are many risks involved in it. The cultivation of cotton also needs costly inputs in terms of seeds, fertilizers and pesticides (Rathwa *et al.,* 2021). If proper care is not taken, it proves as monetary uncertain business. It is also sensitive crop to many diseases and pests. It is known as risky crop considering natural hazards, as well as the everyday fluctuating of wholesale price index. Thus, sometimes crises involved in cotton crop create serious climatic consequences on the income and life style of the farmers.

Cotton is cultivated in three distinct agro-ecological regions (north, central and south) of the country. Northern zone comprising Punjab, Haryana, parts of Rajasthan and Uttar Pradesh where hirsutum and arboretum types of cotton are grown. After the introduction of Bt. Cotton, intra-hirsutum Bt. Cotton is being extensively cultivated. Central zone comprises primarily rainfed tract of Madhya Pradesh, Maharashtra and Gujarat. In Gujarat state, Surendranagar district is pioneer in introducing cotton cultivation. The district comprises of 10 talukas out of them chotila, chuda and wadhavan taluka has been considered as productivity potential region of cotton crop due to assured irrigation facilities and favourable soil and climatic conditions. That's why current study was conducted in surendranagar district of Gujarat state.

OBJECTIVE

To find out relationship between selected characteristics cotton growers and their knowledge about Integrated Pest Management.

METHODOLOGY

The present study was carried out in Surendranagar district of Gujarat State. three talukas from Surendranagar district were selected for the study of the respondents. From each selected taluka four villages were selected randomly and from each selected village, 10 farmers were considered as respondents, thus total 120 farmers, who grow the cotton crop, were considered as respondents for the present study. An interview schedule based on objective of the study was developed and respondent were personally interviewed for collection of information. Ex-post facto research design was used for the research study (Ker linger, F. N., 1976). All the responses were recorded and transferred to master excel sheet. The data were compiled, scored, tabulated and analyzed to give statistical treatment in such a way that they might give proper answers to the specific objectives of the study.

RESULTS AND DISCUSSION

Knowledge of the farmers about Integrated Pest Management

Table 1: Relationship between knowledge of the cotton growers about Intergrated Pest Management and independent variables (n=120)

Sr. No.	Independent variables	'r' value
X_1	Age	-0.0175[NS]
X_2	Education	0.2705**
X_3	Farm Experience	0.1920*
X_4	Training received	0.2193*
X_5	Size of family	-0.0062[NS]
X_6	Annual income	0.2780**
X_7	Land holding	0.1563[NS]
X_8	Social participation	0.2136*
X_9	Mass media exposure	0.2743**
X_{10}	Scientific orientation	0.3556**
X_{11}	Risk orientation	0.3601**
X_{12}	Innovativeness	0.3723**

* = Significant at 0.05 level of probability

** = Significant at 0.01 level of probability

NS = Non-significant

Age and knowledge

The negative and non-significant relationship between knowledge of the cotton growers about Integrated Pest Management and their age. It can be inferred that there was non-significant relationship between knowledge and their age. It means knowledge of cotton growers was not related with their age. To epitomize the results of the study, it can be stated that irrespective of different age of cotton growers, the knowledge level was uniform. Generally young aged farmers were more enthusiastic in nature with unique power of reception and had ability to interpret the information and on other hand, old age farmers had greater accumulated experience might have resulted into its non-significant influence on knowledge. This finding was in conformity with Chaudhari and Chauhan, (2017).

Education and knowledge

The positive and highly significant relationship between knowledge of cotton growers about Integrated Pest Management and their education. It means that knowledge of cotton growers increased significantly with an increase in education. This might be due to the fact the educated farmers generally have high social participation, high innovativeness and also have progressiveness and rational thinking. Thus, they understand the importance of Integrated Pest Management. This finding was in line with Chaudhari and Chauhan, (2017).

Farming experience and knowledge

The positive and significant relationship between knowledge of cotton growers about Integrated Pest Management and their farming experience. It means that knowledge of cotton growers increased significantly with an increase in farming experience. This finding was in conformity with Sangeetha *et al.* (2009).

Training received and knowledge

It can be concluded, that there was positive and significant relationship between knowledge of cotton growers about Integrated Pest Management and their training received. It means that knowledge of cotton growers increased significantly with an increase in training received. This finding was in line with that of Patel and Sanwal, (2015).

Size of family and knowledge

There was negative and non-significant relationship between knowledge of cotton growers about Integrated Pest Management and their size of family. The probable reason might be due to that knowledge of cotton growers about Integrated Pest Management did not increase significantly with an increase or decrease in family size. This finding was in conformity with Dobariya *et al.* (2017).

Annual income and knowledge

There was positive and highly significant relationship between knowledge of cotton growers about Integrated Pest Management and their annual income. Thus, it can be said that annual income play significant role in decrease or increase knowledge of cotton growers about Integrated Pest Management. This finding was in line with study of the Chaudhari and Chauhan, (2017).

Land holding and knowledge

It can be inferred that there was positive and non-significant relationship between knowledge and their annual income. It means knowledge of cotton growers was not related with their land holding. It can be concluded that there was non-significant relationship between knowledge and their land holding. It means knowledge of cotton growers was not related with their land holding. Similar finding had been reported by Dobariya *et al.* (2017).

Social participation and knowledge

It can be concluded that there was positive and significant relationship between knowledge of cotton growers about Integrated Pest Management and their social participation. It means that knowledge of cotton growers increased significantly with an increase in social

participation. This finding may be due to the fact that cotton growers who participated more in voluntary organization, develop broader outlook and thereby come across with new idea and knowledge. This finding was in conformity with the findings of Dobariya *et al.* (2017)

Mass media exposure and knowledge

There was positive and highly significant relationship between knowledge of cotton growers about Integrated Pest Management and their mass media exposure. It means that knowledge of cotton growers increased significantly with an increase in mass media exposure. The probable reason might be that cotton growers having higher exposure to mass media could get more useful information for their farming. They could got more advantages of mass media. So, mass media exposure played important role for enhancement of knowledge. This finding was in line with finding of Hadiya, (2013).

Scientific orientation and knowledge

There was positive and highly significant relationship between knowledge of cotton growers about Integrated Pest Management and their scientific orientation. It means that knowledge of cotton growers increased significantly with an increase scientific orientation. This finding was supported by the findings of Chaudhari and Chauhan, (2017).

Risk orientation and knowledge

There was positive and highly significant relationship between knowledge of cotton growers about Integrated Pest Management and their risk orientation. It means that knowledge of cotton growers increased significantly with an increase in risk orientation. The finding may be due to those cotton growers who had high risk orientation are psychologically prepared to try new practices with a view to make progress in farming. This finding was supported by the finding of Chaudhari and Chauhan, (2017).

Innovativeness and knowledge

There was positive and highly significant relationship between knowledge of cotton growers about Integrated Pest Management and their innovativeness. It means that knowledge of cotton growers increased significantly with an increase in their innovativeness. That means the innovativeness of the cotton growers increased their level of knowledge about Integrated Pest Management which might be due the frequent contacts with extension functionaries in their jurisdiction and outside contact with other innovators. This finding was supported by the findings of Chaudhari and Chauhan, (2017) Dobariya *et al.* (2017) and Sardhara *et al.* (2020).

CONCLUSION

From above result it can be concluded that education,

farm experience, training received, annual income, social participation, mass media exposure, scientific orientation, risk orientation and innovativeness had exerted positive and significant contribution in knowledge of cotton growers about Integrated Pest Management.

POLICY IMPLICATIONS

The results of this study would be helpful in generating data based existing level of knowledge about various aspects of Integrated Pest Management which will serve as a guideline to planners and extension agencies to understand the knowledge gap if any among various aspects and help to increase knowledge regarding Integrated Pest Management.

ACKNOLEDGEMENT

CONFLCT OF INTEREST

No conflict of interest among the researcher.

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