

Correlation Analysis Between Profile Characteristics of Cotton Farmers with Their Knowledge on Health Hazards of Pesticides Usage In Kurnool District of Andhra Pradesh



Agriculture

KEYWORDS : Correlation, Profile characteristics and knowledge of cotton farmers

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ABSTRACT

This paper describes the relationship of profile characteristics of cotton farmers with their knowledge on health hazards of pesticide usage in Kurnool district of Andhra Pradesh. The data was collected from a sample of 120 cotton farmers by following ex-post-facto research design. The correlation analysis study between the profile characteristics and knowledge of cotton farmers on health hazards of pesticide usage concluded that the variables like education, farming experience, extension contact, social participation, economic orientation, innovativeness, mass media exposure, risk orientation and scientific orientation were having positive and significant relationship, where as farm size had non-significant relationship with the knowledge of cotton farmers on health hazards of pesticide usage.

INTRODUCTION

Pesticides are considered a vital component of modern farming, playing a major role in maintaining high agricultural productivity. The use of synthetic pesticide in agriculture has increased rapidly during last four decades (2,353 MT to 90,586 MT) and has over showed the traditional method of crop damages due to insects, pests, diseases and weeds. Though pesticide use is said to have contributed significantly to the food security by the way of increase in crop production and reduction of post harvest losses, there is growing concern over the ill-effects of pesticide on human health, environment and sustainability of agriculture production. India is the largest producer of pesticides in Asia and ranks 12th in the world for the use of pesticides with an annual production of 90,000 tons. India may contribute 21.62 per cent of world cotton crop in 2012-2013. India's cotton production is projected at 5.64 million tons of world crop size of 26.08 million tons in 2012-2013 cotton season (Cotton Advisory Board, 2012). Andhra Pradesh is one of the many states which grow cotton in India. In Andhra Pradesh, cotton is cultivated in 20.54 lakh hectares during 2011-2012. With regard to consumption of pesticides Andhra Pradesh ranks first place. The estimated demand of pesticides in Andhra Pradesh during 2011-2012 is 9,000 tons

(www.indiastat.com). In Andhra Pradesh, Kurnool district occupies first place regarding pesticide consumption which was about 203 tons during 2011-2012 and also it is one of the important district cultivating cotton in the state.

MATERIAL AND METHODS

Ex-post facto research design was selected for the present research. The study was conducted in Kurnool district of Andhra Pradesh which is one of the important district in cultivating cotton in the state. Out of 54 mandals in Kurnool district, 3 cotton growing mandals have been purposively selected and 2 cotton growing villages were selected from each mandal at random, thus making a total of 6 villages for the study. Among the cotton farmers 20 farmers from each village were selected thus making a total of 120 farmers for the study. An interview schedule was developed for the study and pretested in non sample area. The data was collected using standardized interview schedule by personal interview method. The data was organized, tabulated and subjected to statistical tests. The statistical tools that were used for analyzing data include mean, standard deviation, correlation and multiple regression.

RESULTS AND DISCUSSION

Relationship of profile characteristics of cotton farmers with their knowledge on health hazards of pesticide usage were presented in Table-1

S.No.	Variable	Independent variables	Correlation Coefficients ('r' value)
1.	X ₁	Education	0.6324**
2.	X ₂	Farm size	0.0787NS
3.	X ₃	Farming experience	0.2731**
4.	X ₄	Extension contact	0.2046*
5.	X ₅	Social participation	0.4191**
6.	X ₆	Economic motivation	0.5305**
7.	X ₇	Innovativeness	0.6076**
8.	X ₈	Mass media exposure	0.5040**
9.	X ₉	Risk orientation	0.2640**
10.	X ₁₀	Scientific orientation	0.4279**

Table-1: Relationship between selected independent variables and knowledge of cotton farmers on health hazards of pesticide usage

* : Significant at 0.05% level of probability

** : Significant at 0.01% level of probability

NS : Non-significant

Education Vs Knowledge of cotton farmers

ccorrelation ($r=0.6324$) between education and the knowledge level of the cotton farmers was positively and significantly related. Hence the null hypothesis was rejected and the empirical hypothesis was accepted. The possible reason for this trend might be that education widens horizons of the individuals. Educated farmers with more information seeking habits had better access to farm information sources such as farm magazines, farm bulletins, books on agriculture etc. and possess better capacity to analyze and interpret them in proper ways which also contributed to their increased knowledge. This finding is in agreement with the findings of Shankar (2000) and Kumar (2004).

Farm size Vs Knowledge

From Table-1 it could be inferred that the computed correlation coefficient value ($r=0.0787$) between farm size and knowledge of cotton farmers on health hazards of pesticide usage was non-significantly related. Hence, null hypothesis was accepted and empirical hypothesis was rejected. This finding is in agreement with the findings of Kumar (2002) and Sangeetha (2004).

Farming experience Vs Knowledge

From Table-1 it was found that the correlation coefficient value ($r=0.2731$) between farming experience and knowledge of cotton farmers was positively and significantly related. Hence, null hypothesis was rejected and empirical hypothesis was accept-

ed. This trend may be due to the fact that as farming experience increases the farmers tend to gain more knowledge about the health hazards due to pesticide usage. Thus, the relationship is positive. This finding is in contrary with the findings of Maheshwari (2000) and Sangeetha (2004).

Extension contact Vs Knowledge

From Table-1 it was evident that coefficient of correlation value ($r=0.2046$) between extension contact and the knowledge level of the cotton farmers was positively and significantly related. Hence the null hypothesis was rejected and the empirical hypothesis was accepted. This might be due to the fact that extension personnel are the best and reliable sources of information. Contact with extension agencies gives more knowledge about the health hazards of pesticide usage in cotton. Hence, the above trend was noticed. This finding is in according to the findings of Latha (2002) and Kumar (2004).

Social participation Vs Knowledge

From Table-1 it was evident that the correlation coefficient value ($r=0.4191$) was positively and significantly related with the knowledge of the respondents. Hence, null hypothesis was rejected and empirical hypothesis was accepted. It is a common feature that farmers who actively participate in social activities through social organizations come across different types of people, exchange one's views and experiences, seek solutions for their problems and thereby gain more and more new knowledge. Hence, the above results were obtained. This finding is in line with the findings of Shankar (2000) and Kumar (2004).

Economic motivation Vs Knowledge

From Table-1 it was evident that coefficient of correlation value ($r=0.5305$) between economic motivation and the knowledge level of the cotton farmers was positively and significantly related. Hence the null hypothesis was rejected and the empirical hypothesis was accepted. This might be due to the fact that those farmers who want to improve economically will be trying to gain better knowledge, than others do by constantly learning the new practices. Higher the economic motivation greater will be the access to information sources leading to acquisition of new knowledge. This finding is in according with the findings of Chatterjee (2000) and Kumar (2002).

Innovativeness Vs Knowledge

From Table-1 it was evident that coefficient of correlation value ($r=0.6076$) between innovativeness and the knowledge level of the cotton farmers was positively and significantly related. Hence the null hypothesis was rejected and the empirical hypothesis was accepted. This might be due to the fact that an individual having high innovativeness desires to seek changes in farming and introduces in his own operation. He will try to have more knowledge of those techniques to decide the pros

and cons of them before actually implementing them. Hence, the above relationship was observed. This finding is in contrary with the findings of Prasad (2002) and Kumar (2004).

Mass media exposure Vs Knowledge

From Table-1 it was evident that coefficient of correlation value ($r=0.5040$) between mass media exposure and the knowledge level of the cotton farmers was positively and significantly related. Hence the null hypothesis was rejected and the empirical hypothesis was accepted. The result supports the general view that high mass media exposure enhances the knowledge of the farmers on several aspects of farm technology. At present newspapers, farm publications, television, radio, mobile technologies and other mass media channels were considered to be the accelerators of diffusion of agricultural innovation. Farmers who keep in touch with mass media are likely to have better knowledge on the current advances in agriculture. This finding is in line with the findings of Prasad (2002), Kumar (2004) and Gopinath (2005).

Risk orientation Vs Knowledge

From Table-1 it was evident that coefficient of correlation value ($r=0.2640$) between risk orientation and the knowledge level of the cotton farmers was positively and significantly related. Hence the null hypothesis was rejected and the empirical hypothesis was accepted. The probable reason might be that a farmer who wants to take risk during pesticide spraying will try to develop his knowledge with regard to the crop and its operation. This finding is in according with the findings of Kumar (2002) and Kumar (2004).

Scientific orientation Vs Knowledge

From Table-1 it was evident that coefficient of correlation value ($r=0.4279$) between scientific orientation and the knowledge level of the cotton farmers was positively and significantly related. Hence the null hypothesis was rejected and the empirical hypothesis was accepted. Farmers having more scientific orientation will always search for new and advanced plant protection measures to avoid the health hazards and have been observation power to find out the cause and effect relationship in any situation. This finding is in line with the findings of Shankar (2000), Kumar (2002) and Gopinath (2005).

CONCLUSION

Correlation analysis revealed that the variables like education, farming experience, extension contact, social participation, economic motivation, innovativeness, mass media exposure, risk orientation and scientific orientation were having positive and significant relationship with knowledge of cotton farmers on health hazards of pesticides usage, where as farm size had non significant relationship with knowledge of cotton farmers on health hazards of pesticides usage.

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