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Association between profile of farmers and attitude of farmers towards Mexican beetle for eradication of *Parthenium*

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Abstract

The present study was undertaken with the main objective to study the association between profile of farmers and attitude of farmers towards Mexican beetle for eradication of *Parthenium*. The study was conducted in Parbhani district of Marathwada region of Maharashtra. Total 120 respondents were selected randomly. The data was collected by personal interview and "Ex-Post-Facto" research design was used for conducting the study. The collected data was processed and statistically analyzed by using statistical tools like frequency and percentage, mean, standard deviation and coefficient of correlation. Among the twelve independent variables, family size and farming experience were positively non-significant with the attitude whereas, economic motivation, knowledge level, land holding, annual income, social participation, extension contact, mass media exposure and risk orientation were positively significant with the attitude. The variables like education and scientific orientation were positively highly significant with the attitude of farmers towards Mexican beetle for eradication of *Parthenium*.

Keywords: Association, profile of farmers, attitude, Mexican beetle

Introduction

The annual herbaceous plant *Parthenium hysterophorus* L. is a member of the Compositae (or "Asteraceae") family. *P. hysterophorus* unintentionally arrived in India through importing cereals. The first recorded instance of it came from Pune, Maharashtra, in 1955. In addition to infesting wasteland, communal land, the sides of roads and railroad tracks, and forests, it is currently one of the primary weeds in practically all types of agricultural fields. In India, *P. hysterophorus* is regarded as one of the most vilified terrestrial weeds. Its issue has been known for the past fifty years. Its ability to harm both humans and animals' health in addition to reducing crop yield and plant biodiversity has made it more well-known. The management of this weed using diverse biological control agents, such as diseases, competing plants, and insects, has received significant attention in the past few years. Notwithstanding certain drawbacks, insect biological control is one of these that is most appropriate, economical, and safe for the environment. *Zygogramma bicolorata* is shown to be the most successful bio-control agent among the numerous others. In India, efforts to use insects for biological control of *Parthenium* were started in 1983 with the introduction of *Z. bicolorata*. Following *Z. bicolorata*'s initial release in Bangalore, Karnataka, in 1984, the bioagent has extensively expanded throughout the nation (Varshney and Sushilkumar, 2007) [4]. Almost all states where it has been introduced have reported modest to heavy incidences.

When we assess the extent of losses at the farm level, it becomes clear that *Parthenium* weed control measures must be implemented in order to reduce the losses. Keeping above fact in view, the present study was designed to analyze the relationship between profile of farmers and attitude of farmers towards Mexican beetle for eradication of *Parthenium* with the following specific objective.

To study the association between profile of farmers and attitude of farmers towards Mexican beetle for eradication of *Parthenium*.

Methodology

The present study was carried out with the main objective to analyze the association between profile of farmers and attitude of farmers towards Mexican beetle for eradication of *Parthenium*. The study was carried out in Maharashtra's Parbhani district, in the Marathwada region. A total of 120 responders were chosen at random. The data was collected by personal interview and "Ex-Post-Facto" research design was used to carry out the investigation. Utilizing statistical techniques such as frequency and percentage, mean, standard deviation, and coefficient of correlation, the acquired data was processed and evaluated using statistical analysis. The independent variables were education, family size, farming experience, economic motivation, scientific orientation, knowledge level, land holding, annual income, social participation, extension contact, mass media exposure, risk orientation and the only dependent variable was attitude.

Result and Discussion

The findings of the present study as well as the relevant discussion has been summarized under the following heads. Association between profile of farmers and attitude of farmers towards Mexican beetle for eradication of *Parthenium*.

Table 1: Association between profile of farmers and attitude of farmers towards Mexican beetle for eradication of *Parthenium*

Sr. No.	Independent variable	Variable code	X ² value
1.	Education	X ₁	0.269**
2.	Family size	X ₂	0.059 ^{NS}
3.	Farming experience	X ₃	0.098 ^{NS}
4.	Economic motivation	X ₄	0.209*
5.	Scientific orientation	X ₅	0.257**
6.	Knowledge level	X ₆	0.211*
7.	Land holding	X ₇	0.196*
8.	Annual income	X ₈	0.201*
9.	Social participation	X ₉	0.207*
10.	Extension contact	X ₁₀	0.181*
11.	Mass media exposure	X ₁₁	0.188*
12.	Risk orientation	X ₁₂	0.223*

* Significant at 0.05 level of significance

**Significant at 0.01 level of significance

Table 1 shows that of the twelve independent variables that were chosen for this study, two had a positive and non-significant association, eight had a positive and significant association, and only two had a positive and highly significant association with farmers' attitudes toward the Mexican beetle. The independent variables that had shown positive and non-significant association were family size and farming experience. While variables like economic motivation, knowledge level, land holding, annual income, social participation, extension contact, mass media exposure showed positive and significant association with the attitude of farmers towards Mexican beetle. Education and scientific orientation showed positive and highly significant association with the attitude of farmers towards Mexican beetle.

Conclusion

The study has identified certain independent variables that have significant effect on attitude of farmers towards Mexican beetle. The variables like education and scientific orientation were having significant highly significant relationship with the attitude of farmers towards Mexican beetle. Therefore, it is suggested that these aspects need to be prioritized more in order to help farmers have a positive attitude toward the Mexican beetle and help eradicate *Parthenium*.

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