

# Perception of Farmers on the Use of bio-Pesticides – A Survey in Ajmer Region

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**ABSTRACT:** Excessive use of chemical pesticides in farming is a serious matter of concern. The pesticide use has given rise to many alarming problems such health hazards, pesticide residue leaching in the food chain, threat to the biological controlling agents, adverse effects on the biodiversity, resistance developed by the pest against the pesticide and many more. The extensive and un-repairable damage caused to the ecosystem and biodiversity has urged the environment concerned researchers to find an alternative pest-management strategy. The potential of bio-pesticides for solving all the above mentioned problems has been known for many years. This paper investigates the perception of farmers on the use of bio-pesticides, especially those who are indulged in cauliflower cultivation. The study is based on a survey conducted in Ajmer district. Pest management and the problems developed due to extensive use of chemical pesticides were the focused points of the survey.

**KEYWORD:** biopesticides, survey, pesticides

## I.INTRODUCTION

Cauliflower, *Brassica oleracea var. botrytis* is considered the most important, from agriculture point of view. 85.73 lakh ton of cauliflower was produced in India in the year 2014[1]. Farmers rely mainly on chemical pesticides and insecticides for the management of pest during agriculture practices [2]. Chemical pesticides are not only adversely affecting environment but also found to be alarmingly affecting human health and is responsible for causing fatal diseases like cancer, hypertension, neurological disorders, birth defects and many more. It is of serious concern that the farmer who grow crop for us, are always in direct contact with the pesticides and suffer the most. Perceiving the problem, The Ministry of Agriculture and the Department of Biotechnology of India, is encouraging researchers for developing novel bio-pesticides and its production. However, in spite of these efforts, in India the awareness and use of bio-pesticide is still lagging behind.

In Ajmer (Rajasthan) region, cauliflower is mainly cultivated in areas -Pushkar, Kishanpura, Bhagwanpura, Datanda, Makreda, Pisangan, Daurai, Tabiji, Khanpura and Pal Bichhla [3]. Keeping in mind, all the problems associated to pest management, a survey was conducted in and around Ajmer city especially in Khanpura and Pal Bichhla regions.

## II.METHOD

The farmers were interviewed, using a questionnaire. The questions of the questionnaire were of “multiple choice type” and were focused on the pest management related problems encountered by the farmers. It also included question related to the eco- friendly options available to them. The outcomes of the questionnaire were tabulated, analyzed and percentage of the answers given was calculated to draw conclusion.

## III.RESULT AND DISCUSSION

The survey revealed that 65.71% of the farmers of Ajmer, stated pest as the major problem encountered by them during cauliflower cultivation. Analysis of the questionnaire also showed that marked percent (85.72%) of farmers rely on chemical pesticides for combating the threat of *Plutella xylostella* – very notorious pest of crucifer (figure 1). But maximum of the farmers were not satisfied with the chemical pesticides in terms of monetary profit, as these pesticides cost a lot and reduces farmer’s profit [4]. Investigating health related problems associated to the pesticides, it was found that 12.86% of the farmers reported eye related problem while 62.86% of the farmers stated that they suffered skin related problems during the spray of chemicals in the farms. 97.14 % of the farmers welcomed the introduction of a cheaper and eco-friendly bio-pesticide for pest management.

The survey findings can be corroborated with the outcomes of the survey conducted by Sivaparnagasam and others [6], they concluded, that surveys are essential for developing a successful crop management strategy. A survey gives a picture of the attitudes and behavior and also the agricultural practices adopted by the local farmers. On health issues front, the investigation were in support to the findings of Patil, 2012 [5] who conducted a survey in the Sirol region of

Maharashtra and reported that the agriculture labourers, who were spraying chemical pesticide in the farms experienced associated health issues.

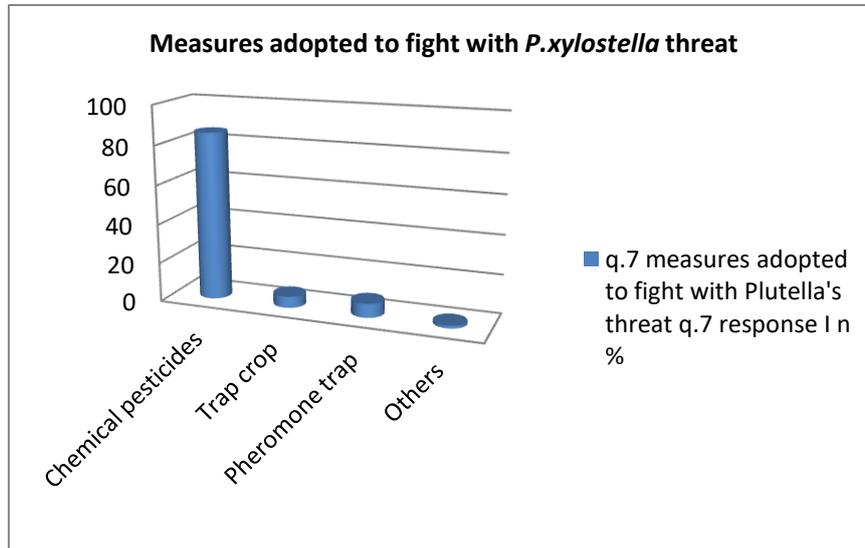


Figure.1

#### IV.CONCLUSION

On the basis of the results of the survey, it may be concluded that farmers of Ajmer region are changing their perspective towards pest management strategies and are ready to welcome eco-friendly technologies. Biopesticides is among one of them.

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#### REFERENCES

1. **Anonymous, (2014).** Horticulture production Year Book – 2014, Published by National Horticulture Board, Guargoan, pp. 131.
2. **Charleston, D. S. (2004).** Integrating biological control and botanical pesticides for management of *Plutella xylostella*, Thesis, Wageningen University. ISBN: 90-8504-040-X: 48-51.
3. **Dewanda, P. and Khan, S. (2016).** A field study of population dynamics of major insect pests and their natural enemies on cauliflower of Ajmer district. *J. International Journal of Agriculture Sciences*, ISSN: 0975-3710&E-ISSN: 0975-9107, Volume 8:53.
4. **Khan, S. and Dewanda, P. (2018).** A study on Effect of Bio-pesticides derived from the blend of *Azadirachta indica* and *Calotropis procera* on the life cycle of *Plutella xylostella* with special reference to *Brassica oleracea var. botrytis*, Thesis submitted to M.D.S.University, Ajmer.
5. **Patil, A. D. and Katti R. J. (2012).** Mordern agriculture practice: Use of Pesticides and its Impact on Human Health: A Case of Agriculture labourers in Western Maharashtra, *Journal of Rural Development*, NIRD, Hyderabad. 31 (3): 305 –318.
6. **Sivapragasam, A., Tee ,S. P. And Ruwaida, M.(1982).** Effects of intercropping cabbage with tomato on the incidence of *Plutella xylostella*. *MAPPS Newsletter*6: 6-7.