



Study on the Regional Diversity of Major Insect Pest of Fenugreek (*Trigonella foenum graecum* L.) along with the Prevailing Natural Enemy Fauna

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Open Access

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Conflict of interests: The author has declared that no conflict of interest exists.

How to cite this article?

Bindhani, G., Das, A., Chakraborti, S., 2025. Study on the Regional Diversity of Major Insect Pest of Fenugreek (*Trigonella foenum graecum* L.) along with the Prevailing Natural Enemy Fauna. *Research Biotica* 7(2), 00-00.

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Abstract

An open field experiment was conducted during the rabi season in 2021–2022, to investigate the regional diversity of the major insect pests of fenugreek along with their natural enemy fauna across several geographical locations (Kalyani, West Bengal and Jajpur, Odisha). The incidence of insect pest was noticed from the early vegetative growth stage and lasted till the maturity of the seed. Here the aphids were found predominant throughout the crop growth phase, however their intensity varied among the experimental plots. Aphids were mostly prevalent during the month of February in both of the experimental fields of Jajpur (Odisha) and Kalyani (West Bengal), with 19.80 individuals and 25.80 individuals per 10 cm apical shoot, respectively. Simultaneously, the thrips population get peaked during the month of February in both the experimental plots with 8.50 individuals per 3 leaves and 7.35 individuals per 3 leaves, in Jajpur (Odisha) and Kalyani (West Bengal), respectively. In the meanwhile, the experimental plots of Kalyani (WB) and Jajpur (OD), showed the highest whitefly infestation at 5.20 individuals and 6.80 individuals per three leaves, respectively. The fluctuation of fenugreek pest population was negatively impacted in regional diversity by the current maximum temperature ($r = -0.84, -0.46, -0.59$ and $-0.68, -0.12, -0.08$ against aphids, thrips and whiteflies, respectively). Both of the experimental areas have benefited from the intense sunshine duration and wind speed. In both experimental regions, the prevailing natural enemy population considerably reduced the pest abundance. The regional diversity indicates, when compared to the whitefly and thrips populations, the aphid density under the Kalyani (WB) experimental plots is somewhat significantly greater than that of the Jajpur (OD) plots, which also justify the impact of agroecological conditions over pest abundance.

Keywords: Fenugreek, Insect, Natural enemies, Pest, Regional diversity

Introduction

Fenugreek, (*Trigonella foenum graecum* L.) is typically referred to as methi, belongs to the family Leguminosae, an indigenous crop to South-Eastern Europe and Western Asia (Ahmad *et al.*, 2016). It comes under the most significant leguminous crops grown during the cool season in the Northern parts of India. Rajasthan, Madhya Pradesh, Gujarat, Maharashtra and Punjab are some of the commercial states in India for the production of this spice crop. The young green plant at its tender succulent stage is exclusively used for

vegetable purpose, while the mature dough stage specifically used for fodders among the cattle, meanwhile the mature seeds are used for both condiment and medication purposes (Basu *et al.*, 2014). A high domestic and international market price fetch the attention of farming community and hence become a permanent part of their cropping strategy, particularly among the regions with troublesome soils. It proves superiority over the other leguminous crops viz. gram, lentil due to its exceptional ability to survive and thrive among high-salty environments (Habib *et al.*, 1971).

Article History

RECEIVED on RECEIVED in revised form ACCEPTED in final form