



Variation in Esterase Activity among Various Populations of *Helicoverpa armigera* (Hubner) in Northern India

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Abstract: *Helicoverpa armigera* causes severe yield losses across the globe and has achieved resistance against many pesticides. The major mechanism of resistance in this pest is elevated level of esterases. The present studies were directed to estimate the general esterase activity and specific esterase activity of six populations of *H. armigera* collected from different agro climatic regions of north India viz. Hisar, Bathinda, Kangra, Solan, Theog and Kinnaur. The results indicated higher esterase activity in populations from pesticide intensive areas i.e. Punjab and Haryana compared to Himachal Pradesh. Maximum general esterase activity was found in Bathinda (401.75 μg α -naphthol formed) and Hisar (401.75 μg α -naphthol formed), whereas, minimum esterase activity was found in Kinnaur (198.88 μg α -naphthol formed). These studies will be helpful in formulating strategies for management of this pest and determining its resistance status.

Keywords: *Helicoverpa armigera*, Esterase activity, Population variations
