

Effect of Entomopathogenic Fungi on the Food Consumption of Acrididae Species

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Abstract : This study was conducted to evaluate the effect of *Aspergillus* species on acridid populations which are major agricultural pests of rice, sugarcane, wheat, maize and fodder crops in Pakistan. Three and replicates i.e. *Aspergillus flavus*, *A. fumigatus* and *A. niger*, excluding the control, were held under laboratory conditions. It was observed that consumption faecal production of acridids was significantly reduced after the pathogenic application of *Aspergillus*. In the control replicate, the mortality ratio for stage (N₄-N₆) was maximum on day 2nd i.e. [$F_{10.7} = 18.33$, $P < 0.05$] followed by [$F_{4.20} = 07.85$, $P < 0.05$] and [$F_{3.77} = 06.11$, $P < 0.05$] on 4th and 3rd day, respectively. Similarly, it was a minimum i.e. [$F_{0.48} = 84.65$, $P < 0.05$] on the 1st day. It was also noted that faecal production of Acridid nymphs was not significantly affected when treated with conidial concentration in H₂O formulation; however, it was significantly reduced after the contamination with conidial concentration in oil. The high mortality of acridids after contamination of *Aspergillus* supports their use as bio-control agent for reducing pest population. The present study recommends that exploration and screening must be conducted to provide additional pathogens for evaluation as potential biological control against grasshoppers and locusts.

Keywords : acridid, agriculture, formulation, grasshoppers

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