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Potential of Entomopathogens in Managing Potato Whitegrubs in Himachal Pradesh

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Abstract**:** *Brahmina coriacea* (Hope) is the most widespread and destructive species of whitegrubs having potential to inflict 40 to 50 per cent yield losses to potato in Himachal Pradesh. The entomopathogens constitute a potential group of biocontrol agents against whitegrubs, therefore *Beauveria bassiana* Vuill.*, Metarhizium anisopliae* (Metchnikoff), *Heterorhabditis indica* Poinar and *Bacillus cereus* Frankland & Frankland were evaluated in potato at Kheradhar. *H. indica* @ 10 kg ha^{-1} was highly effective with tuber damage ranging from 12.5 to 12.7 per cent in treated plots. Mixed application of *H. indica* + *B. bassiana* or *M. anisopliae* showed additive or synergistic effect. There was 11.4 to 12.2 per cent tuber damage in *H. indica*+ *B. bassiana* or *M. anisopliae* treatments. Maximum reduction in tuber damage was observed in *H. indica* + *B. bassiana*, followed by *H. indica* + *M. anisopliae* treatment. There was 48.75 to 55.38 per cent reduction in tuber damage when *Galleria mellonella* cadavers infected with *H. indica* were applied in soil. Direct application of *G. mellonella* cadavers infected with *H. indica* showed higher efficacy which may be attributed to greater activity of infective juveniles in soil.

Keywords*:* Whitegrubs, *Brahmina coriacea, Beauveria bassiana, Heterorhabditis indica, Metarhizium anisopliae*