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IMPACT OF INSECTICIDES ON THE DIVERSITY AND EQUITABILITY OF ARTHROPODS IN BRINJAL AGRO-ECOSYSTEM

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ABSTRACT

Experiment was conducted during summer season to study the impact of seven insecticides on arthropod diversity and equitability in brinjal agro-ecosystem. Results revealed that among insecticide treated plots, the highest number of arthropods families was recorded in` Tracer-45 SC, Bactoil (Bt), Nimbicidene 0.03 EC treated plots and lowest was in Necstar-50 EC and Proclaim-5 SG. The highest total abundance of arthropod individuals was recorded in the plots treated with Helicide (HNPV) and Nimbicidene 0.03 EC and lowest total abundance of arthropod individuals was recorded from the plots treated with Proclaim-5 SG, Necstar-50 EC and Booster-10 EC. The diversity index and equitability of arthropod species were highest in the plots treated with Helicide and Bactoil in visual search and sweep net methods but also in the plots treated with Nimbicidene 0.03 EC and Proclaim-5 SG in pitfall trap method. However, lowest diversity index and equitability were obtained from the plots treated with Necstar-50 EC, Tracer-45 SC and Booster 10 EC in visual search and sweep net methods but also in plots treated with Helicide and Bactoil in pitfall trap method. In case of natural enemies, the highest number of families was recorded in Nimbicidine 0.03 EC and Tracer-45 SC treated plots while lowest was in Necstar-50 EC, proclaim-5 SG, Booster 10 EC and Helicide treated plots. The highest total abundance of natural enemy was recorded in the plot treated with Helicide and Nimbicidine 0.03 EC while lowest abundance was in the plot treated with Boster-10 EC. The diversity index and equitability of natural enemies were the highest in the plots treated with Helicide and Nimbicidene 0.03 EC in visual search method, Helicide and Booster 10 EC in sweep net method, Nimbicidene 0.03 EC and Proclaim-5 SG in pitfall trap method while lowest was in Proclaim-5 SG and Necstar-50 EC treated plots in visual search method, Nimbicidene 0.03 EC treated plots in sweep net method, Helicide and Tracer-45 SC treated plots in pitfall trap method. Nimbicidene 0.03 EC, Bactoil, Helicide and Tracer-45 SC were relatively safe for natural enemies and therefore would be fit well into integrated pest management (IPM) against BSFB of brinjal crop.

KEYWORDS: Arthropod Species, Natural Enemies, Sweep Net Method, Pitfall Trap Method