

EFFECT OF CHEMICAL AND BOTANICAL INSECTICIDES ON BENEFICIAL ARTHROPODS DURING MANAGEMENT OF BRINJAL SHOOT AND FRUIT BORER

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Extended Summary

A field experiment was conducted in the experimental farm of Sher-e-Bangla Agricultural University, Dhaka during November, 2012 to May, 2013 to evaluate some botanicals and chemical insecticides and hand picking and destruction of infested shoots and fruits and their impact on natural enemies for eco-friendly management of brinjal shoot and fruit borer (BSFB), *Leucinodes orbonalis* Guenee. Eight treatments were used at 7 days interval. The fruit yield of brinjal was highly significant and negatively correlated with shoot and fruit infestation. Considering the impact of management practices on the population of natural enemies, Ripcord 10EC adversely affected and reduced the highest population of ladybird beetle adult (87.43%) and larvae (87.71%); and field spider (88.12%) over control as counted visually. Suntap 50SP also showed the higher adverse effects on the natural enemies, whereas hand picking and destruction of infested shoots and fruits performed the least hazardous treatment ladybird beetle adult and larvae as well as field spider and other arthropods. Though, Ripcord and Suntap reduced the highest level of BSFB infestation, but they were mostly harmful to the arthropod biodiversity in the brinjal ecosystem by reducing the maximum level of the natural enemy population than other botanicals and cultural control which were comparatively safe in eco-friendly management of brinjal shoot and fruit borer. The study showed that the considerable number of ladybird beetle adult and larvae were adversely affected by Ripcord and Suntap application. These two insecticides were toxic to the natural enemy along with others. On the other hand, the botanicals and mechanical control did not show any adverse effect on the natural enemies of BSFB. These management practices encouraged the natural enemies but they could not control the BSFB infestation to the extent of spraying of insecticides.

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