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Management of Major insect pests of Cabbage using Bio-insecticides

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Abstract

A field investigation was done at the College of Agriculture, Iroisemba, CAU, Imphal during Rabi season of 2023-24 to evaluate the bio-efficacy of certain microbial insecticides (Green Lipel, Green Racer, Green Pacer and Green Mealikil), avoidable yield loss and cost effectiveness against Diamondback moth (DBM), *Plutella xylostella* Linn., Cabbage butterfly (CB), *Pieris brassicae* Linn. and Cabbage aphid, *Brevicoryne brassicae* Linn. in Cabbage var. "Green Hero". The findings on the determination of avoidable yield loss and cost effectiveness of the various insecticidal treatments showed that maximum mean yield (21.91 t/ha) was harvested from the plots treated with Green Lipel @2000 ml/ha, followed by Zorba 25 SE @ 800 ml/ha (20.33 t/ha) and Green Racer @2000 ml/ha(18.98 t/ha) which significantly differed from one another. Among the treatments, Green Lipel resulted the highest increased yield over control with mean yield of 9.30 t/ha, followed by Zorba 25 SE (7.72 t/ha) and Green Racer (6.37 t/ha). The lowest per cent avoidable yield loss (7.21%) was recorded in Zorba 25 SE, followed by Green Racer (13.37%) treated plots. The treatment with Zorba 25 SE also had maximum Cost-Benefit – Ratio of 1:14.84, followed by Green Lipel (1:10.74) and Green Racer (1:6.56). Though, chemical insecticide, Zorba 25 SE recorded highest mean yield and Cost-Benefit Ratio, taking into consideration of healthy environment eco-friendly insecticides like Green Lipel for Diamond back moth & Cabbage butterfly, and Green Racer for Cabbage aphids may be recommended for sustainable and environmentally sound management of these three major insect under Cabbage Crop-Ecosystem of Manipur Valley.

Keywords: Cabbage, Bio-insecticides, Bio-efficacy, *P. xylostella*, *P. brassicae*, *B. brassicae*

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