

Bio-Efficacy of Newer Insecticides against Diamondback Moth (*Plutella xylostella* L.) in Cabbage

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Abstract : The investigation was conducted during January 2016 on Farmer's field at Nandur Madhyameshwar, Tq. Niphad, Dist. Nashik (Maharashtra: India) on bio-efficacy of newer insecticides against *Plutella xylostella* L. infesting cabbage. The cabbage crop (var. Saint) was raised according to package of practices except for plant protection measures. Six newer insecticides along with two conventional insecticides and one synthetic pyrethroid were applied twice at 30 and 55 days after transplanting. Insecticidal solutions were diluted in water (375-500 L ha⁻¹) and applied using knapsack sprayer (16L) with hollow cone nozzle. Treatments included indoxacarb @ 40 g a.i.ha⁻¹, spinosad @ 17.5 g a.i.ha⁻¹, flubendiamide @18.24 g a.i. ha⁻¹, diafenthiuron @ 300 g a. i. ha⁻¹, emamectin benzoate @ 10 g a. i. ha⁻¹, chlorantraniliprole @ 10 g a. i. ha⁻¹, quinalphos @ 250 g a. i. ha⁻¹, triazophos @ 500 g a. i. ha⁻¹, bifenthrin @ 50 g a.i. ha⁻¹ and untreated control. The larvae were counted on head and outside the head. Observations were recorded one day before spray (Precount) and 1,3,7,14 days after spray. Results revealed that all the insecticidal treatments were significantly superior over untreated control by recording lower larval count. Among the insecticidal treatments, significantly lowest number of larvae of diamondback moth was recorded in chlorantraniliprole @ 10 g a.i.ha⁻¹ (1.00 larvae plant⁻¹) followed by spinosad @ 17.5 g a.i. ha⁻¹ (1.45 larvae plant⁻¹ and flubendiamide 18.24 g a.i. ha⁻¹(1.53 larvae plant⁻¹). The efficacy of insecticides reflected on yield of marketable cabbage heads by recording 242.27 qt ha⁻¹ (1:33.38) in the treatment of chlorantraniliprole @ 10 g a.i.ha⁻¹. It was followed by spinosad @ 17.5 g a.i. ha⁻¹ with 236.91 qt ha⁻¹ (1:24.92) and flubendiamide 18.24 g a.i. ha⁻¹ with 228.49 qt ha⁻¹ (1:30.43).

Keywords : bio-efficacy, cabbage, chlorantraniliprole, *Plutella xylostella* L.

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