

RESEARCH ARTICLE

Evaluation the efficacy of bio pesticides against gram pod borer *Helicoverpa armigera* (Hubner) on chickpea (*Cicer arietinum* L.).

■ S. Patel, V. K. Garg and S. Balpande

SUMMARY

Evaluation of six insecticides viz., *Azadiractin* 1% (1000ppm) *Neem* oil, *Baeuveria bassiana* 1% WP, *Bacillus thuriangiensis* var *kurstaki* 5% WP, *Metarhizium anisopliae* 1.0% WP, *Verticillium lecanii* 1.15% WP and *Ha* NPV 250 LE were evaluated against Gram Pod Borer (*Helicoverpa armigera* Hubner) larvae. The Gram Pod Borer (GPB) larval population was counted on 5 randomly selected plants at 24 hr. before spray and at 3, 7 and 10 days after spray. The two-years experiment was conducted during *Rabi* 2018-19 and 2019-20 at the Rehti Farm of school of Agriculture, Mhow, experimental field of Department of Entomology, BRAUSS, (MP). All the biopesticides significantly reduced the GPB larval population. The Pooled GPB population varied from 2.30 to 2.50 larvae/plant during *Rabi* season one day prior to the first spray. The population was significantly lower with *Bacillus thuriangiensis* var *kurstaki* 5% WP, followed by *Ha* NPV 250 LE, *Baeuveria bassiana* 1% WP, *Metarhizium anisopliae* 1.0% WP and *Azadiractina* 1% (1000ppm) *Neem* oil, these five biopesticides are showing best management effects on the GPB larvae and pod damaging per cent and remain, and least effective treatment was *Verticillium lecanii* 1.15% WP. The maximum reduction of larval population and pod damaging per cent. In *Rabi* season, the highest chickpea grain yield was obtained with *Bacillus thuriangiensis* var *kurstaki* at 5% WP.

Key Words : Chickpea, Gram pod borer, Grain yield *Ha* NPV, *Azadiractina*, *Bacillus thuriangiensis* var *kurstaki*

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