

## EFFECT OF BIO-CONTROL AGENTS FOR ECO-FRIENDLY MANAGEMENT OF OKRA SHOOT AND FRUIT BORER

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### Executive Summary

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Okra shoot and fruit borer (OSFB), *Abelmoschus esculentus* is the serious pest that adversely affects the quality and quantity of okra. Bio-control agents are broad spectrum in pest control and many are safe to apply, unique in action and can easily be processed and used. A field experiment was conducted in the experimental farm of Sher-e-Bangla Agricultural University, Dhaka during the period of June 2017 to November 2017 to evaluate the bio-control agents for the eco-friendly management of okra shoot and fruit borer. The experiment was comprised of seven treatments including untreated control following Randomized Complete Block Design (RCBD) with three replications. The treatments of the experiment were T<sub>1</sub>= Application of *Trichogramma evanescense*@ 5 Tricho card / plot at 7 days interval, T<sub>2</sub>= Application of *Trichogramma evanescense*@ 0.08 g / plot at 7 days interval, T<sub>3</sub>= Application of *Braconhebetor*@ 10 adults (Male: Female = 4: 6)/ plot at 7 days interval, T<sub>4</sub>= Application of *Braconhebetor*@ 15 adults (Male: Female = 6: 4)/ plot at 7 days interval, T<sub>5</sub>= Application of *Bacillus thuringiensis* serovar *kurstaki*@ 2ml suspension /liter water / plot at 7 days interval, T<sub>6</sub>= Application of *Bacillus thuringiensis* serovar *kurstaki*@ 1ml suspension /liter of water / plot at 7 days interval, T<sub>7</sub>= Untreated control. In case of shoot infestation, due to management of okra shoot and fruit borer by bio- control agents the lowest shoot infestation (14.33%) was recorded in T<sub>5</sub>. On the other hand, the highest shoot infestation (33.24%) was recorded in T<sub>7</sub> (untreated control). In case of shoot infestation reduction over control, the highest reduction (56.88%) was observed in T<sub>5</sub>. In case of fruit infestation the lowest fruit infestation by number (14.75%) was recorded in T<sub>5</sub>. On the other hand, the highest fruit infestation (52.42%) was recorded in T<sub>7</sub> (untreated control). In case of fruit infestation reduction over control, the highest reduction (71.86%) was observed in T<sub>5</sub>. In case of fruit infestation the lowest fruit infestation by weight (14.39%) was recorded in T<sub>5</sub> on the other hand, the highest fruit infestation (49.84%) was recorded in T<sub>7</sub> (untreated control). In case of fruit infestation reduction over control, the highest reduction (71.12%) was observed in T<sub>5</sub>. The maximum total fruit yield (6544 kg/ha) i.e., 71.30% increased over control of okra was produced in T<sub>5</sub>. Based on the findings of the experiment, it could be said that, the application of *Bacillus thuringiensis* serovar *kurstaki*@ 2ml suspension /liter water / plot at 7 days interval (T<sub>5</sub>) gave the best result in reducing the shoot infestation (56.88%) and fruit infestation by number and weight (71.86% and 71.12%, respectively) might be the best treatment for eco-friendly management of okra shoot and fruit borer.

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