

## DEVELOPMENT OF INTEGRATED MANAGEMENT PRACTICES AGAINST INSECT PEST COMPLEX OF TOMATO IN WINTER SEASON

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### Executive Summary

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The experiment was conducted in the experimental field of Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka during the period from October, 2017 to March, 2018 for the development of integrated management practices against insect pest complex of tomato in winter season. Tomato variety BARI tomato-14 was used as planting material. The experiment was consisted of six treatments as- T<sub>1</sub>: Mechanical control, T<sub>2</sub>: Voliam Flexi 300 SC @ 0.5 ml/l of water at 7 days interval + Pheromone trap at 10 m<sup>2</sup> distance, T<sub>3</sub>: Voliam Flexi 300 SC @ 0.5 ml/l of water + Bioneem plus IEC (Azadiractin) @ 1 ml/l of water at 7 days interval, T<sub>4</sub>: Bioneem plus IEC (Azadiractin) @ 1 ml/l of water + Spinosad 45 SC @ 4 ml/10l of water (bio-pesticides) + Pheromone trap at 10 m<sup>2</sup> distance, T<sub>5</sub>: Mechanical control + Voliam Flexi 300 SC @ 0.5 ml/l of water + Bioneem plus IEC (Azadiractin) @ 1 ml/l + Pheromone trap at 10 m<sup>2</sup> distance and T<sub>6</sub>: Untreated control. The experiment was laid out in Randomized Complete Block Design (RCBD) with three replications. At the total fruiting and ripening stage, the minimum number of fruit borer larvae per plant (0.73 and 1.00, respectively) was recorded from T<sub>5</sub>, while the maximum number of fruit borer larvae per plant (9.47 and 13.07, respectively) was found from T<sub>6</sub>. At the total cultivation stage, the minimum number of whitefly per plant was recorded from T<sub>2</sub>, while the maximum number of fruit borer larvae per plant was found from T<sub>6</sub>. At the total cultivation stage, the minimum number of aphid and leaf miners per plant was recorded from T<sub>3</sub>, while the maximum number of fruit borer larvae per plant was found from T<sub>6</sub>. At entire ripening stage of tomato in number basis, the lowest percentage of infested fruits per plant in number basis (2.11%) was found in T<sub>5</sub>, while the highest percentage of infested fruits in number basis (11.55) was found in T<sub>6</sub> Treatment. At entire ripening stage of tomato in weight basis, the lowest percentage of infested fruits per plant in weight basis (1.97%) was found T<sub>5</sub>, while the highest percentage of infested fruits in weight basis (10.20%) was observed in T<sub>6</sub>. The highest fruit yield (59.82 t/ha) was found in T<sub>5</sub>, whereas the lowest fruit yield (50.36 t/ha) was recorded in T<sub>6</sub> treatment. The highest benefit cost ratio (2.11) was estimated for T<sub>5</sub> treatment and the lowest (0.15) for T<sub>1</sub> treatment under the trial. It is observed that Mechanical control + Voliam Flexi 300 SC @ 0.5 ml/l of water + Bioneem plus IEC (Azadiractin) @ 1 ml/l + Pheromone trap at 10 m<sup>2</sup> distance was more effective against the tomato insect pest of yield attributes and yield of tomato.

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