

## EFFICACY OF TRICHOGRAMMATID WASP WITH SOME BOTANICALS IN CONTROLLING INSECT PESTS OF SUMMER CABBAGE

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### Executive Summary

Seasonal variation plays a significant role on the abundance of insect pests in crop fields. Relatively higher abundance of insect pests causes severe damage to vegetables grown during the Summer in Bangladesh (because of high temperature and relative humidity). This study attempted to contribute the knowledge on abundance and eco-friendly management of insect pests, and their contribution towards yield of summer cabbage in Bangladesh. Field experiment laid in Randomized Complete Block Design (RCBD) to investigate the effectiveness of a biocontrol agent (*Trichogramma*) along with six botanicals and a control treatment with three replications was conducted at Sher-e-Bangla Agricultural University, Dhaka, Bangladesh from May 2018 to September 2018. The botanicals were extract of mahogany seed, tobacco leaf, garlic, neem leaf, neem seed, and neem oil. All the botanicals were applied @ 3.0 ml/L of water at 7 days interval and data on insect pests and damages were counted visually. The dominant insect pests were semi-looper, tobacco caterpillar and diamondback moth. Lowest abundance of these pests was observed for the treatment *Trichogramma* along with neem oil (65.09%, 49.97% and 66.57% reduction of semi-looper, tobacco caterpillar and diamondback moth, respectively, over the control treatment). A similar infestation trend by semi-looper, tobacco caterpillar and diamond back moth (59.40%, 61.73% and 68.03%, respectively) was observed for the same treatment over the control treatment. The yield of summer cabbage was also highest (36.50 t/ha) for the treatment *Trichogramma* and neem oil. However, the yield was promising (31.83 t/ha) for the treatment *Trichogramma* and neem leaf extract as well. The findings conclude that the combination of biocontrol agents and botanical insecticides is a potential tool in controlling the pest outbreak in summer cabbage with satisfactory yield. These findings may also contribute in the Integrated Pest Management (IPM) plan for the other summer vegetable crops in Bangladesh.

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