

## Effect of Biopesticide to Control Infestation of Whitefly *Bemisia tabaci* (Gennadius) on the Culantro *Eryngium foetidum* L.

**Authors :** Udornporn Pagnakorn, Sombat Chuenchooklin

**Abstract :** Effect of the biopesticide from entomopathogenic nematode (*Steinernema thailandensis* n. sp.), bacteria ISR (*Pseudomonas fluorescens*), wood vinegar and fermented organic substances from plants: (neem *Azadirachta indica* + citronella grass *Cymbopogon nardus* Rendle + bitter bush *Chromolaena odorata* L.) were tested on culantro (*Eryngium foetidum* L.). The biopesticide was carried out for reduction infestation of the major insects pest (whitefly *Bemisia tabaci* (Gennadius)). The experimental plots were located at farmers' farm in Tumbol Takhian Luean, Nakhon Sawan Province, Thailand. This study was undertaken during the drought season (lately November to May). The populations of whitefly were observed and recorded every hour up to 3 hours with insect net and yellow sticky traps after the treatments were applied. The results showed that bacteria ISR was the highest effectiveness for control whitefly infestation on culantro, the whitefly numbers on insect net were 12.5, 10.0, and 7.5 after spraying in 1hr, 2hr, and 3hr, respectively. While the whitefly on yellow sticky traps showed 15.0, 10.0, and 10.0 after spraying in 1hr, 2hr, and 3hr, respectively. Furthermore, overall the experiments showed that treatment of bacteria ISR found the average whitefly numbers only 8.06 and 11.0 on insect net and sticky tap respectively, followed by treatment of nematode found the average whitefly with 9.87 and 11.43 on the insect net and sticky tap, respectively. Therefore, the application of biopesticide from entomopathogenic nematodes, bacteria ISR, organic substances from plants and wood vinegar combined with natural enemies is the alternative method of Integrated Pest Management (IPM) for against infestation of whitefly.

**Keywords :** whitefly (*Bemisia tabaci* Gennadius), culantro (*Eryngium foetidum* L.), entomopathogenic nematode (*Steinernema thailandensis* n. sp.), bacteria ISR (*Pseudomonas fluorescens*), wood vinegar, fermented organic substances

**Conference Title :** ICABBBE 2015 : International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering

**Conference Location :** Paris, France

**Conference Dates :** September 21-22, 2015