Chemical composition analysis and insecticidal efficacy of herbal extracts
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Abstract: Five herbal plants; Eupatorium odoratum L., Azadirachta indica A., Annona squamosa L., Tinospora crispa L. and Alpinia galanga L. were selected to study an insecticidal effects. Some of them were utilised as insecticide for organic cultivation but the mixture of herbal plant still not reported. This research is aimed to analyse the chemical components and insecticidal activity of these 5 herbal plants. The essential oils obtained by steamed distillation were analysed by gas chromatography-mass spectrometry (GC-MS). Insecticidal efficacy (killing effect) of each plants was tested against diamondback moth (Plutella xylostella L.) in the laboratory. The mixture of 5 herbal plants prepared by fermentation in 50% ethanol (Recipe I) and fermentation in water with Super LDD 7 Microbial Activator (Recipe II) were tested in the laboratory and in the experimental fields. Insecticidal efficacy of A. galanga L. > T. crispa L. > E. odoratum L. > A. squamosa L. > A. indica A., respectively, but mixed plants exhibited the highest insecticidal effect. In the experimental field, the mixed plants both recipe I and II exhibited better results of insect damage than the control one.

Keywords: Diamondback moth, GC-MS, Herbal plants