

**THE EFFECTIVENESS OF VARIOUS CONCENTRATION OF GADUNG
(*Dioscorea hispida*) TUBER AND TOBACCO LEAVES EXTRACTS
COMBINATION TO CONTROL APHIDS (*Myzus persicae* Sulz.) ON CHILI
PLANT (*Capsicum* sp.)**

By: Erika Hutasoit

Supervised by: R.R. Rukmowati Brotodjojo and Mofit Eko Poerwanto

ABSTRACT

Aphids (*Myzus persicae* Sulz) is one of the important pests that can reduce the quality and quantity of chili production. Aphids is a vector that can transmit viral diseases to chili plants. This research aimed to study the effectiveness of gadung (*Dioscorea hispida*) tubers and tobacco leaves extracts and the influence of different concentrations of gadung tubers and tobacco leaves extract to control aphid on chili plants. This research was conducted in Experimental Garden, Faculty of Agriculture, Condongcatur, Depok District, Sleman Regency, Yogyakarta Special Region in May until July 2022. The experiment was arranged in a Completely Randomized Block Design with one factors, i.e., extracts of tobacco leaves and gadung tubers with various concentrations: concentration of extracts tobacco leaves: 10%, 20%, 40%, and extracts of gadung tubers: 5% and 10%, with negative control treatment (water) and positive control (Dimetoat 400 g/L). The data were analysed using the Analysis of Variance (ANOVA), Duncan Multiple Range Test (DMRT) at the 5% level, and contrast orthogonal at the 5 % level. The combination of gadung tubers extract concentration of 5 % and tobacco leaves extract concentration of 40% was the most effective concentration to control the infestation of aphids in chili plants, but it was less effective when compare to chemical insecticides.

Keywords: Chili plant, *Myzus persicae*, concentration, tobacco leaves, gadung tubers