THE EFFECT OF WEED EXTRACTS OF *Ageratum conyzoides, Chromolaena odorata,* AND *Imperata cylindrica* IN SUPRESSING WEEDS AND YIELD OF SOYBEAN (*Glycine max* (L.) Merrill)

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ABSTRACT

Weeds in cultivated crop areas can cause losses of quantity and quality production due to competition for water, nutrients, and living space. One of the alternative methods to control weeds has been introduced, namely natural herbicide. The research aims to determine the potential of allelopathic compounds of *Ageratum conyzoides*, *Chromolaena odorata*, and *Imperata cylindrica*, determining weed extracts, and the best concentration to suppress weed growth and be able to increase soybean's yield. The research was conducted at the Sindon Hamlet, Selomartani Village, Kalasan Subdistrict, Sleman Regency, DIY and the period of March to May 2024. The research conducted RCBD model, which consist of nine treatments and three repetitions with concentration extracts as treatment, i.e., 15%, 30%, and 45% of *Ageratum conyzoides* extract, 15%, 30%, and 45% of *Chromolaena odorata* extract, 15%, 30%, and 45% of *Imperata cylindrica* extract. The collected data analyzed using ANOVA test 5%, if there was a real effect, it was continued with the LSD test 5% level. The research shows that *Ageratum conyzoides*, *Chromolaena odorata*, and *Imperata cylindrica* extract treatments can suppress weed growth in soybean fields and increase yields. The 45% concentration of *Chromolaena odorata* extract gave better results on dry seed weight per plant and dry seed weight per harvest plot of soybean crops.

Keywords: Weed extract, *Ageratum conyzoides, Chromolaena odorata, Imperata cylindrica,* and Soybean.