

**Use of Natural Herbicides Mahogany Leaf Extract and Ketapang Leaf
Extract to Suppress Weed Growth and its Effect on the Growth and
Yield of Edamame Soybeans (*Glycine max* (L.) Merrill)**

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ABSTRACT

One of the factors that reduce edamame soybean productivity is weeds. Weed control methods using natural herbicides are environmentally friendly methods. This study aims to determine the effective concentration of mahogany leaf extract and ketapang leaf extract for weed control and its effect on yield and growth of edamame soybeans. The research was conducted in rice fields located in Jetis, Tirtomulyo, Kretek District, Bantul Regency, Yogyakarta Special Region in July - September 2023. This study used a single-factor Complete Randomized Block Design consisting of 8 treatments and 3 replications, namely concentrations of 40% and 50% mahogany leaf extract, 40% and 50% ketapang leaf extract, 20% mahogany leaf extract mixed with 25% ketapang leaf extract, 25% mahogany leaf extract mixed with 20% ketapang leaf extract, control with weeding, and no control. The collected data analyzed using Analysis of Variance (ANOVA) 5% and BNT test 5%. The results showed that 50% concentration of ketapang (*Terminalia catappa* L.) leaf extract gave the best suppression of weed growth. Weed control using extracts increases the yield of edamame soybean plants.

Keywords: bioherbicide, mahogany leaves, ketapang leaves, soybean