

**RESPONSE OF GOAT MANURE AND MORINGA LEAF EXTRACT
APPLICATION ON GROWTH AND YIELD OF EDAMAME SOYBEAN
(*Glycine max* (L.) Merrill)**

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ABSTRACT

Edamame soybean (*Glycine max* (L.) Merrill) is a high protein food crop. The research aimed to determine the interaction between goat manure doses and moringa leaf extract concentrations and to identify the optimal doses of goat manure and concentrations of moringa leaf extract for the growth and yield of edamame soybean. The study was conducted in Keceme, Caturharjo, Sleman, Yogyakarta. The experiment used a Complete Randomized Block Design (CRBD) with two factors. Factor I was goat manure doses with three levels: 10 tons/ha, 20 tons/ha, and 30 tons/ha. Factor II was moringa leaf extract concentrations with three levels: 15%, 30%, and 45%. The control used 42 g of phonska fertilizer per experimental unit, without the addition of moringa leaf extract and goat manure. Data were analyzed using Analysis of Variance (ANOVA) at a 5% significance level, followed by Duncan's Multiple Range Test (DMRT) at a 5% significance level. The results showed an interaction effect on the flowering age parameter. The best goat manure dose was 20 tons/ha for the parameters of plant height, number of effective root nodules, pod weight per plant, pod weight per unit and pod weight per hectare. The best concentration of moringa leaf extract was 30% for the parameters of plant height at 28 HST, number of pods per plant, fresh branch weight, and dry branch weight. The combined treatment was significantly better than the control except for the parameter of plant height at 14 HST.

Keywords: edamame soybean, goat manure, moringa leaf extract