

APPLICATION OF POTASSIUM AND SILICA FERTILIZER ON THE GROWTH AND YIELD OF SOYBEAN CROPS

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ABSTRACT

Soybeans (*Glycine max*) have good prospects. Indonesia's soybean production continues to decline, due to a lack of cultivation techniques. The aim of the research is to determine the influence, interaction and appropriate dosage of Potassium and Silica fertilizer on the growth and yield of soybean plants. The research was carried out as a field experiment in polybags using a factorial Completely Randomized Design (CRD) with 2 factors, factor I was the dose of Potassium fertilizer and factor II was the dose of Silica fertilizer, each with 3 levels with 3 replications and each plot containing 12 plants. Factor I: 0.5 g/plant; 0.65 g/plant; 0.8 g/plant. Factor II: 0.5 g/plant; 1 g/plant; 1.5 g/plant. Control without giving potassium and silica. The data was tested using orthogonal contrast at a 5% level to determine the differences between control and treatment combinations, then tested using ANOVA at a 5% level, then tested using the Duncan Multiple Range Test (DMRT) at a 5% test level. The results of the research showed that there was no interaction between potassium and silica fertilizer treatments for all parameters. Potassium fertilizer dose of 0.65 g gave the best results on plant height at 21 HST and 28 HST, number of primary branches, flowering age, plant dry weight, and fresh seed harvest. Treatment with a dose of 1 g of Silica was significantly better for the parameters of flowering age, plant dry weight, and number of pods per plant.

Keyword : Soybean, Potassium, Silica