

Response of Growth and Yield of Jackbean (*Canavalia ensiformis* L.) to Application of P Fertilizer and Azolla Liquid Organic Fertilizer

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ABSTRACT

Efforts are being made to meet the production needs of jack bean based on sustainable agriculture, namely by fertilizing using inorganic materials, namely P fertilizer and balanced with environmentally friendly fertilizers using liquid organic fertilizers. The aim of the study was to determine the interaction between the doses of P fertilizer and the concentration of liquid organic fertilizer on the growth and yield of the jack bean plant. The study used a factorial design (3x3) + 1 control with a Randomized Completely Block Design (RCBD). The first factor is the dose of P fertilizer, namely: 100 kg/ha, 200 kg/ha and 300 kg/ha. The second factor was the concentration of azolla liquid organic fertilizer, namely 80 ml/L, 120 ml/L and 160 ml/L. The research data were analyzed by analysis of variance (ANOVA) followed by Duncan's Multiple Test (DMRT) and Orthogonal Contrast Test at 5% level. The results showed that there was an interaction in the treatment of P fertilizer dose of 200 kg/ha and 80 ml/l azolla liquid organic fertilizer (P2K1) on the parameters of plant height 12 MST and number of primary branches 12 MST. P fertilizer treatment of 200 kg/ha and 300 kg/ha showed no significant difference in the parameters of the number of pods planted, pod weight planted, dry seed weight planted and weight of 100 dry seed harvest patch. The application of POC Azolla 80 ml/L, 120 ml/L and 160 ml/L did not show a significant difference in the growth and yield of the jack bean plant.

Keyword : Jack bean, P Fertilizer and Liquid organic fertilizer