

RESPONSE TO THE PRODUCTION OF SOYBEAN CROP (*Glycine max* L.) WITH THE SUPPLY OF BORON AND PHOSPHORUS FERTILIZER

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ABSTRACT

Soybean is one of the sources of carbohydrates in Indonesia after rice and corn. In Indonesia, the consumption of soybeans is higher than production, resulting in a deficit of soybean needs. One way to increase production is by engineering the provision of boron and phosphorus fertilizers. The purpose of this study was to determine the effect of boron and phosphorus fertilizers on soybean production. The research was conducted for 4 months from November 2019 to February 2020 which was carried out in Tegal Kemuning Lor Land, Arjasa District, Jember. In this study using a factorial Complete Randomized Block Design (RBD) with two factors, namely factor B consisting of no boron fertilizer (B1), boron fertilizer 5,208 kg / ha (B2), boron fertilizer 10,416 kg / ha (B3) and boron fertilizer. 20,822 kg / ha (B4) and the P factor, namely without phosphorus fertilizer (P1), phosphorus fertilizer 69.5 kg / ha (P2), phosphorus fertilizer 138 kg / ha (P3), and phosphorus fertilizer 207.5 kg / ha (P4) with 16 the treatment combination was repeated 2x so that there were 32 experimental units. Data were analyzed using ANOVA and 5% DMRT test if the variance was significantly different () and 1% DMRT test if the variance was significantly different (**). The results showed that the treatment of phosphorus fertilizer at a dose of 207.5 kg / ha had a significant effect (*) on the weight of 100 seeds per plot (14.67 gr). And the application of phosphorus fertilizer at a dose of 207.5 kg / ha gave very significant results (**) to the parameters of stover weight (70.58 gr), sample pod weight (28.08 gr), pod plot weight (1831.13 gr), seed sample weight (15.54 gr), the weight of the plot seeds (945.5 gr). However, the interaction factor of boron fertilizer and phosphorus fertilizer did not show significant effect (NS) on all observed parameters.*

Keywords: *Boron, Phosporus, Soybean*