The Effect of Humic Acid and Compound Fertilizers on the Growth and Production of Mung Beans (Vigna radiata L.)

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ABSTRACT

Indonesia's production of mung beans is still low, therefore it is necessary to optimize the production by improving soil quality. This study aims to determine the response of mung bean plants to the application of humic acid and compound fertilizers. The experiment was designed using a randomized block design (RBD) with three replications. The first factor was humic acid consisting of 0, 6, 9, and 12 kg/ha. The second factor was the NPK dose consisting of 75, 150, and 225 kg/ha. Parameters observed were plant height, number of productive branches, number of pods per sample, the weight of fresh pods, weight of dry seeds per sample, the weight of dry seeds per plot, and weight of 1000 dry seeds. The results showed an interaction between humic acid and compound fertilizer on dry seed weight per plot which the highest yield (584.29 g) was in the combination of humic acid 12 kg/ha and NPK 225 kg/ha. Individually, humic acid 6, 9, and 12 kg/ha showed no significant difference in the number of productive branches. Moreover, the humic acid treatment of 12 kg/ha showed significantly the highest yield on the number of pods (54.49 pods) and seed weight per sample (26.55 g). The dose of 225 kg/ha showed the highest yield on plant height (36.09 cm) and the number of pods (51.25 pods). It is suspected that the application of humic acid and compound fertilizers increase C-organic and nutrient uptake thereby increasing mung bean production.

Keywords: *legumes, NPK, soil conditioners*