

The Effect of Planting Distance and Liquid Organic Fertilizer (LOF) on the Production and Quality of Green Beans (*Vigna radiata* L.) Seeds.

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ABSTRACT

This research was conducted to determine the effect of the planting distance and POMI Liquid Organic Fertilizer (LOF) on the production and quality of green bean seeds (*Vigna radiata* L.). The mung bean seed variety used in this study was the Vima 1 variety. The research was conducted in August - November 2022 on Jambuan field, Summersari District, Jember Regency. This reaserch used a Randomized Block Design (RBD) with 2 factors. The first factor is the spacing treatment with three treatment levels, namely $J_1 = 30 \text{ cm} \times 20 \text{ cm}$, $J_2 = 30 \text{ cm} \times 30 \text{ cm}$, and $J_3 = 30 \text{ cm} \times 40 \text{ cm}$. While the second factor was the POMI Liquid Organic Fertilizer (LOF), which consisted of 3 treatment levels, namely $P_1 = 4 \text{ ml/l}$, $P_2 = 8 \text{ ml/l}$, and $P_3 = 12 \text{ ml/l}$. Data were analyzed using *Analysis of Variance* (ANOVA) and DMRT (*Duncan's Multiple Range*) test with an *error* rate of 5%. The results showed that the J_1 treatment (30 cm x 20 cm) had a highly significant effect (**) and gave the best results on the parameters of plant height at 30 DAP, namely 25.75 cm, plant height at 45 HST, namely 45.76 cm, number of branches productivity was 3.86, the number of pods per plant was 15.42, the weight of the pods per plant was 12.91 g, the seed weight per plant was 9.22 g, the production per hectare was 1.54 tons, and the weight of 100 seeds was 6 .02 g. The P_2 treatment (8 ml/l) had a highly significant effect (**) and gave the best results on the parameter of plant height 45 HST, namely 44.39 cm, the number of productive branches was 3.50, the number of pods per plant was 13.64, and pod weight per plant is 11.50 g. The P_2 treatment (8 ml/l) had a significantly different effect (*) and gave the best results on the parameters of plant height at 30 HST, namely 24.90 cm, flowering age of 34.56 HST, seed weight per plant, namely 8.03 g, and production per hectare is 1.02 tons. The P_3 treatment (12 ml/l) had a significantly different effect (*) and gave the best results on the parameter weight of 100 seeds, namely 6 g. The interaction between spacing and liquid organic fertilizer treatment had a significantly different effect (*) and gave the best results in the $J_1 P_2$ treatment, namely 4.04.

Keywords: Green Beans, The Effect of Planting Distance, Liquid Organic Fertilizer