

Pengaruh Jarak Tanam dan Aplikasi Pupuk Kalium Terhadap Produksi dan Mutu Benih Kacang Hijau (*Vigna radiata* L.) Varietas Vima 2.

*(Effect of Plant Spacing and Potassium Fertilizer Application on the Production and Seed Quality of Mung Bean (*Vigna radiata* L.))*

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ABSTRACT

*This study was designed to examine the effects of planting spacing patterns and potassium fertilizer (KCl) application on the yield and seed quality of mung bean (*Vigna radiata* L.) variety Vima 2. The research was conducted from July to September 2025 in Kemirian Village, Tamanan District, Bondowoso Regency, East Java Province. A factorial Randomized Block Design (RBD) was employed with two factors replicated three times. The first factor was plant spacing (J) with three levels: 40 cm x 10 cm (J1), 40 cm x 15 cm (J2), and 40 cm x 20 cm (J3). The second factor was the potassium fertilizer dosage (K), namely 100 kg/ha (K1), 150 kg/ha (K2), and 200 kg/ha (K3). The data obtained were analyzed using Analysis of Variance (ANOVA), and significant differences were further tested using Duncan's Multiple Range Test (DMRT) at a 5% significance level if significant differences are observed. The findings revealed that the of 40 cm x 20 cm (J3) had a highly significant effect (**) on several parameters, including the number of productive branches (4.56 branches), total number of branches (8.37 branches), number of pods per plant (43.11 pods), and seed weight per plant (18.98 g). The spacing treatment of 40 cm x 10 cm (J1) showed a highly significant effect (**) on seed weight per plot (690.36 g) and seed production per hectare (1.93 tons/ha). The potassium fertilizer dosage of 200 kg/ha (K3) had a significant effect (*) on the number of pods per plant (37.61 pods), seed weight per plant (18.75 g), seed weight per plot (613.64 g), and seed production per hectare (1.72 tons/ha). Meanwhile, the interaction between planting spacing and potassium fertilizer dosage indicated no significant influence (ns), suggesting that these two factors did not exhibit an interactive relationship in affecting any of the observed parameters..*

Keywords: *mung bean, planting distance, potassium fertilizer, yield, seed quality*