

RESPON PERTUMBUHAN DAN HASIL TANAMAN BUNCIS TEGAK (*Phaseolus vulgaris* L.) TERHADAP KONSENTRASI PLANT GROWTH PROMOTING RHIZOBACTERIA (PGPR) DAN DOSIS PUPUK KCl

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ABSTRAK

Tanaman buncis merupakan komoditas sayuran polong bernilai ekonomis tinggi. Penelitian bertujuan untuk mengetahui interaksi dan perlakuan terbaik antara konsentrasi PGPR dan dosis pupuk KCl terhadap pertumbuhan serta hasil buncis. Penelitian dilaksanakan di Sentolo, Kulon Progo pada Desember 2025–Maret 2026. Metode penelitian menggunakan percobaan lapangan dengan Rancangan Acak Kelompok Lengkap (RAKL) dua faktor dan satu kontrol. Faktor pertama adalah konsentrasi PGPR (15, 20, 25 ml/L) dan faktor kedua dosis pupuk KCl (2,5; 3,0; 3,5 g/tanaman). Data dianalisis menggunakan ANOVA taraf 5% dan Uji Kontras Orthogonal, dilanjutkan uji DMRT taraf 5%. Hasil penelitian menunjukkan kombinasi perlakuan berbeda nyata dengan kontrol pada jumlah polong per tanaman dan bobot segar polong per tanaman. Kombinasi perlakuan berinteraksi pada tinggi tanaman 38 HST, bobot segar polong per tanaman, dan bobot polong per polong. Konsentrasi PGPR 20 ml/L memberikan respon terbaik pada tinggi tanaman 31 HST, diameter batang 38 HST, dan jumlah polong per tanaman. Dosis pupuk KCl 3,0 g/tanaman memberikan respon terbaik pada tinggi tanaman 24 dan 31 HST, jumlah daun 38 HST, diameter batang 38 HST, umur mulai berbunga, umur mulai panen, jumlah polong per tanaman, bobot polong per petak dan bobot polong per hektar.

Kata Kunci: *Buncis Tegak, PGPR, Pupuk KCl.*

RESPONSE GROWTH AND YIELD OF BEANS (*Phaseolus vulgaris* L.) TO THE CONCENTRATION OF PLANT GROWTH PROMOTING RHIZOBACTERIA (PGPR) AND KCl FERTILIZER DOSAGE

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ABSTRACT

Beans are a legume crop with high economic value. This study aimed to determine the interactions and optimal treatments between PGPR concentration and KCl fertilizer dose on the growth and yield of beans. The study was conducted in Sentolo, Kulon Progo, from December 2025 to March 2026. The research method employed a field experiment using a Complete Randomized Block Design (CRBD) with two factors and one control. The first factor was PGPR concentration (15, 20, 25 ml/L), and the second factor was KCl fertilizer dose (2,5; 3,0; 3,5 g/plant). Data were analyzed using ANOVA at the 5% level and the Orthogonal Contrast Test, followed by the DMRT at the 5% level. The results showed that the treatment combinations differed significantly from the control in terms of the number of pods per plant and the fresh weight of pods per plant. Treatment combinations interacted with plant height at 38 DAP, fresh pod weight per plant, and pod weight per pod. A PGPR concentration of 20 ml/L yielded the best response for plant height at 31 DAP, stem diameter at 38 DAP, and number of pods per plant. A KCl fertilizer dose of 3,0 g/plant yielded the best response for plant height at 24 and 31 DAP, number of leaves at 38 DAP, stem diameter at 38 DAP, time to flowering, time to harvest, number of pods per plant, pod weight per plot, and pod weight per hectare.

Keywords: Beans, PGPR, KCl Fertilizer.