

Pengaruh Jarak Tanam dan Pupuk NPK Terhadap Produksi dan Mutu Benih Tanaman Kacang Hijau (*Vigna radiata* L) Varietas Vima 2. *The Effect of Planting Distance and NPK Fertilizer on the Production and Quality of Mung Bean Seeds (Vigna radiata L) Variety Vima 2. Supervised by Ir. Suwardi, M.P.*

Tiara Ramadhani Savitri
Study Program of Seed Production Technique
Department of Agriculture Production
Program Studi Teknik Produksi Benih
Jurusan Produksi Pertanian

ABSTRACT

*Mung bean productivity in Indonesia has shown a declining trend over the last five years, highlighting the need to optimize cultivation practices through appropriate plant spacing and balanced fertilizer application. This study aimed to evaluate the effects of plant spacing, NPK fertilizer dosage, and their interaction on the production and quality of mung bean (*Vigna radiata* L.) seeds of the Vima 2 variety. The experiment was conducted from July to September 2025 in Antirogo Village, Jember Regency, using a factorial Randomized Block Design with two factors and three replications. The first factor was plant spacing consisting of 20 × 20 cm, 30 × 20 cm, and 40 × 20 cm, while the second factor was NPK 16-16-16 fertilizer dosage consisting of 150, 200, and 250 kg/ha. The results showed that plant spacing significantly affected flowering age, number of pods per plant, seed weight per plant, seed weight per plot, and seed yield per hectare. The highest seed yield of 2.55 tons/ha was obtained with a spacing of 20 × 20 cm. NPK fertilizer dosage significantly influenced flowering age, harvest age, number of pods per plant, and seed weight per plant. A significant interaction between plant spacing and NPK fertilizer dosage was observed for the number of pods per plant, seed weight per plant, and growth synchrony. The best treatment combination was 40 × 20 cm spacing with 250 kg/ha NPK fertilizer, producing the highest seed weight of 55.38 g per plant, while the highest growth synchrony (97.33%) was achieved with 40 × 20 cm spacing and 200 kg/ha NPK fertilizer. These findings indicate that optimizing plant population density and balanced NPK fertilization can significantly improve mung bean seed productivity and quality.*

Keywords: *Mung Bean, Planting Distance, NPK Fertilizer, Seed Production, Seed Quality.*