

Pengaruh Dosis Pupuk NPK Dan Pemangkasan Cabang Terhadap Produksi Dan Mutu Benih Mentimun (*Cucumis sativus* L.). *The Effect of NPK Fertilizer Dosage and Branch Pruning on Cucumber (*Cucumis sativus* L.) Seed Production and Quality.* Supervisor by Ir. Mochammad Bintoro, M.P.

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ABSTRACT

Cucumber is a horticultural commodity with high economic value; however, its production in Indonesia has declined due to low seed quality and suboptimal cultivation techniques. This study aimed to determine the effect of NPK fertilizer dosage and branch pruning on cucumber seed production and quality. The research was conducted from June to September 2025 in Antirogo Village, Summersari District, Jember Regency using a factorial Randomized Block Design (RBD) with two factors, namely NPK fertilizer dosage (250 kg/ha, 300 kg/ha, and 350 kg/ha) and branch pruning at the 3rd, 4th, and 5th branches. Observed parameters included plant growth, fruit yield, and seed quality. Data were analyzed using Analysis of Variance (ANOVA) followed by Duncan Multiple Range Test (DMRT) at the 5% significance level. The results showed that NPK fertilizer dosage significantly affected fruit length, fruit diameter, fruit weight, number of filled seeds, growth rate, and germination percentage. Branch pruning significantly affected flowering age, fruit length, fruit diameter, number of filled seeds, and filled seed weight. The best treatment combination was obtained from 350 kg/ha NPK fertilizer dosage and pruning at the 5th branch (M3P3), which produced a fruit diameter of 17.94 cm and a germination percentage of 92%, while the combination of 250 kg/ha NPK fertilizer dosage and pruning at the 4th branch (M1P2) resulted in the fastest flowering age at 21.22 days after planting. The study concluded that the appropriate combination of NPK fertilizer dosage and branch pruning could improve cucumber seed production and quality.

Keywords: *cucumber, NPK fertilizer, branch pruning, seed quality.*