

Optimasi Jarak Tanam Dan Pemeliharaan Cabang Produktif Terhadap Produksi Dan Mutu Benih Mentimun Kode Produksi LPP01 (*Optimization Of Planting Distance And Productive Branch Maintenance On The Production And Seed Quality Of Cucumber Code LPP01*) Supervised by **Putri Santika, S.ST., M.Sc.**

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ABSTRACT

*This study aims to optimize the production and quality of cucumber seeds (*Cucumis sativus* L.) through variations in planting distance and productive branch maintenance. The research employed a factorial randomized block design (RBD) with two main factors: planting distances (40x60 cm, 50x60 cm, and 60x60 cm) and the number of productive branches maintained (1, 2, and 4 branches). Observed parameters included the number of fruits, fruit weight per plant, seed count per fruit, seed weight per plant, 1000-seed weight, germination rate, and seed production per hectare. The results showed that planting distance significantly affected several production parameters, with a 60x60 cm spacing producing the highest seed production and quality. Productive branch maintenance also significantly improved nutrient efficiency, with four branches providing optimal results. The best combination was achieved with a 60x60 cm planting distance and four productive branches, resulting in the highest seed production of 10.94 grams per plant. This study concludes that the simultaneous application of optimal planting distances and productive branch maintenance can enhance cucumber seed production and quality. These findings are expected to support sustainability and efficiency in cucumber cultivation in the future.*

Keywords: *Cucumber Seed Production, Productive Branch Maintenance, Planting Distance Management*