

Pengaruh Aplikasi Jumlah Cabang Produktif Dan Pemberian Pupuk Kalium Terhadap Produksi Dan Mutu Benih Mentimun (*Cucumis sativus* L.). *Effect of application of Productive Branches Count and Potassium Fertilizer on the Production and Quality of Cucumber Seeds (*Cucumis sativus* L.).* Supervised by Dr. Ir. Rahmat Ali Syaban, M.Si.

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ABSTRACT

*Cucumber (*Cucumis sativus* L.) is a plant that belongs to the Cucurbitaceae family, or gourds, with broad leaves and a creeping or climbing growth type, which is highly favored by people from all walks of life. This study aims to determine the interaction between the application of productive branch numbers and potassium fertilizer application on cucumber seed production and quality. The research was conducted from June to September 2024 at Jl. Tidar Plindu, Kloncing, Karangrejo Village, Summersari Subdistrict, Jember, East Java. The experimental design used in this study was a Factorial Randomized Block Design (RAK) with three replications. The first factor was the application of productive branch numbers, which consisted of 1 productive branch (C1), 2 productive branches (C2), and 3 productive branches (C3). The second factor was the application of potassium fertilizer, which consisted of doses of 250 kg/ha (K1), 300 kg/ha (K2), and 350 kg/ha (K3). The data from the study were analyzed using an analysis of variance (ANOVA), and for parameters showing significant differences, a further DMRT test was conducted at a 5% significance level (0.05) to specifically determine the effects of each treatment. The results showed that the treatment of applying 3 productive branches (C3) had a very significant effect on the number of marketable fruits per plant, which was 3.62 fruits, the number of seeds per plant, which was 340.13 seeds, the seed weight per plant, which was 9.39 grams, and the potential seed production per hectare, which was 313.01 kg/ha. The potassium fertilizer treatment with a dose of 350 kg/ha (K3) had a very significant effect on the number of marketable fruits per plant, which was 2.84 fruits, the number of seeds per plant, which was 306.38 seeds, the seed weight per plant, which was 8.45 grams, and the potential seed production per hectare, which was 281.73 kg/ha. The interaction of applying 3 productive branches and potassium fertilizer at a dose of 350 kg/ha (C3K3) had a significant effect on the number of marketable fruits per plant, which was 4.13 fruits.*

Key words: *Cucumber, Productive Branch Application, Potassium Fertilizer*