

Pengaruh Konsentrasi Ethepon Dan Pemangkasan 3G Terhadap Produksi Dan Mutu Benih Mentimun (*Cucumis sativus* L.) (Effect of Ethepon Concentration and 3G Pruning on Production and Seed Quality of Cucumber (*Cucumis sativus* L.)) Supervised by Ir. Suwardi, M.P.

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ABSTRACT

An imbalance in the male-to-female flower ratio is a major limiting factor in cucumber productivity, contributing to an 11.7% decline in national production during the 2021–2023 period. Manipulating flower sex expression through ethephon and 3G pruning has the potential to increase feminization, but information on the optimal combination of the two remains limited. This study examines the effects of ethephon concentration (0, 150, 225, 300 ppm), 3G pruning (with and without pruning), and their interactions on cucumber seed production and quality. The study employed a factorial randomized block design with three replications, conducted from August to October 2025 in Glagahwero, Kalisat, Jember. Parameters included production components (number and ratio of flowers, number and weight of fruits, number and weight of viable seeds, production potential) as well as seed quality (thousand-seed weight, germination rate, growth rate, and uniformity of growth). The results showed that a single treatment with a 300 ppm concentration of ethephon increased the weight of viable seeds per plant by 21.87 g and the seed production potential per hectare by 375.74 kg/ha. The single treatment of 3G pruning increased the number of fruits per plant (4.80 fruits), fruit weight per plant (2134.2 g), and the number of viable seeds per plant (854.3 seeds). The K3P1 treatment combination provided optimal flower feminization with the highest male-to-female flower ratio (1.66) and the highest number of female flowers (17.87 flowers).

Keywords: *Cucumber, Ethepon, 3G Pruning, Flower feminization, Ethylene*