

Pengaruh Defoliiasi Dan Pemberian Pupuk Npk 16-16-16 Terhadap Produksi Dan Kualitas Benih Buncis (*Phaseolus Vulgaris L.*) *The Effect of Defoliation and NPK 16-16-16 Fertilizer Application on the Production and Quality of Common Bean (*Phaseolus vulgaris L.*)* Supervised by Ir. Hari Prasetyo, MP

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ABSTRAK

*The common bean (**Phaseolus vulgaris* L.*) is a legume vegetable crop with steadily increasing demand; however, Indonesia's seed production has fluctuated and generally fallen below national demand between 2018 and 2022, partly due to suboptimal cultivation practices such as excessive leaf canopy density and inadequate nutrient supply. This study aimed to determine the effects of leaf defoliation, NPK 16-16-16 fertilizer application, and their interaction on the seed production and quality of stock-class common beans. The research was conducted in Summersuko, Curahdami, Bondowoso Regency, East Java, from August to November 2025, using a Randomized Block Design (RBD) with two factors: defoliation level (no defoliation, 4 leaves removed, and 6 leaves removed per plant) and NPK 16-16-16 dosage (250, 300, and 350 kg/ha), resulting in nine treatment combinations replicated three times. The results showed that defoliation had a highly significant effect on the number of seeds per pod and pod length, with the 6-leaf defoliation treatment (P2) yielding the best results (11.93 seeds per pod and 14.87 cm pod length). NPK fertilization had a highly significant effect on the number of pods per plant, pods per plot, seed weight per plant, seed weight per plot, and actual seed yield per hectare, with the 350 kg/ha dosage (F3) producing the best actual yield of 1.41 tons/ha. The interaction between defoliation and NPK fertilization did not have a significant effect on the observed parameters, and 1000-seed weight and germination rate were unaffected by either treatment.*

Keywords: defoliation, NPK 16-16-16 fertilizer, seed production, seed quality.