

**Pengaruh Konsentrasi Pupuk MKP Dan Pemberian
Mikoriza Terhadap Produksi dan Mutu Benih
Tanaman Tomat (*Solanum lycopersicum* syn)**

*“The Effect of MKP Fertilizer Concentration and Mycorrhizal Application on
Seed Production and Quality of Tomato Plants (*Solanum lycopersicum* syn)”*

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ABSTRACT

*Tomato plants (*Solanum lycopersicum*) are a high-value horticultural commodity; however, tomato seed production faces challenges, particularly regarding cultivation in low-pH (acidic) soils, which inhibit the uptake of nutrients—specifically Phosphorus (P) and Potassium (K). This study aimed to determine the effects of Mono Potassium Phosphate (MKP) fertilizer concentration, mycorrhizal application, and their interaction on tomato seed production and quality. The research was conducted from August to December 2025 at an agricultural site in Antirogo, Jember Regency, and at the Seed Production Engineering Laboratory of the State Polytechnic of Jember. A Factorial Randomized Block Design (RBD) with two factors was employed. The first factor was MKP fertilizer concentration (M) at three levels: 5 g/L (M1), 10 g/L (M2), and 15 g/L (M3). The second factor was the mycorrhiza dosage (A) at three levels: 5 g/plant (A1), 10 g/plant (A2), and 15 g/plant (A3). Observed parameters included fruit diameter, number of fruits per plant, fruit weight, 1000-seed weight, and germination capacity (to assess seed quality). The results indicated that the interaction between 10 g/L MKP and 10 g/plant mycorrhiza (M2A2) yielded the best results for seed germination capacity, reaching 83%. Application of mycorrhiza at a dosage of 5 g/plant (A1) significantly increased seed yield potential per hectare, reaching 94.9506 kg. Meanwhile, an MKP concentration of 15 g/L (M3) had a highly significant effect on increasing the 1000-seed weight. The application of mycorrhizae and MKP has proven effective in improving nutrient uptake in low-pH soils, thereby enhancing the production and quality of tomato seeds.*

Keywords: *Tomato, MKP, Mycorrhizae, Seed Production, Seed Quality.*