

APLIKASI KONSENTRASI KNO₃ DAN GIBERELIN (GA₃) TERHADAP PERKECAMBAHAN BENIH, PERTUMBUHAN, DAN HASIL TOMAT CHERRY (*Solanum lycopersicum* Mill var. *Cerasiforme*) SIMPANAN

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ABSTRAK

Penurunan kualitas benih lama simpan dapat diatasi dengan seed priming menggunakan KNO₃ dan GA₃. Penelitian bertujuan untuk mendapatkan interaksi terbaik KNO₃ dan GA₃ terhadap perkecambahan benih, pertumbuhan dan hasil tanaman tomat cherry. Penelitian dilakukan di Laboratorium Pemuliaan Tanaman UPN “Veteran” Yogyakarta dan *green house* Agro Niaga pada bulan Agustus-November 2025 dengan menggunakan Rancangan Acak Lengkap (RAL) dengan dua faktor. Faktor pertama adalah perlakuan konsentrasi KNO₃ terdiri dari 3 taraf, yaitu KNO₃ (0%, 1%, 3%) dan faktor kedua yaitu konsentrasi GA₃ (0 ppm, 100 ppm, 200 ppm). Data hasil penelitian dianalisis dengan *Analysis of Variance* (ANOVA) dengan taraf $\alpha=5$ kemudian dilanjutkan uji *Duncan's Multiple Range Test* (DMRT) pada taraf 5%. Hasil analisis data menunjukkan adanya interaksi pada beberapa parameter. Perlakuan konsentrasi KNO₃ 1% + GA₃ 0 ppm memberikan hasil terbaik pada parameter perkecambahan. Perlakuan konsentrasi KNO₃ 3% + GA₃ 200 ppm memberikan hasil terbaik pada parameter pertumbuhan. Perlakuan konsentrasi KNO₃ 0 % + GA₃ 200 ppm memberikan hasil terbaik pada parameter hasil panen. Tidak terdapat interaksi pada parameter tinggi tanaman 21 HST, jumlah daun, dan umur muncul bunga.

Kata kunci: Kalium nitrat, Giberelin, *Seed priming*, Tomat Cherry

**APPLICATION OF KNO₃ AND GIBERELIN ACID (GA₃)
CONCENTRATIONS ON SEED GERMINATION, GROWTH, AND
YIELD OF CHERRY TOMATO (*Solanum lycopersicum* Mill. var.
Cerasiforme) SEEDS**

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ABSTRACT

The decline in the quality of long-stored seeds can be overcome through seed priming using potassium nitrate (KNO₃) and gibberellic acid (GA₃). This study aimed to determine the best interaction of KNO₃ and GA₃ concentrations on seed germination, growth, and yield of cherry tomato (*Solanum lycopersicum* Mill. var. *cerasiforme*). The research was conducted at the Plant Breeding Laboratory of UPN “Veteran” Yogyakarta and the Agro Niaga greenhouse from August to November 2025. The experiment employed a Completely Randomized Design (CRD) with a two-factor factorial arrangement. The first factor was KNO₃ concentration (0%, 1%, and 3%), while the second factor was GA₃ concentration (0 ppm, 100 ppm, and 200 ppm). The data were analyzed using Analysis of Variance (ANOVA) at a 5% significance level, followed by Duncan’s Multiple Range Test (DMRT) at the same level. The results indicated that interactions between KNO₃ and GA₃ occurred in several parameters. The combination of 1% KNO₃ without GA₃ resulted in the best performance during the germination phase. The combination of 3% KNO₃ and 200 ppm GA₃ produced the best results during the vegetative growth phase. Meanwhile, the treatment without KNO₃ combined with 200 ppm GA₃ yielded the best results for yield-related parameters. No interaction was observed in plant height at 21 days after planting, number of leaves, and flowering time.

Keywords: Potassium nitrate, Gibberelin acid, Seed priming, Cherry tomato