

**EFFECT OF COLCHICINE CONCENTRATION ON GERMINATION,
GROWTH , AND YIELD OF SOYBEAN VARIETIES OF DEJA 1 AND
DEGA 1 (*Glycine max* (L.) Merrill)**

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ABSTRACT

Soybeans are a high-value and prospective commodity as a source of plant-based protein. One of the superior soybean plant breeding programs is polyploidization using colchicine. The research aims to determine the effect of colchicine concentration on Deja 1 and Dega 1 soybeans, using a CRD with 2 factors and 3 replications. The first factor is the variety (Deja 1 and Dega 1). The second factor is colchicine concentration (0%, 0.05%, 0.1%, 0.15%, and 0.2%). Data analysis was performed using analysis of variance at the 5% level, the DMRT at the 5% level, and Trend Comparison. The research results showed that based on the trend comparison test, a 0.09% concentration of colchicine increased plant height at 10 DAS and a 0.10% concentration increased plant height at 20 DAS for the Deja 1 variety. For the Dega 1 variety, a 0.11% concentration increased plant height at both 10 and 20 DAS. The Deja 1 variety showed better results for germination rate, seed vigor test, stem diameter at 30 DAS, number of pods per plant, number of filled pods per plant, and seed weight per plant. A colchicine concentration of 0.10% can improve germination rate, stem diameter at 30 DAS, number of leaves at 30 DAS, flowering age, number of pods per plant, number of filled pods per plant, and seed weight per plant.

Keywords: *Soybeans, Varieties, Colchicine*