

Pengaruh Mutagen Kimia EMS terhadap Pertumbuhan dan Perkembangan Benih Tanaman Krisan Secara *In Vivo*. Effect of Chemical Mutagen EMS on Growth dan Seed Development of Chrysanthemum Plants in Vivo. Supervised by Netty Ermawati S.P., Ph.D

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ABSTRACT

Chrysanthemums are famous for their beautiful and highly prized ornamental flowers that come in a variety of colors and shapes. The challenge of finding high-quality chrysanthemum seedlings is one of the many challenges faced in the growth and care of chrysanthemum plants. It is hoped that breeding efforts will result in a variety of new high-yielding cultivars; in addition to high production, these cultivars have a variety of other traits that facilitate efforts to improve the quality of the plant. The purpose of this study was to determine the effect of EMS chemical mutagen on chrysanthemum through a mutation plant breeding approach. The research was conducted from October 2023 to February 2024 at Green House Tissue Culture Laboratory of Jember State Polytechnic. The design used was a factorial completely randomized design (CRD). The first factor is the concentration of EMS consisting of 0 ppm, 50 ppm, 150 ppm, and 250 ppm. The second factor is the dripping intensity consisting of 1x dripping, 2x dripping, and 3x dripping. The data were analyzed using Anova and if the result was significant or very significant, it was further tested using DMRT at the 5% or 1% level. The results showed that the interaction between EMS concentration and dripping intensity gave a very significant effect on plant height, and gave a significant effect on the number of leaves. The treatment of EMS concentration gave a very significant effect on the number of buds and leaf color.

Key Word : *Chrysanthemum, Chemical Mutagen, EMS, Concentration, Dripping*