

Pengaruh Mutagen Kimia Ethyl Methane Sulfonate (EMS) Terhadap Pertumbuhan Tanaman Krisan (*Chrysanthemum morfolium var.fiji*) Secara In Vitro. (*Effect of the Chemical Mutagen Ethyl Methane Sulfonate (EMS) on the Growth of Chrysanthemum Plants (Chrysanthemum Morfolium Var.Fiji) In Vitro.*)
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ABSTRACT

Chrysanthemum (Chrysanthemum morfolium var. Fiji) is a type of cut flower ornamental plant that has high economic value and good business development prospects. In vitro plant propagation through mutation breeding techniques is an alternative form of increasing genetic diversity and expanding the variety of plants, especially chrysanthemums, using Ethyl Methane Sulfonate (EMS). EMS is a mutagen that is efficient and effective in causing mutations. This research aimed to test the effect of soaking and administering EMS on the growth of Fiji chrysanthemum micro cuttings. Conducted in July–December 2023. This research used a completely randomized factorial design with 2 treatment levels, namely soaking time and EMS concentration with 3 replications. Treatment combinations include T1E0 (Concentration 0), T1E1 (Soaking time 6 hours and concentration 50 ppm), T1E2 (Soaking time 6 hours and concentration 150 ppm), T1E3 (Soaking time 6 hours and concentration 250 ppm), T2E0 (Concentration 0 ppm or control), T2E1 (soaking time 12 hours and concentration 50 ppm), T2E2 (soaking time 12 hours and concentration 150 ppm, T2E3 (soaking time 12 hours and concentration 250 ppm). The research data was tested using ANOVA and if it had a real effect it would be tested continued using DMRT level of 5%. The results of the research on the length of soaking showed that it had a very significant effect on the parameters of number of leaves, plant height, percentage of life, color of leaves, and number of roots. The EMS concentration treatment had a very significant effect on the parameters of several leaves, the percentage of life, and the color of the leaves. Meanwhile, in the treatment, the interaction between soaking time and EMS concentration had a very real influence on the parameters of number of leaves, plant height, and percentage of survival.

Keywords : EMS, Soaking Time, Concentration, Chrysanthemum