

IN VITRO SUBCULTURE OF SUGAR CANE PLANTLETS (*Saccharum officinarum* L.) VARIETY BULULAWANG AND AMS AGRIBUN IN VARIOUS BAP CONCENTRATION

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ABSTRACT

Sugarcane is a potential crop that is needed throughout the world. The product of this sugar cane plant is sucrose. Propagating sugarcane plants using tissue culture can produce seeds en masse, quickly and free of pathogens. The aim of this research is to examine the interactions between various varieties and BAP, determine good varieties and the right BAP concentration for the growth of sugarcane plantlet subcultures. The research method is a laboratory experiment using a Completely Randomized Design (CRD) with two factors, namely variety (Bululawang and AMS Agribun), and BAP concentration (0 mg/L (control), 1 mg/L, 2 mg/L, and 3 mg/L L). Observational data were analyzed using the Analysis of Variances (ANOVA) test at 5% level followed by Duncan's Multiple Range Test (DMRT) at 5% level and Trend Comparison. The results of the research showed that there was an interaction between variety treatment and BAP concentration, plantlets of the Bululawang variety sugarcane with a BAP concentration of 1.6 mg/L and AMS Agribun sugarcane variety with a concentration of 1.7 mg/L could increase the number of shoots. AMS Agribun sugar cane plantlets had the best effect on shoot height, root volume, fresh weight and dry weight of plantlets. Based on the polynomial test, a BAP concentration of 2.007 mg/L can increase shoot height, a BAP concentration of 1.162 mg/L can increase the number of leaves, and a BAP concentration of 1.349 mg/L can increase root volume.

Keywords: sugarcane, in vitro, BAP, variety