Effect of IAA (Indole Acetic Acid) and Kinetin Administration on Induction of Sugarcane Shoots (Saccharum officinarum L.) In Vitro

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ABSTRACT

The development of sugarcane cultivation in Indonesia has progressed, but there are still shortcomings. One of the obstacles is the lack of availability of sugarcane seeds that have good quality and quantity. To increase optimal sugarcane productivity and get a large number of quality seeds, one of the solutions is to multiply seedlings with in vitro techniques. In vitro culture technique is one of the techniques in clonal plant propagation for mass propagation. The purpose of this study is to examine the best concentration of IAA and Kinetin on the induction of sugarcane shoots. This research was conducted at the Tissue Culture Laboratory, Jember State Polytechnic. The research was designed using the RALF method which consists of two factors. The first factor is the concentration of IAA which consists of 0 mg/l; 0.5 mg/l; 1 mg/l; and 1.5 mg/l, while the second factor is the concentration of Kinetin which consists of 0.5 mg/l; 1 mg/l; and 2 mg/l. Menu research results. The results showed that there was an interaction in the combination treatment of 1.5 mg/l IAA and 0.5 mg/l Kinetin on bud height. Meanwhile, the treatment of IAA and Kinetin had no significant effect on the time of bud appearance, number of shoots, and fresh weight of shoots on sugarcane explant. Meanwhile, IAA and Kinetin treatments showed an insignificant effect on bud emergence time, number of shoots, and fresh shoot weight on sugarcane explant.

Keywords: *Sugarcane, In vitro, Bud Induction, IAA, Kinetin*