GROWTH OF POTATO MICROSTEMS (*Solanum tuberosum* L.) AT VARIOUS CONCENTRATIONS OF MYO-INOSITOL AND THIAMIN *IN VITRO*

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ABSTRACT

Potato is an important food commodity with continuously increasing demand. Conventional propagation requires a long time and produces a limited number of seedlings. Plant tissue culture can be a solution to improve the quality and quantity of seedlings within a relatively short period. This study aims to examine the growth of potato microstems in response to various concentrations of myo-inositol and thiamin *in vitro*. This research used a Completely Randomized Design (CRD) with two factors: the first factor was the concentration of myo-inositol (100, 150, and 200 mg/L), and the second factor was the concentration of thiamin (4, 7, and 10 mg/L). The obtained data were analyzed using Analysis of Variance (ANOVA) at the 5% level, followed by Duncan's Multiple Range Test (DMRT) at the 5% level. The experiment was conducted at the Biotechnology Laboratory, Faculty of Agriculture, UPN "Veteran" Yogyakarta from February to April 2025. The results showed no interaction between the concentrations of myo-inositol and thiamin. Overall, myo-inositol at 100 mg/L and thiamin at 4 mg/L gave the best results on planlet height and root system. Meanwhile, myo-inositol at 200 mg/L and thiamin at 10 mg/L were better for shoot growth, callus diameter, and fresh weight of planlets.

Keywords: Potato, myo-inositol, thiamin