

***Effect of The Application of ZPT NAA (Naphthalene Acetic Acid) AND BAP (6-Benzyl Amino Purine) on Multiplication of Red Potato Shoots (Solanum tuberosum L.) In Vitro***

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**ABSTRACT**

*Red potato production in Indonesia is relatively low due to the use of low-quality seeds that are easily attacked by pathogens. It is necessary to apply in vitro culture techniques to obtain uniform and quality seeds. The aim of this research was to analyz the best concentrations of NAA and BAP on the mulipication of red potato shoots. This research was conducted at the Jember State Polytechnic Tissue Culture Laboratory. The research was designed using the RALF method, which consists of two factors. The first factor is the NAA concentration, which consists of 0.1 mg/l; 0.3 mg/l; and 0.5 mg/l, meanwhile, the second factor is the BAP concentration, which consists of 1 mg/l; 1.5 mg/l; and 2 mg/l. The results showed that there was an interaction between the 0.3 mg/l NAA and 1.5 mg/l BAP treatments on shoot height (7.03 cm) and number of segments (11.67 segments). This is because in this treatment the cells reach the optimum limit in stimulating growth in shoot height and number of segments. In the 0.1 mg/l NAA treatment, there was a significant difference in the time of callus emergence (9.44 HST). This is because the endogenous hormone content responds quite well to the exogenous hormone NAA in low concentrations. In the 1.5 mg/l BAP treatment, there was a significant difference in the time of shoot emergence, namely 8.78 HST and the number of leaves (7.58 pieces). This is because this concentration is optimal for cell division and cell elongation to form shoots and leaves.*

**Keywords:** *Red Potato, Tissue Culture, MS 0 Medium, Plant Growth Regulator*