

***EFFECT OF IAA AND BAP ON TOBACCO SHOOT INDUCTION  
(Nicotiana tabacum L) KASTURI 2 VARIETY IN VITRO***

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**ABSTRACT**

*Tobacco (Nicotiana tabacum L) variety Kasturi 2 is known as the main raw material for the cigarette industry that grows predominantly in the Jember region during the dry season. Tobacco cultivation has generally been done conventionally, which results in the formation of genetic traits that are not exactly the same as their parents. In addition, it involves a high amount of labor and specific work steps. Thus, tissue culture techniques (in vitro) is one way to overcome these problems. The purpose of this study was to determine the effect of the combination of ZPT IAA and BAP on the induction of shoots of Tobacco Variety Kasturi 2. The research was conducted from October to December 2023 at the Jember State Polytechnic Tissue Culture Laboratory. The method used was a Non-Factorial Completely Randomized Design (CRD) consisting of 7 treatments with each treatment 4 replications with concentrations P0 (Control (without zpt)), P1 (MS + IAA 0.5 ppm + BAP 1 ppm), P2 (MS + IAA 0.5 ppm + BAP 2 ppm), P3 (MS + IAA 0.5 ppm + BAP 3 ppm), P4 (MS + IAA 1 ppm + BAP 1 ppm), P5 (MS + IAA 1 ppm + BAP 2 ppm) and P6 (MS + IAA 1 ppm + BAP 3 ppm). The explants used were young leaves of Tobacco Variety Kasturi 2. Data from the study were analyzed using ANOVA, if the results showed the effect of Very Significantly Different then further tests were carried out Differential Real Honest (BNJ) at the 5% level. The results showed that the combination treatment of ZPT IAA and BAP was significantly different from the parameters of Shoot Emergence Time 11 HIS (P1), Number of Shoots 23.8 (P3), Fresh Weight 8 g (P3), Shoot Height 23.4 cm (P3), Percentage of Sprouted Explants 100% (P2) and was not significantly different from the parameters of Percentage of Living Explants, Percentage of Browning Explants and Percentage of Explant Contamination.*

**Keywords :** *ZPT IAA and BAP, Tobacco Variety Kasturi 2, Shoot Induction*