

ABSTRACT

Patchouli (*Pogostemon cablin* Benth.) is one of the essential oil producers that is very useful for various industries with high market demand. Aceh Patchouli plant propagation has an obstacle where conventional vegetative cultivation such as stem cuttings, causing patchouli seedlings to be easily infected with pathogens and not enough to meet the demand for healthy seedlings on a large scale. One solution that can overcome these problems is the *in vitro* culture technique. This research aimed to determine the effect of IBA and Kinetin concentrations and their combination on patchouli micro cuttings *in vitro*. This research used a twofactor completely randomized design (CRD). The first factor was the concentration of IBA (I) which consists of three levels, namely: I0 (0,0 mg/L), I1 (1,5 mg/L), and I2 (3,0 mg/L). The second factor was kinetin concentration (K) which consists of three levels, namely: K0 (0,0 mg/L), K1 (1,0 mg/L), and K2 (2,0 mg/L). The results showed that the concentration of IBA affected the variables of shoot growth 1-3 weeks after planting, shoot growth time, number of shoots 1-5 weeks after planting, shoot height, number of leaves 2-8 weeks after planting, and root length. The best treatment was obtained in the treatment of IBA concentration of 0,0 mg/L (without application of IBA). The concentration of kinetin affected the variable percentage of shoot growth 6-8 weeks after planting, the number of shoots 4-8 weeks after planting, shoot height, the number of leaves 4-8 weeks after planting, root length and the number of roots. The best treatment was obtained in the treatment of kinetin concentration of 2,0 mg/L. The combination of IBA concentration and kinetin concentration influenced the variable number of shoots and shoot height. The best treatment was obtained in the combination of IBA 0,0 mg/L and Kinetin 1,0 mg/L.

Keywords: auxin, concentration, cytokinin, hormone, propagation.