

ABSTRACT

Patchouli (*Pogostemon cablin* Benth.) is one of the commodities that produces essential oils needed in various industrial sectors. Generally, Aceh patchouli propagation is carried out using conventional methods through stem cuttings. However, this conventional method can facilitate the spread of disease from the parent plant. Plant tissue culture can be a solution because it is a propagation method used to obtain healthy seedlings in a relatively short time. This study aimed to determine the best type of explant and the best BAP concentration for the *in vitro* propagation of Aceh patchouli plants. This study used a completely randomized design (CRD) with two factors and 10 replicates of treatment combinations. The first factor was the type of explant, consisting of two levels, namely E1 (Leaves) and E2 (Shoots). The second factor was the BAP concentration, consisting of four levels, namely B0 (0.00 mg/L), B1 (0.6 mg/L), B2 (1.2 mg/L), and B3 (1.8 mg/L). Because there were 8 treatment combinations with 10 replicates, 80 experimental units were obtained. The results showed that the type of explant affected the growth of Aceh patchouli microcuttings *in vitro*. This can be seen in the variables of survival rate at 2-8 WAP, shoot growth rate at 1-8 WAP, number of shoots at 1-5 WAP, shoot height, number of leaves at 1-8 WAP, root growth time, and number of roots. The best treatment was obtained with the shoot explant treatment. The BAP concentration affected the growth of Aceh patchouli microcuttings *in vitro*. This can be seen in the variables of survival rate at 5-8 WAP, shoot growth rate at 1-8 WAP, shoot growth time, number of shoots at 1-8 WAP, shoot height, number of leaves at 1-8 WAP, and number of roots. The best treatment was obtained with a BAP concentration of 0.6 mg/L. There was an interaction between explant type and BAP concentration on the growth of Aceh patchouli microcuttings *in vitro*. This can be seen in the variables of percentage of survival at 5-8 WAP, percentage of shoot growth at 1, 2, 3, 5-8 WAP, shoot growth time, number of shoots at 1-5 WAP, shoot height, number of leaves at 1-8 WAP, and number of roots. The best treatment was obtained in the shoot + BAP 0.6 mg/L treatment.

Keywords: Sitokinin, Explant, *In vitro*, Leaves, Shoots.