ABSTRACT

Aceh Patchouli Plant (*Pogostemon Cablin* Benth.) is a potential plant to be developed because of its high essential oil content. Aceh patchouli has problems in its development and propagation, namely this plant does not flower so it does not have seeds as a generative breeding organ, the production produced is still low, and the limited availability of quality Aceh patchouli seeds. Tissue culture can be a solution because it can produce many plant seeds in a short time and quality. This study was conducted to obtain the best concentration of BAP and coconut water in the propagation of Aceh patchouli plant subcultures *in vitro.* This research was conducted at the Plant Tissue Culture Laboratory, Faculty of Agriculture, Malikussaleh University in North Aceh Regency. The study was conducted from October to December 2023. This study used a two-factor Randomized Block Design (RBD) method with 10 repeats of combination treatment. The first factor is that the concentration of BAP consists of 3 levels of B0 (0 ppm), B1 (1 ppm), and B2 (2 ppm). The second factor is the concentration of Coconut Water consisting of 3 levels of K0 (0%), K1 (15%), and K2 (30%). The results showed that BAP treatment affected the Aceh patchouli subculture *in vitro* at a percentage of life of 1-8 WAP, the number of shoots at 4-8 WAP, shoot height, the number of leaves at 3-8 WAP, and root growth time. The best BAP treatment is found at a BAP concentration of 1 ppm. Coconut water treatment affects the percentage of living at 1-3 WAP, the percentage of buds growing at 2,3,and 8 WAP, bud growing time, the number of shoots at 1,2, and 4 WAP, shoot height, the number of leaves at 1-4 WAP, and root growth time. The best coconut water treatment is found at a coconut water concentration of 30%. There is an interaction between the concentration of BAP and coconut water on the percentage of living variables at 1-8 WAP, the number of shoots at 8 WAP, shoot height, the number of leaves at 8 WAP, and root growth time. The best interaction treatment at a concentration of BAP 2 ppm and 30% coconut water.

Keywords: Auxin, Buds, Culture Media, Cytokinins, Hormones