

ABSTRACT

Musk orange (*Citrus microcarpa*) or Calamansi fruit is a type of citrus plant that has a small fruit shape. The fruit has a distinctive sour taste, smells good, and has a good vitamin C content for health. Propagation of musk oranges is generally propagated vegetatively, but the main obstacle in propagation and the resulting plants are still susceptible to disease. The conventional generative propagation of musk orange plants is hampered because of the small size of musk citrus fruits, the number and size of seeds. Plant tissue culture can be a solution because it is a propagation method that is carried out to get healthy seedlings. This study aimed to determine the effect of the use of coconut water organic matter and BAP growth regulators in the propagation of musk orange plants *in vitro*. This study used a two-factor Completely Randomized Design (CRD) with 10 repetitions. The first factor was the concentration of coconut water consisted of 3 levels of A0 (0%), A1 (10%), and A2 (20%). The second factor was the concentration of BAP consisted of 3 levels of B0 (0 ppm), B1 (1 ppm), B2 (2 ppm). The results showed that coconut water treatment had an effect on the initiation of musk orange seeds *in vitro* at the variables of survival percentage at 1 and 2 WAP, bud height and root growth time. The treatment of coconut water concentration of 20% gives the best value. BAP treatment had an effect on the variables of 1-4 WAP survival percentage, bud height, and leaf number of 3-8 WAP. The 1 ppm (B1) concentration treatment gives the best value. There was an interaction between coconut water concentration and BAP on the variables of 1, 2, 3, 4, 6 and 7 MST survival percentage, bud growth time, leaf number of 6-8 WAP, and bud height. The best treatment was obtained in the combination of A2B1 (20% coconut water + BAP 1 ppm).

Keywords: Concentration, Organic, Propagation.