

ABSTRACT

Potato (*Solanum tuberosum* L.) are one of the most widely consumed horticultural commodities in meeting food needs. The obstacle faced in potato propagation is the difficulty of procuring healthy potato seeds in large quantities and in a short period of time. Tissue culture cultivation can be a solution because it is a propagation method used to produce healthy seeds in a relatively short time. This study aimed to determine the optimal concentrations of BAP and NAA for the in vitro propagation of Granola potato plants. The study used a completely randomized design (CRD) with 10 replications. The first factor was the BAP concentration, which consisted of 3 levels: B0 (0 mg/L), B1 (1 mg/L), and B2 (2 mg/L). The second factor was the NAA concentration, which consisted of 3 levels: N0 (0 mg/L), N1 (0.25 mg/L), and N2 (0.50 mg/L). The results showed that the BAP concentration treatment had an effect on the in vitro propagation of Granola potato sprouts. This can be seen in the variables of sprout growth time, number of sprouts at 7-8 MST, sprout height, number of leaves at 3-7 MST, number of roots, and root length. The best treatment for increasing the number of shoots is concentration is 2 mg/L. The NAA treatment affected the variables of sprout growth percentage at 1, 5-8 MST, number of sprouts at 1-8 MST, number of sprout eyes, number of leaves at 2-8 MST, and root length in the in vitro multiplication of Granola potato sprouts. The best treatment was obtained at a NAA concentration of 0 mg/L. There was an interaction between the BAP and NAA concentration treatments on the variables of number of leaves 8 MST, root number and root length. The best treatment for the purpose of shoot propagation was obtained in the BAP 1 mg/L + NAA 0 mg/L treatment.

Keywords : auxin, cytokinin, hormone, multiplication, tissue culture.