

ABSTRACT

Potato (*Solanum tuberosum* L.) is a tuber crop belonging to the Solanaceae family. The problem that arises in the propagation of potatoes is the difficulty of obtaining large quantities of potato seeds in a short amount of time. Culture tissue is a modern method that can solve various problems in potato cultivation and produce healthy, disease-free plants. The plant growth regulators (PGRs) commonly used in tissue culture include auxins and cytokines. The aim of this study is to investigate the effect of IBA and BAP treatments on the growth of Granola potato microcuttings in vitro. The study used a Randomised Complete Block Design (RCBD) with two factors and 10 replications of the combination of treatments. The first factor is the IBA concentration, consisting of three levels: I0 (0 mg/L), I1 (0.75 mg/L) and I2 (1.50 mg/L). The second factor was the concentration of BAP, consisting of three levels: B0 (0 mg/L), B1 (0.75 mg/L) and B2 (1.50 mg/L). The results showed that the concentration of IBA had an effect on the growth of potato Granola shoots in vitro. This can be seen in the variables of the percentage of sprouting after 4-8 MST, the number of leaves after 2-7 MST, and the number of potato Granola roots after 4-8 MST. The best treatment was obtained with a concentration of 1.50 mg/L of IBA. The BAP concentration treatment influenced the variables of shoot height, number of leaves 2-8 MST, number of roots and root length of Granola potatoes in vitro. The best treatment was obtained with a BAP concentration of 0 mg/L. There was an interaction between the IBA and BAP concentrations with respect to the number of shoots, leaves and roots. The best treatment was obtained for the number of shoots with the combination of I2B2 treatment (IBA 1.5 mg/L + BAP 1.50 mg/L).

Keywords : auxin, hormone, concentration, multiplication, cytokinin