

## ABSTRACT

Potato (*Solanum tuberosum* L.) is a horticultural crop that contains vitamin B, vitamin C, potassium, calcium, iron, and very high fiber content and is used as a raw material in agroindustry. The problem in potato cultivation is the availability of quality seeds because farmers use seeds from previous harvests. This study aimed to determine the optimal concentrations of IBA and Kinetin for the in vitro growth of Granola potato shoots. This study used a completely randomized design (CRD) with two factors and 10 replicates per treatment combination. The first factor was the IBA concentration, which consisted of three levels, namely I0 (0.00 mg/L), I1 (0.75 mg/L), and I2 (1.50 mg/L). The second factor was the Kinetin concentration, which consisted of 3 levels, namely K0 (0.00 mg/L), K1 (3.00 mg/L), and K2 (6.00 mg/L). The results showed that the IBA concentration treatment affected the growth of Granola potato sprouts in vitro. This could be seen in the variables of sprout growth percentage at 1–3 weeks after planting, sprout growth time, number of shoots at 1–2 and 5 weeks after planting, number of leaves at 2–4 weeks after planting, number of roots and root length. The best treatment was obtained at an IBA concentration of 0.00 mg/L (without IBA). The Kinetin treatment affected the percentage of sprout growth at 1–2 weeks after planting, shoot growth time, number of shoots at 1–2 weeks after planting, number of leaves at 2–4 weeks after planting, root growth time, number of roots, root length, and shoot length. The best treatment was obtained at a Kinetin concentration of 6.00 mg/L. No interaction was found between the IBA and Kinetin concentration treatments on the in vitro growth of Granola potato shoots

Keywords: auxin, cytokinin, concentration, hormone, propagation