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Research paper

One Step in vitro Propagation and Production of Potato *(Solanum tuberosum L.)* Minitubers Using Different Concentrations of Indole-3-acetic acid and Kinetin

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Abstract

This study was carried out to evaluate the effect of different concentrations of the growth regulators Indole-3-acetic acid (IAA) and Kinetin on *in vitro* shoot regeneration and rooting in one step using nodal explants of Zafera and Mondial potato varieties widely grown in Sudan for the ultimate aim of producing minitubers. The two growth regulators resulted in regeneration of healthy shoots and roots in one step and produced minitubers from acclimatized plantlets. Plant height, shoot number and leaves number were positively affected by increasing concentrations of both IAA and kinetin in the two potato varieties used. Number of roots and root length were only positively affected at higher concentration of IAA. Survival percentage of plantlets was not significantly affected by the two growth regulators. Minitubers were successfully produced using acclimatization potting media.

Keywords: Potato, growth regulators, acclimatization, potting media, minitubers.

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