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## The effects of sucrose on *in vitro* tuberization of potato cultivars

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Two potato varieties: “Sebago” and “Carola” were tested for *in vitro* tuberization response under three different MS mediums: 1. MS+60g/l sucrose (6% MS medium) 2. MS+80g/l Sucrose (8%MS medium) 3. MS+100g/l Sucrose (10% MS medium). As a control, basal MS medium (3% MS medium) was used. The objective was to determine optimum concentration of sucrose for *in vitro* tuberization. Three parameters were observed in response to treatment, number, weight and diameter of microtuber. In both cultivars, among the three concentrations of sucrose, Murashige and Skoog (MS) medium supplemented with 100g/L sucrose showed a better value of microtuber number, diameter and weight than the other concentrations. Morphological characterization of micro tubers of two potato cultivars on 10% MS medium was a bit different. Accordingly, this medium gave an average value of microtuber number ( $3.98 \pm 0.04$ ), microtuber diameter ( $9.9 \pm 0.02$ mm), and weight ( $0.09 \pm 0.003$ g) of microtuberian variety Sebago after  $54.8 \pm 0.87$  days of *in vitro* cultivation. Average microtuber number ( $2.8 \pm 0.02$ ), microtuber diameter ( $9.4 \pm 0.03$ mm) and weight ( $0.087 \pm 0.002$ g) was showed by cultivars Carola. Microtubers were not developed on 6% and 8% MS medium (only embryonal microtubers). Finally, 10% MS medium was selected as an optimal MS medium for *in vitro* micro tuberization in two cultivars of potato (Sebago, Carola) after  $54.8 \pm 0.87$  days of *in vitro* cultivation.

### Biography

Iveta Megrelashvili has completed her PhD from Ivane Javakishvili Tbilisi State University. She is the main Research Scientist of Georgian Technical University, Biotechnology Center and Head of Virology Lab, Scientific-Research Center of Agriculture. He has published more than 12 papers in reputed journals and has a vast experience in Plant Biotechnology sphere.

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