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Determination of phytotron optimal condition for *in vitro* potato ontogenesis

Maia Kukhaleishvili, Ekaterine Bulauri, Tamar Chipashvili, Tamar Shamatava and Iveta Megrelishvili
Georgian Technical University, Georgia

Three type of combinations with light, temperature, humidity and photoperiod was made: 1. 22-23 °C, 4000 lux, humidity 70%, 16h. 2. 24-25 °C, 5000 lux, humidity 75%, 18h. 3. 26-27 °C, 6000 lux, humidity 80 %, 20h. These were studied on *in vitro* cultivation of potato cultivars: Sebago, Russet Burbank, Katahdin and Carola for 21-24 days. All *in vitro* potato cultivars morphological characterization was variable depending on the type of *in vitro* condition combination. It was revealed that all researched potato varieties had maximum potential for *in vitro* propagation (Green leaves, rooting 90% and shoot formation 94%) on combination of: 24-25 °C, 5000 lux, humidity 75% and 18h after 17 days of cultivation. Plant development (Green leaves, rooting 87% and shoot formation 92%) on the *in vitro* condition combination: 22-23°C, 4000lux, humidity 70% and 16h was completed after 21 days. And *in vitro* shoot and root formation (light green leaves, rooting 89% and shoot formation 78%) on combination of: 26-27 °C, 6000 lux, humidity 80% and 20h was presented after 14 days of cultivation. Best combination (26-27 °C, 6000 lux, humidity 80% and 20h) of *in vitro* condition for all researched potato varieties *in vitro* cultivation was selected for their leave colors, rooting, and shoot formation.

Biography

Maia Kukhaleishvili has completed her PhD from ST. Andrew the First Called Georgian University of the Patriarchate of Georgia. She is the Director of Georgian Technical University, Biotechnology Center- Scientific-Research Center. She has published more than 15 papers in reputed journals and has a vast experience in Agriculture and Biotechnology sphere.

maia.kukh@gmail.com

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