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## Hormonal treatment effect in combination with sucrose on *in vitro* potato varieties

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*In vitro* plant reproduction widely used in agriculture and biotechnology and has a great advantage compared to traditional breeding methods allows to obtain get planting material in a short-term and plant reproduction can be conducted throughout the year. The present investigation was carried out to select best MS medium protocol and identify perfect hormonal/sucrose combination for three varieties of potato (*Solanum tuberosum* L): “Nevski”, “Riviera” and “Zefira” for their *in vitro* cultivation. Potato varieties were studied on three types of MS medium: MS+30 g/l sucrose (6% MS medium), 6% MS medium +1 mg/l BAP+0.05 mg/l IBA and 6% MS medium+1 mg/l BAP+0.1 mg/l IBA. It was revealed that high concentration of IBA has negative effect on plants development, respectively 6% MS medium+1 mg/l BA+0.1 mg/l IBA was not optimal neither cultivars of potato. According to the results cultivars Zefira and Riviera had maximum potential for *in vitro* rooting (correspondingly: 82.97% and 100%) and shoots (100% and 87.34%) formation on 6% MS medium+1 mg/l BA+0.05 mg/l IBA but Nevsky gave maximum development (rooting 82% and shoot formation 87%) on 6% MS medium. In conclusion, both hormones combination presented in experiment with 30 g/l sucrose showed optimal result on *in vitro* growing potato cultivars Zefira and Riviera but best *in vitro* cultivation of Nevsky was revealed MS medium supplemented only 30 g/l sucrose without growth hormones, probably Nevsky has ability to produce itself the amount of hormones which is necessary for its normal growing.

### Biography

Maia Kukhaleishvili has completed his 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 great experiences in agriculture and biotechnology sphere.

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