

**INFLUENCE OF NUTRIENT MEDIA ON THE COEFFICIENT OF GROWTH,
DEVELOPMENT AND REPRODUCTION OF POTATO VARIETIES IN VITRO**

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Annotation: after 10 days of growth in the greenhouse, in vitro-micropropagated plants not only restored the STEM and leaf turgor, but also formed two to three new leaves. This showed that the period of ex-vitro acclimatization is over, and in vitro in the microclonal reproduction phase, vaccinated potato plants have to switch to soil under controlled greenhouse conditions

Keywords: in vitro , branches, node segments, microtuberization, bud formation, root formation.

Introduction. In the introduction of new innovative technologies into agricultural production, agrobiotechnologies of high-quality seed and commodity crop production are being introduced, taking into account the morphobiological properties of crop varieties and the conditions under which they are grown. In particular, the construction of in-vitro laboratories in the local conditions of potato farming, the development of methods for rapid cell-based reproduction of crop varieties, and the cultivation of high-quality private seeds, the increase in commodity yields in privordi, is becoming urgent. D. in the conditions of the Zarafshan Valley.T.Abdukarimov et al (1989) have shown that uchki meristema cell-based healthy potato varieties provide high yield for growth, development, productivity and as well as several reproductions. In vitro microclonal reproduction is actively used in the production of healthy planting material of food and ornamental plants. However, it needs to be further improved to increase the growth rates of in vitro microclones and increase the ex vitro viability of the regenerant. A promising approach for this purpose can be in vitro-inoculation of micropropagated plants with rhizobacteria that stimulate plant growth, in particular Azospirillum . However , the effect of Azospirillum inoculation on the behavior of microclones throughout the production process, including EC vitro adaptation of plants and productivity of food crops, has not been adequately studied. In this study, potatoes growing in vitro (*Solanum tuberosum* L.) microclones were inoculated with the *Azospirillum brasilense* strain Sp245 . Then the microclones were grown in the soil in the greenhouse and in the field, the experiment lasted 120 days. Root-bound bacteria were identified immunochemically, and the mitotic index of Root meristematic cells was determined by a cytological method. The found plant morphological indicators were Bud length, number of nodes in one bud, number of roots in one plant, maximum Root Length, leaf area, proportion of surviving plants in the soil, node yield and weight. Our results show that in vitro bacterial vaccination of potato microclones increases plant adaptation capacity ex vitro and increases minituber yield. The percentage of survival of field-grown vaccinated plants was 1.5 times higher than that of unvaccinated plants. The total Bush weight of one plant was more than 30% in vaccinated plants than in control plants. As a result of in vitro inoculation for all varieties, the yield of the Bush from an average square meter increased by more than 45%. This study was the first to show that *Azospirillum* inoculation of potato microclones significantly increases minituber yield by improving the adaptability of plants in the field while improving the quality of planting material produced in vitro.

Literature:

1. Абдукаримов Д.Т., Остонакулов Т.Э., Эргашев И.Т.-Первичное семеноводства картофеля сорта Зарафшан набезвирусной основе в хозяйствах Самаркандской области, Информационный листок, Тошкент,1989,4 с.

2. Tibbits T.W., Cao & W., W. Wheelers.-Growth potatoes for CELSS NASA contractor Report 177646. Department of Horticulture University of Wisconsin. WI 53706 USA, Prepared for notional Aeronautics and Space Administration Ames Research Center. 1994. p.189.
3. Muro, J., V. Díaz, J.L. Goñi & C. Lamsfus, 1997. Comparison of hydroponic culture and culture in a peat/sand mixture and the influence of nutrient solution and plant density on seed potato yields. Potato Research 40: 431-438.
4. Rolot, J.L. & H. Seutin, Soilless production of potato minitubers using a hydroponic technique. Potato Research. 1999.42 (in press)
5. Волков Д.В., Дауров Д.П., Абай Ж.К., Жапар К.К., Жамбакин К.Ж., Шамекова М.Х.-
Получения микроклубней картофеля в жидкой питательной среде. Земледелия и Растениеводства, Материалы национальной академии Белорус, 2020. 432-442 с,