# BOOK OF ABSTRACTS

# 3rd International Conference on Plant Biology

## (22nd SPPS Meeting)

**9-12 JUNE 2018**
**BELGRADE**

**Serbian Plant Physiology Society**

**Institute for Biological Research "Siniša Stanković", University of Belgrade**

**Faculty of Biology, University of Belgrade**

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fold, was the most highly expressed GA2-ox, while the expression of GA2-ox2 and GA2-ox3 only slightly increased compared to the control. In the explants cultivated on NM, expression of GA3-ox decreased slightly until the 7th day of cultivation and then increased up to 2-fold until the end of the experiment, while the expression of GA2-ox1 and GA2-ox2 was only slightly higher than in control. However, explants cultivated on IM showed the constant and significant decrease of GA3-ox (down to 7-fold) and increase of GA2-ox2 (up to 20-fold) expression. Here, we propose that continuous decrease in GA3-ox and increase in GA2-ox2 expression were favorable conditions for somatic embryo induction.

***Keywords:*** gene expression, gibberellins, somatic embryogenesis, spinach

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## Bud regeneration from root-tips of *Allium atropurpureum* Waldst. & Kit.

PP1-17

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*A. atropurpureum* is a natural rarity of Serbia, growing only in the area of Vojvodina. The vulnerability of its habitat by fragmentation and frequent and uncontrolled chemical treatment of surrounding agrarian areas, affects its status and the impoverishment of natural populations. Therefore, establishing a protocol for efficient *de novo* regeneration of this species for *ex situ* conservation was the aim of the present study. For callus induction, the apical root sections of axenic seedlings were cultivated on medium supplemented with 5 μM 2,4 D + 5 μM BA for 8 weeks. The obtained calli were friable, pale beige, without regeneration capacity. However, within these calli, a compact yellowish callus formed, and this type of callus had the capacity for bud formation when cultivated on media containing 0, 1, 5 or 10 μM TDZ, Kin or BA for 8 weeks. Calli cultivated on medium supplemented with 10 μM Kin exhibited the highest bud forming capacity, with the lowest level of hyperhydricity and albinism. Shoot bunches were further hardened on plant growth regulator-free medium for 8 weeks, and then single plants were detached and subcultivated on media with 0, 1, 5 or 10 μM $GA_3$ and grown at 12 °C, for bulblet induction. All plants formed bulblets, but bulblets cultivated on $GA_3$-containing media multiplied by setting up to 10 secondary bulblets. Obtained bulblets are suitable propagules, as they easily develop into plants. This protocol is convenient for clonal propagation of this endangered plant species, as well as for other applications in its research and improvement.

***Keywords:*** *Allium atropurpureum*, buds, bulblets, roots, tissue culture

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