

Department of Biology and Ecology,  
Faculty of Sciences and Mathematics, University of Niš  
Institute for Nature Conservation of Serbia  
Science Technology Park Niš

**15<sup>th</sup> Symposium on the Flora of  
Southeastern Serbia  
and Neighboring Regions**  
Niš, 23<sup>th</sup> to 25<sup>th</sup> May, 2025

Abstracts

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## Book of Abstracts

### Publishers

Department of Biology and Ecology, Faculty of Sciences and Mathematics,  
University of Niš

### Organizers

Department of Biology and Ecology, Faculty of Sciences and Mathematics,  
University of Niš

Institute for Nature Conservation of Serbia, Belgrade  
Science Technology Park Niš

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### Printed by

Unigraf-X-Copy Niš

Number of copies

210

Niš, 2025

## **Improvement of carrot seed germination by *Bacillus* spp. isolates**

**Maksimović, J., Buzurović, U., Buntić, A., Đikanović, N.,  
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Carrots (*Daucus carota* L.) are horticultural plants that are cultivated on large agricultural areas for human consumption. Recently, various plant growth-promoting (PGP) bacteria have been used to improve the germination of seeds of different plant species. In this study, we investigated the impact of different *Bacillus* isolates on the germination of carrot seeds with the aim to identify beneficial bacteria that could enhance seedling emergence, by using the filter paper method. The carrot seeds were treated with four different PGP *Bacillus* isolates (BHC 4.7, BHC 5.1, BHC 5.6 and BHC 7.6), while the untreated seeds were used as the control treatment. After 14 days of incubation at room temperature, the number of germinated/ungermated seeds was determined and the relative seed germination index (RSGI%) was calculated. The highest RSGI value was recorded for carrot seeds treated with BHC 4.7 (108.04%), while similar results were also recorded for the BHC 7.6 treatment (104.44%). In addition, BHC 5.1 and BHC 5.6 treatments had no effect on improving carrot seed germination. Our results show that the use of various bacterial isolates such as BHC 4.7 and BHC 7.6 can be a natural alternative to chemical treatments to improve carrot seed germination.

**Acknowledgements:** This study was supported by the Ministry of Science, Technological Development and Innovations of the Republic of Serbia, contract No. 451-03-136/2025-03/200011, and by the Science Fund of the Republic of Serbia, GRANT No. 10815, The necessity of healthy crops: Development of a multifunctional bacterial inoculant for the biological protection of cereals - BioHealCrop.

## **Assessment and management of soil fertility for vineyard establishment (*Vitis vinifera* L.)**

**Filipović, S.<sup>1</sup>, Vučenović, I.<sup>1</sup>, Đurović, S.<sup>1</sup>, Mitić, S.<sup>2</sup>, Radović,  
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**CIP - Каталогизација у публикацији  
Народна библиотека Србије, Београд**

581.9(4-924.64)(048)  
581.5(4-924.64)(048)  
615.322:582(4-924.64)(048)

**SYMPOSIUM on the Flora of Southeastern Serbia and Neighbouring  
Regions (15 ; 2025 ; Niš)**

[Book of] Abstracts / 15th Symposium on the Flora of Southeastern Serbia and Neighboring Regions, Niš, 23th to 25th May, 2025 ; [organizers] University of Niš, Faculty of Sciences and Mathematics, Department of Biology and Ecology [and] Institute for Nature Conservation of Serbia [and] Science Technology Park Niš ; [editors] Danijela Nikolić, Zorica Stojanović-Radić, Dragana Jenačković Gocić]. - Niš : Faculty of Sciences and Mathematics, Department of Biology and Ecology, 2025 (Niš : Unigraf-X-Copy). - 193 str. ; 21 cm

Tiraž 210. - Registar.

ISBN 978-86-6275-176-8 (FSM)

а) Флора -- Балканско полуострво -- Апстракти б) Биљне заједнице -- Балканско полуострво -- Апстракти в) Лековите биљке -- Балканско полуострво -- Апстракти

COBISS.SR-ID 168629001