



BOOK of ABSTRACTS

5th INTERNATIONAL CONFERENCE on PLANT BIOLOGY

(**24th SPPS Meeting**)

**3-5 OCTOBER 2024
SREBRNO JEZERO
SERBIA**



Serbian Plant Physiology Society

**Institute for Biological Research "Siniša Stanković" – National Institute
of the Republic of Serbia, University of Belgrade**

Faculty of Biology, University of Belgrade

Serbian Biological Society "Stevan Jakovljević" Kragujevac

**Institute of Molecular Genetics and Genetic Engineering,
University of Belgrade**

BOOK OF ABSTRACTS

**5th International Conference
on Plant Biology
(24th SPPS Meeting)**



3–5 October 2024, Srebrno jezero

.....
CIP - Каталогизација у публикацији Народна библиотека Србије, Београд

581(048)

INTERNATIONAL Conference on Plant Biology (5 ; 2024 ; Srebrno jezero)

Book of Abstracts / 5th International Conference on Plant Biology [and] (24th SPPS Meeting), 3–5 October 2024, Srebrno jezero ; [organized by] Serbian Plant Physiology Society ... [et al.] ; [editor Milica Milutinović and Ksenija Jakovljević]. - Belgrade : Serbian Plant Physiology Society : University, Institute for Biological Research "Siniša Stanković" : University, Faculty of Biology, 2024 (Zemun : Alta Nova). - 211 str. : ilustr. ; 24 cm

Tiraž 30. - Registar.

ISBN 978-86-912591-7-4 (SPPS)

1. Društvo za fiziologiju biljaka Srbije. Sastanak (24 ; 2024 ; Srebrno jezero)

а) Ботаника -- Апстрактн

COBISS.SR-ID 152475657

5th International Conference on Plant Biology
(24th SPPS Meeting)

3–5 October, Srebrno jezero

Organizing Committee (in alphabetical order by last name):

Milica Milutinović – President

Tijana Banjanac

Đorđe Božović

Marija Ćosić

Marija Đurić

Ksenija Jakovljević

Nikolina Matić

Tomica Mišljenović

Filip Nikolić

Luka Petrović

Jelena Savić

Sofija Stupar

Miloš Todorović

Milena Trajković

Scientific Committee (in alphabetical order by last name):

Nevena Banjac (Belgrade, Serbia)

Milan Borišev (Novi Sad, Serbia)

Ana Ćirić (Belgrade, Serbia)

Dragana Cvetković (Belgrade, Serbia)

Olivia C. Demurtas (Rome, Italy)

Namraj Dhami (Gandaki, Nepal)

Gianfranco Diretto (Rome, Italy)

Ian Dodd (Lancaster, UK)

Guido Grossmann (Düsseldorf, Germany)

Angelos K. Kanellis (Thessaloniki, Greece)

Marianna Marschall (Eger, Hungary)

Stefan Martens (Trento, Italy)

Germán Martínez (Uppsala, Sweden)

Sonja Milić Komić (Belgrade, Serbia)

Danijela Miljković (Belgrade, Serbia)

Dijana Krstić Milošević (Belgrade, Serbia)

Snežana Milošević (Belgrade, Serbia)

Milan Miroslavljević (Novi Sad, Serbia)

Danijela Mišić (Belgrade, Serbia)

Václav Motyka (Prague, Czech Republic)

Slavica Ninković (Belgrade, Serbia)

Velemir Ninković (Uppsala, Sweden)

Ljiljana Prokić (Belgrade, Serbia)

Aneta Sabovljević (Belgrade, Serbia)

Marko Sabovljević (Belgrade, Serbia)

Jelena Samardžić (Belgrade, Serbia)

Raman Samusevich (Prague, Czech Republic)

Marijana Skorić (Belgrade, Serbia)

Ádám Solti (Budapest, Hungary)

Milan Stanković (Kragujevac, Serbia)

Milorad Vujičić (Belgrade, Serbia)

Publishers

Serbian Plant Physiology Society

Institute for Biological Research “Siniša Stanković” – National Institute of Republic of Serbia,
University of Belgrade

Faculty of Biology, University of Belgrade

Editor

Milica Milutinović and Ksenija Jakovljević

Graphic design

Dejan Matekalo

Prepress

Marija G. Gray

Year published

2024

Printed by

Alta Nova, Zemun

Print run

30 pcs

Oxalic acid production and aggressiveness of *Sclerotinia* spp. isolates

PP3-11

Milica Mihajlović¹, Maja Živanović¹, Jovana Hrustić¹, Aleksandra Jovanović², Brankica Pešić¹

¹ Institute of Pesticides and Environmental Protection, Belgrade, Serbia

² Institute for the Application of Nuclear Energy INEP, Belgrade, Serbia

(Milica Mihajlović, diplagronom@gmail.com, +381649061818)

Sclerotinia sclerotiorum and *Sclerotinia minor* are two necrotrophic fungal species that cause white mould disease in many crops. Oxalic acid, secreted by *Sclerotinia* species, is recognized to be a major virulence factor involved in the induction of cell death in host plants during infection establishment. The aim of this study was to determine relationship between oxalic acid production in *S. sclerotiorum* and *S. minor* isolates and their aggressiveness toward lettuce as a model plant. Ten isolates of *S. sclerotiorum* and ten isolates of *S. minor*, derived from diseased lettuce plants, were tested simultaneously for their ability to produce oxalic acid and to cause necrosis in an inoculation experiment. Oxalic acid production was measured spectrophotometrically in a liquid medium, while the inoculation test was conducted on lettuce leaf discs. As a control, sterile liquid medium and PDA (Potato Dextrose Agar) plugs were used, respectively. Higher production of oxalic acid was recorded in *S. minor* isolates, ranging from 19 to 96.3 µg oxalic acid mg⁻¹ dry mycelium weight, while *S. sclerotiorum* isolates produced significantly lower amount of oxalic acid (21.9 to 29.9 µg oxalic acid mg⁻¹ dry wt). All *Sclerotinia* spp. isolates were able to establish infection in inoculated leaf disks. On average, the diameter of necrosis was slightly higher for *S. minor* isolates (11.7 mm), although the difference between species was not statistically significant. Correlation between aggressiveness and oxalic acid production among *Sclerotinia* spp. isolates was not recorded, suggesting the contribution of some other factors to the necrosis establishment and spreading.

Keywords: virulence factor, lettuce, white mould disease

Acknowledgement: The study was funded by the Ministry of Science, Technological Development and Innovation, Grant No. 451-03-66/2024-013/200214 and 451-03-66/2024-03/200019.