



**5TH INTERNATIONAL SYMPOSIUM ON
AGRICULTURAL SCIENCES**



AGRORES

2016



BOOK OF ABSTRACTS



February 29 - March 3, 2016
Banja Luka, Republic of Srpska, Bosnia and Herzegovina

BOOK OF ABSTRACTS



AGRORES
2016

5th INTERNATIONAL SYMPOSIUM ON
AGRICULTURAL SCIENCES

February 29 – March 3, 2016
Banja Luka, Bosnia and Herzegovina

BOOK OF ABSTRACTS



5th International Symposium on Agricultural Sciences "AgroReS 2016"
February 29 – March 3, 2016; Banja Luka, Bosnia and Herzegovina

Publisher

University of Banja Luka
Faculty of Agriculture
Univerzitetski grad
Bulevar vojvode Petra Bojovića 1A
78.000 Banja Luka, RS-BiH

Editor in Chief

Gordana Đurić

Technical Editors

Vesna Mrdalj, Đorđe Savić, Marinko Vekić

Circulation

300

CIP - Каталогизација у публикацији
Народна и универзитетска библиотека
Републике Српске, Бања Лука
631(048.3)(0.034.2)
INTERNATIONAL Symposium on Agricultural Sciences (5 ;
Banja Luka ; 2016)
Book of Abstracts [Elektronski izvor] / 5th International
Symposium on Agricultural Sciences, February 29 - March 3,
2016, Banja Luka, Bosnia and Herzegovina ; [organizer
University of Banjaluka, Faculty of Agriculture ; editor in chief
Gordana Đurić]. - Banja Luka : University of Banjaluka,
Faculty of Agriculture = Univerzitet u Banjoj Luci,
Poljoprivredni fakultet, 2016. - 1 elektronski optički disk (CD-
ROM) : tekst ; 12 cm
Nasl. sa nasl. ekrana. - Na nasl. str.: AgroRes 2016. - Tiraž 300.
- Registar.
ISBN 978-99938-93-37-0
1. University of Banjaluka, Faculty of Agriculture
COBISS.RS-ID 5709592

5th INTERNATIONAL SYMPOSIUM ON
AGRICULTURAL SCIENCES



AGRORES
2016

BOOK OF ABSTRACTS

February 29 – March 3, 2016
Banja Luka, Bosnia and Herzegovina

5th INTERNATIONAL SYMPOSIUM
ON AGRICULTURAL SCIENCES



ORGANIZERS



University of Banja Luka
Faculty of Agriculture



in cooperation with



University of Ljubljana
Biotechnical Faculty

University of Ljubljana
Biotechnical Faculty



University of Novi Sad
Faculty of Agriculture



CIHEAM
IAM BARI

Mediterranean Agronomic
Institute of Bari



УНИВЕРЗИТЕТ У БАЊАЛУЦИ ИНСТИТУТ ЗА ГЕНЕТИЧНЕ РЕСУРСЕ
UNIVERSITY OF BANJALUKA GENETIC RESOURCES INSTITUTE

University of Banja Luka
Genetic Resources Institute



SUPPORTED BY

Ministry of Science and Technology of Republic of Srpska
Ministry of Agriculture, Forestry and Water Management of Republic of Srpska
City of Banja Luka

ORGANIZING COMMITTEE

President

Gordana Đurić

Secretary

Branko Đurić

Members

Stoja Jotanović; Željko Vaško; Nebojša Savić; Zlatan Kovačević; Miljan Cvetković; Gordana Rokvić; Siniša Mitrić; Đorđe Savić; Vesna Mrdalj; Borut Bosančić; Branimir Nježić; Marinko Vekić; Dragan Brković; Mladen Babić; Zdravko Marković; Biljana Uletilović.

SCIENTIFIC COMMITTEE

President

Janez Hribar (SVN)

Members

Alban Ibraliu (ALB); Aleksandar Ostojić (BIH); Ana Marjanović Jeromela (SRB); Azeddine Si Ammour (ITA); Borislav Raičić (BIH); Božo Važić (BIH); Branislav Stanković (SRB); Brankica Tanović (SRB); Branko Ćupina (SRB); Branko Đurić (BIH); Daniel Falta (CZE); Danijela Kirovski (SRB); Danijela Kondić (BIH); Davorin Gazvoda (SVN); Desimir Knežević (SRB); Dimitrije Marković (BIH); Dragan Mikavica (BIH); Dragan Nikolić (SRB); Dragana Božić (SRB); Dragoja Radanović (SRB); Dragutin Matarugić (BIH); Dragutin Mijatović (BIH); Duška Delić (BIH); Đorđe Krstić (SRB); Đorđe Savić (BIH); Emil Erjavec (SVN); Ernst Stadlober (AUT); Éva Lehoczky (HUN); Eva Thorn (SWE); Evica Mratinić (SRB); Franci Štampar (SVN); Gabriel Popesku (ROU); Gheorghe Savin (MDA); Goran Mirjanić (BIH); Gordana Đurić (BIH); Hamid Čustović (BIH); Hamid El Bilali (ITA); Henryk Flachowsky (DEU); Ilija Komljenović (BIH); Ivana Majić (HRV); Ivana Maksimović (SRB); Karoly Hrotko (HUN); Katya Uzundzhaliyeva (BGR); Klime Beleski (MKD); Ljiljana Radivojević (SRB); Martin Banse (DEU); Mihajlo Marković (BIH); Milanka Drinić (BIH); Milenko Blesić (BIH); Miljan Cvetković (BIH); Mirha Đikić (BIH); Mirjana Đukić Stojčić (SRB); Mirjana Vasić (SRB); Mirjana Žabić (BIH); Miroslav Plavšić (SRB); Mirsad Kurtović (BIH); Mladen Todorović (ITA); Nada Korać (SRB); Nada Parađiković (HRV); Nebojša Novković (SRB); Nebojša Savić (BIH); Nedeljko Latinović (MNE); Nikola Mičić (BIH); Nilda Ersoy (TUR); Novo Pržulj (BIH); Pavol Otepka (SVK); Radko Rajmon (CZE); Radovan Savić (SRB); Rodoljub Oljača (BIH); Sanja Radonjić (MNE); Saša Dragin (SRB); Silvia Strajeru (ROU); Siniša Mitrić (BIH); Slavča Hristov (SRB); Snežana Trivunović (SRB); Snježana Hrnčić (MNE); Stevo Mirjanić (BIH); Stoja Jotanović (BIH); Suzana Atlagić Gotovac (BIH); Tatjana Marković (SRB); Tatjana Pandurević (BIH); Tihomir Predić (BIH); Tomislav Jemrić (HRV); Tomo Milošević (SRB); Vaskrsija Janjić (BIH); Vaso Bojanić (BIH); Velemir Ninković (SWE); Vesna Gantner Kuterovac (HRV); Vida Todorović (BIH); Viktor Gjamovski (MKD); Vladan Jovanović (SRB); Vladimir Meglič (SVN); Vladislav Ognjanov (SRB); Vojo Radić (BIH); William H. Meyers (USA); Zlatan Kovačević (BIH); Zoran Marković (SRB); Zorica Vasiljević (SRB); Željko Vaško (BIH).

CSP8

LIPID PEROXIDATION INTENSITY IN SOYBEAN AND MAIZE PLANTS INOCULATED WITH PGPR

Biljana Kiprovska, Ivana Koleška, Đorđe Malenčić,
Miloš Rajković, Simonida Đurić, Vladimir Sikora

*Institute of Field and Vegetable Crops, Novi Sad, Serbia,
University of Banja Luka, Faculty of Agriculture, Banja Luka, B&H
Faculty of Agriculture, University of Novi Sad, Novi Sad, Serbia*

The purpose of this work was to define the reaction of soybean and maize plants to inoculation with plant growth-promoting rhizobacteria (PGPR) [isolates of *Azotobacter* (AB), *Streptomyces* (S) and mixture of these (MIX)], by investigating lipid peroxidation intensity. Lipid peroxidation (LP) represents a valuable biomarker of cell degradation and oxidative stress secondary effects. It is analyzed as a response of plants exposed to various (a)biotic factors and in this work it is expressed as nmol malondialdehyde (MDA) equivalents in fresh leaves and roots of investigated plants. Seeds of soybean (cultivar Bečejka) and maize (hybrid NS 640) were inoculated with aqueous inoculums of tested PGPRs and grown under field conditions, without fertilization. Plants were harvested for biochemical analyses at three specific stages of development: 21-day-old seedlings, full bloom, seed beginning stage and, at the end of the experiments, yield was recorded. Inoculated plants had similar values of LP intensity as plants from control (35.1-98.9 nmol MDA g⁻¹ fresh weight). There were no significant differences in LP intensity between control and treatments within the sampling stage, however the amount of MDA accumulated during the vegetation period (up to 60%), possibly because of the developmental processes in soybean and maize. As for seed yield (t ha⁻¹), both investigated species had 5-7% higher yield when inoculated with MIX inoculum, which highlighted the coupled inoculation as possible potent biofertilizer in soybean and maize organic production.

Key Words: Soybean, Maize, Lipid Peroxidation, Oxidative