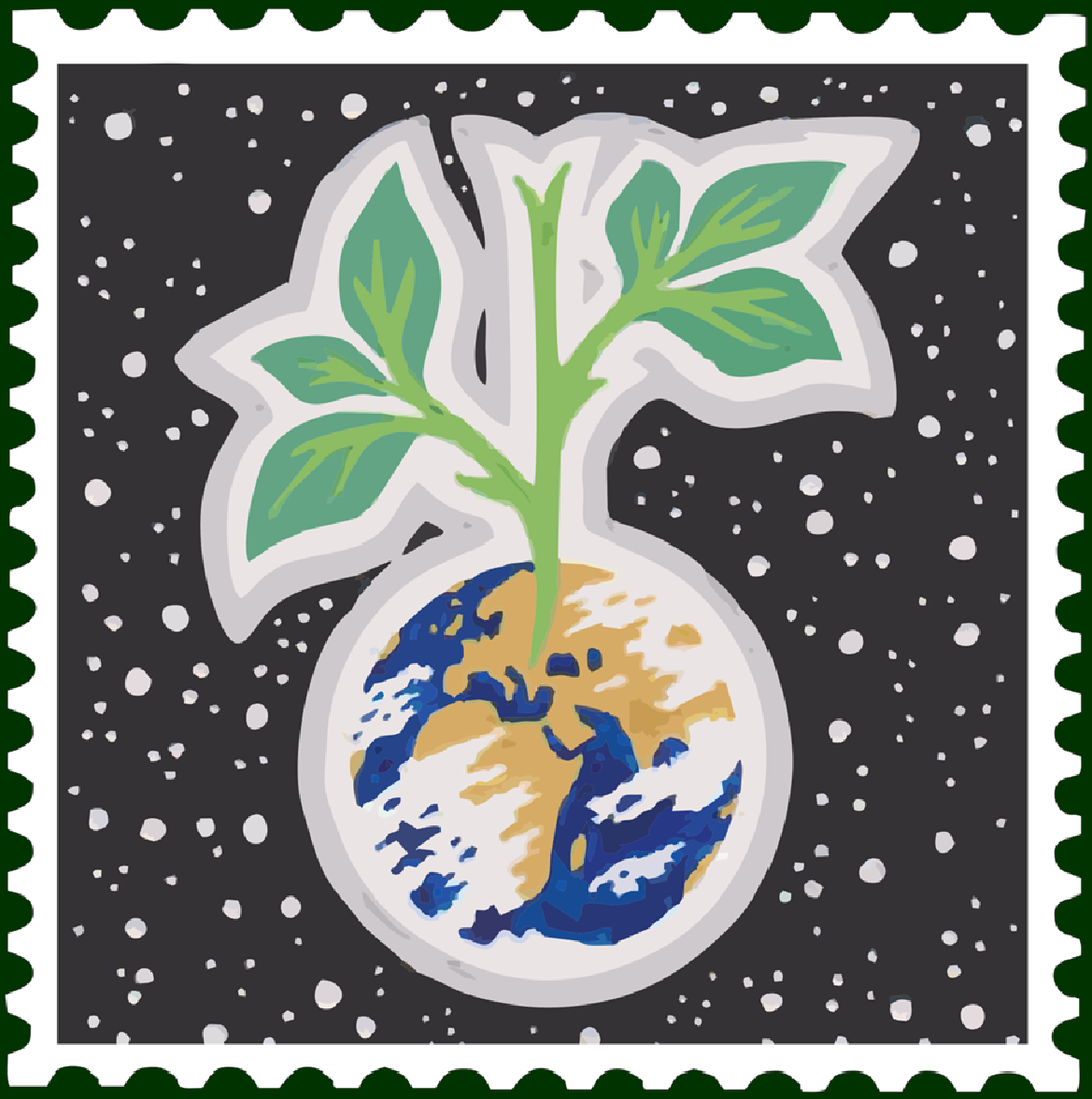


BOOK OF ABSTRACTS

First Legume Society Conference

2013: A Legume Odyssey

9-11 May 2013, Novi Sad, Serbia

First Legume Society Conference
2013: A Legume Odyssey

First Legume Society Conference
2013: A Legume Odyssey

Book of Abstracts

Editors:
Aleksandar Mikić
Diego Rubiales
Vuk Đorđević

International Legume Society
Institute of Field and Vegetable Crops, Novi Sad, Serbia
2013

Scientific Committee

Michael Abberton (International Institute of Tropical Agriculture, Nigeria)
Paolo Annicchiarico (CRA, Centro di Ricerca per le Produzioni Foraggere e Lattiero-Casearie, Italy)
Marina Carbonaro (INRAN, Italy)
Branko Ćupina (University of Novi Sad, Faculty of Agriculture, Serbia)
Vuk Đorđević (Institute of Field and Vegetable Crops, Serbia)
Gérard Duc (INRA, France)
Noel Ellis (Aberystwyth University, IBERS, UK)
Aleksandar Mikić (Institute of Field and Vegetable Crops, Serbia)
Teresa Millan (University of Córdoba, Spain)
Fred Muehlbauer (Washington State University, USA)
Diego Rubiales (CSIC, Institute for Sustainable Agriculture, Spain)
Marta Santalla (CSIC, Misión Biológica de Galicia, Spain)
Petr Smýkal (Palacký University at Olomouc, Czech Republic)
Fred Stoddard (University of Helsinki, Finland)
Wojciech Święcicki (Institute of Plant Genetics, Poland)
Cengiz Toker (Akdeniz University, Turkey)
Carlota Vaz Patto (Universidade Nova de Lisboa, ITQB, Portugal)
Tom Warkentin (University of Saskatchewan, Canada)

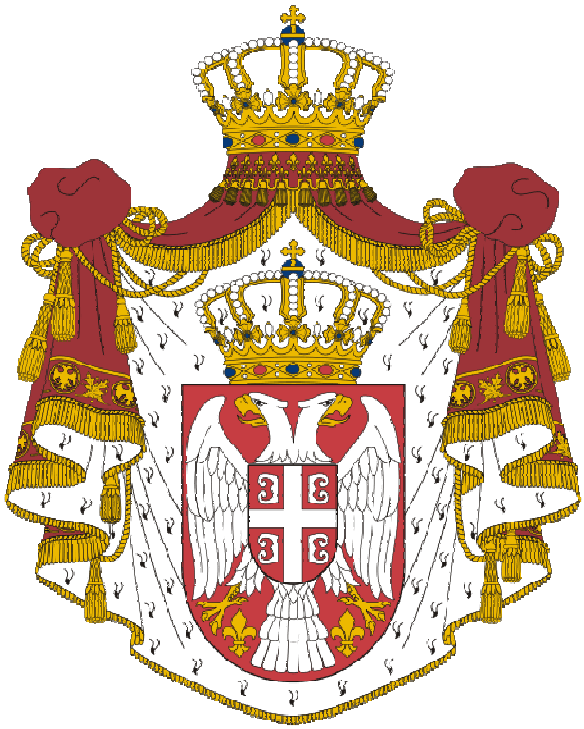
Local Organising Committee

Svetlana Antanasović (University of Novi Sad, Faculty of Agriculture, Novi Sad)
Vuk Đorđević (Institute of Field and Vegetable Crops, Novi Sad)
Rada Jovanović (Institute of Field and Vegetable Crops, Novi Sad)
Đura Karagić (Institute of Field and Vegetable Crops, Novi Sad)
Snežana Katanski (Institute of Field and Vegetable Crops, Novi Sad)
Đorđe Krstić (University of Novi Sad, Faculty of Agriculture, Novi Sad)
Jelena Marinković (Institute of Field and Vegetable Crops, Novi Sad)
Ana Marjanović-Jeromela (Institute of Field and Vegetable Crops, Novi Sad)
Vojislav Mihailović (Institute of Field and Vegetable Crops, Novi Sad)
Aleksandar Mikić (Institute of Field and Vegetable Crops, Novi Sad)
Sanja Mikić (Institute of Field and Vegetable Crops, Novi Sad)
Jegor Miladinović (Institute of Field and Vegetable Crops, Novi Sad)
Branko Milošević (Institute of Field and Vegetable Crops, Novi Sad)
Zorica Nikolić (Institute of Field and Vegetable Crops, Novi Sad)
Mirjana Vasić (Institute of Field and Vegetable Crops, Novi Sad)
Sanja Vasiljević (Institute of Field and Vegetable Crops, Novi Sad)

Technical Editors:
Sanja Mikić and Aleksandar Mikić

ISBN 978-86-80417-44-8

Printed by Abraka Dabra, Novi Sad, Serbia, in 300 copies



Under the auspices of

Ministry of Education, Science and Technological Development
of the Republic of Serbia

Secretariat of the Science and Technological Development
of the Province of Vojvodina

Secretariat of Agriculture, Forestry and Water Management
of the Province of Vojvodina

Programme

Antioxidant profile of alfalfa (*Medicago sativa* L.)

Sanja Vlaisavljević[1], Biljana Kaurinović[1], Sanja Vasiljević[2], Mira Popović

[1]*Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Science, University of Novi Sad, Novi Sad, Serbia*
[2]*Institute of Field and Vegetable Crops, Novi Sad, Serbia*

Alfalfa (*Medicago sativa* L.) is one of the most important species of the Leguminosae (Fabaceae) family. Besides being important food for animals, this species is rich source of phytochemicals that play an important role in human health. The alfalfa contains many phenolic compounds such as coumesterol, apigenin, luteolin, quercetin, and isoflavonoids that have a positive effect on the menopausal disorders such as osteoporosis or breast cancer. All these compounds are known as natural antioxidants because of their ability to neutralize free radical species giving them a hydrogen atom. In this study we have determined the antioxidant potential of ethylacetate extracts (different solutions) on several radical and non-radical species such as: DPPH (2,2-diphenyl-1-picrylhydrazyl), $O_2^{-\bullet}$ (superoxide anion radical) , NO • and H_2O_2. All measurement are based on spectrophotometric methods, where RSC (radical species capacity) was determined in percentage: RSC (%) = 100 × (A_{blank}-A_{sample}/A_{blank}). From the RSC values, there were obtained IC_{50} values, which represented the concentrations of the ethylacetate extracts that caused 50% neutralization and it was determined by linear regression analysis. All results were compared with the commercial synthetic antioxidant BHT (*terc*-butyl hydroxytoluene) as positive control. Ethylacetate extracts was shown the best capacity on the neutralization of DPPH radical, because its IC_{50} value (11.29 μg/ml) is similar to the IC_{50} of positive control BHA (IC_{50}=11.08 μg/ml), while at $O_2^{-\bullet}$ (IC_{50}=12.90 μg/ml) and H_2O_2 (IC_{50}=11.28 μg/ml) was showed moderate activity. The lowest activity showed by NO • radical (IC_{50}=30.30 μg/ml). Generally, extract shows good antioxidant activity, which indicates that it would be useful to extend the research to the field of pharmacy and medicine.

Acknowledgements
The project 172058 of the Ministry of Education, Science and Technological Development of the Republic of Serbia

CIP – Каталогизација у публикацији
Библиотека Матице српске, Нови Сад

633.31/.37(048.3)

INTERNATIONAL Legume Society. Conference (1 ; 2013 ; Novi Sad)
Book of abstracts / First Legume Society Conference 2013 A Legume Odyssey ; editors Aleksandar Mikić, Diego Rubiales, Vuk Đorđević. - Novi Sad : International Legume Society : Institute of Field and Vegetable Crops, 2013 (Novi Sad : Abraka dabra). - 328str. ; 29 cm

Tiraž 300. – Registar.

ISBN 978-86-80417-44-8

a) Махунарке – Апстракти
COBISS.SR-ID 278447623

In the rich world of global agriculture, diverse legumes can play key roles to develop environment-friendly production, supplying humans and animals with the products of high nutritional value.

The Legume Society was initiated in 2011 with two primary missions. One of them was to treasure the rich legume research tradition of the European Association for Grain Legume Research (AEP), with emphasis on carrying out its the triennial legume-devoted conferences. Another one is to fulfill a long-term strategy of linking together the research on all legumes worldwide, from grain and forage legumes pharmaceutical and ornamental ones and from the Old World to the Americas.

We do anticipate that the First Legume Society Conference will be a unique and genuine contribution to our common goals: to promote the legume research and all its benefits into all spheres of the society, linking science with stakeholders and decision-makers, and to demonstrate how an efficient, useful and firm network of the legume researchers of the world is possible and sustainable.

Published by:
International Legume Society
Institute of Field and Vegetable Crops, Novi Sad, Serbia