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Croatian  
2015 *jsa* 10  
International  
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10  
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16. - 20. veljače 2015. godine  
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2	Agroekonomika i agrosociologija Agricultural Economics and Rural Sociology	Prof. dr. sc. Zoran Grgić
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4	Povrčarstvo, ukrasno, aromatično i ljekovito bilje Vegetable Growing, Ornamental, Aromatic and Medicinal Plants	Izv. prof. dr. sc. Nina Toth
5	Ratarstvo Field Crop Production	Prof. dr. sc. Ana Pospišil
6	Ribarstvo, lovstvo i pčelarstvo Fisheries, Game Management and Beekeeping	Doc. dr. sc. Tea Tomljanović
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## Riječ urednika

Poštovane kolegice i kolege,  
cijenjeni čitatelji,

pred Vama su još jedan Zbornik radova i Zbornik sažetaka simpozija agronoma, u 50. godini njegovog postojanja.

Za 50. hrvatski i 10. međunarodni simpozij agronoma prihvaćeno je 278 priloga koji će biti prezentirani usmeno ili kao poster, od toga 186 iz Hrvatske i 92 iz inozemstva. Od ukupnog broja domaćih radova ili sažetaka, na 57 (30,6%) prvi autor je s Agronomskog fakulteta u Zagrebu, na 38 (20,4%) s Poljoprivrednog fakulteta u Osijeku, na 15 (8,1%) s Poljoprivrednog instituta Osijek, itd. Iz inozemstva su zastupljeni prilozi iz 24 države: Turska (17), Srbija (12), Bosna i Hercegovina (7), Kosovo (8), Italija (7), Bugarska (6), Slovenija (5), Iran (5), Albanija (5), Slovačka (3), Moldavija (2), Južna Koreja (2), Rusija (2), Rumunjska (1), Mađarska (1), Makedonija (1), Egipat (1), Češka (1), Grčka (1), Alžir (1), Njemačka (1), Francuska (1), Austrija (1) i Ukrajina (1).

Kao i prethodnih godina, teme simpozija vezane su uz sve grane poljoprivrede, a izlaganja će se održati u okviru devet sekcija: 1) Agroekologija, ekološka poljoprivreda i zaštita okoliša, 2) Agroekonomika i agrosociologija, 3) Genetika, oplemenjivanje bilja i sjemenarstvo, 4) Povrćarstvo, ukrasno, aromatično i ljekovito bilje, 5) Ratarstvo, 6) Ribarstvo, lovstvo i pčelarstvo, 7) Stočarstvo, 8) Vinogradarstvo i vinarstvo i 9) Voćarstvo. Radovi iz područja zaštite bilja, poljoprivredne tehnike i tehnologije te sigurnosti hrane uvršteni su u jednu od postojećih sekcija sukladno temi prispjelog rada.

U plenarnim predavanjima predočeno je stanje i prijedlog razvitka poljoprivrede Hrvatske te "zelena infrastruktura" i razvoj u okviru održivosti poljoprivredne proizvodnje. Posebna pozornost posvećena je klimi Hrvatske u strategiji zaštite tala Europske Unije povodom Međunarodne godine tla - 2015., koju FAO provodi pod krilaticom "Zdravo tlo za zdrav život". Ono po čemu ćemo sigurno pamtili 2014. godinu su katastrofalne poplave koje su zahvatile gotovo cijelu Hrvatsku, osobito županjsku Posavinu, gdje su utvrđene i najveće posljedice. U skladu sa zadržavanjem vode na poplavljenjima površini preporučene su agrotehničke mjere sanacije i rekultivacije tala za ponovnu uspostavu biljne proizvodnje na tim površinama. U svjetlu aktualnih, kaotičnih klimatskih ekstrema predočeni su učinci klimatskih promjena na biljne bolesti te na fiziologiju voćaka i kvalitetu voća.

U okviru simpozija organiziran je okrugli stol na temu "Etički trendovi u znanosti i nastavi" i "Zaštita autohtonih poljoprivrednih proizvoda".

Predočeni prilozi tiskani su u cjelovitom obliku (119 radova) ili kao sažetak (159 sažetaka), a nalaze se u tiskanom (knjiga) i elektronskom obliku (USB stick i web <http://sa.agr.hr>). Svaki rad tiskan u Zborniku radova je recenziran od dva recenzenta. Sažeci su pregledani od voditelja sekcije i neznatno korigirani, pri čemu nije mijenjan smisao rečenice. Na žalost, zbog kratkog roka za pregled nije bilo vremena za autorizaciju teksta pa su moguće određene pogreške za koje se unaprijed ispričavam.

Nadam se da će ovi radovi i sažeci biti relevantan izvor informacija svima koji ih budu trebali. Ovom prigodom želim zahvaliti svim autorima, recenzentima i voditeljima sekcija na poslanim priložima i doprinosu pri uređivanju radova ili sažetaka.

Osobito zahvaljujem pokroviteljima simpozija – Predsjedniku Republike Hrvatske, Ministarstvu znanosti, obrazovanja i sporta RH, Ministarstvu poljoprivrede RH te suorganizatorima simpozija na nesebičnoj suradnji i svekolikoj potpori.

Svim agronomima, posebice autorima priloga, bivšim i sadašnjim, čestitam 50. obljetnicu simpozija agronoma - 2015. godine.

Zagreb, 27. siječnja 2015.

Prof. dr. sc. Milan Pospišil

Glavni urednik

## A Word from the Editor

Dear Colleagues,

Respected readers,

In your hands are one more Book of Abstracts and the Proceedings of the Symposium on Agriculture, in the 50<sup>th</sup> year of its existence.

278 contributions have been accepted for oral or poster presentation at the 50<sup>th</sup> Croatian and 10<sup>th</sup> International Symposium on Agriculture, 186 of which are from Croatia and 92 from other countries.

Of the total number of domestic papers and abstracts, the first author in 57 (30.6%) comes from the Faculty of Agriculture in Zagreb, in 38 (20.4%) from the Faculty of Agriculture in Osijek, in 15 (8.1%) the Agricultural Institute in Osijek, etc.

Foreign contributions represent 24 countries: Turkey (17), Serbia (12), Bosnia and Herzegovina (7), Kosovo (8), Italy (7), Bulgaria (6), Slovenia (5), Iran (5), Albania (5), Slovak Republic (3), Moldova (2), Republic of Korea (2), Russia (2), Romania (1), Hungary (1), Macedonia (1), Egypt (1), Czech Republic (1), Greece (1), Algeria (1), Germany (1), France (1), Austria (1) and Ukraine (1).

As in previous years, the symposium topics cover all branches of agriculture, and presentations are divided into nine sections: 1) Agroecology, Ecological Agriculture and Environmental Protection, 2) Agricultural Economics and Rural Sociology, 3) Genetics, Plant Breeding and Seed Production, 4) Vegetable Growing, Ornamental, Aromatic and Medicinal Plants, 5) Field Crop Production, 6) Fisheries, Game Management and Beekeeping, 7) Animal Husbandry, 8) Viticulture and Enology and 9) Pomology. The papers in fields of plant protection, agricultural engineering and technology and food safety are included in one of the offered sections in accordance with their topics.

The plenary lectures illustrate the current situation and the proposal for development of Croatian agriculture, as well as “green infrastructure” and sustainable development of agricultural production. Special attention is given to Croatian soils within strategy for protection of European Union soils created on the occasion of the International Year of Soil - 2015 and implemented by FAO under the slogan “Healthy soil for healthy life”. Year 2014 will most be remembered by the catastrophic floods that affected almost entire Croatia, especially Županjska Posavina where the flooding had greatest consequences. In accordance with the retention of water on flooded surfaces, agro-technical practices for soil rehabilitation and re-cultivation are recommended in order to re-establish crop production in those areas. In light of current chaotic climate extremes, the effects of climate change on plant diseases and the physiology of fruit trees and fruit quality are presented. As part of the Symposium a roundtable discussion on “Ethical trends in research and teaching” and “Protection of autochthonous agricultural products” is organized.

Submitted contributions are printed as full text papers (119 papers) and abstracts (159 abstracts) and are available in paper form (book) or in electronic form (USB and web <http://sa.agr.hr>). Each paper included in the Proceedings was reviewed by two reviewers. Abstracts were reviewed and slightly revised by relevant section moderators, but their meaning remains unchanged. Unfortunately, due to short time for reviewing, text authorization was not possible and I apologize for the errors that might have sneaked in.

I hope that these papers and abstracts will be a relevant source of information to all who will need them.

I thank all authors, reviewers and section moderators for sending contributions and for editing the papers and abstracts.

Special thanks goes to the President of the Republic of Croatia, the Ministry of Science, Education and Sport of the Republic of Croatia, the Ministry of Agriculture of the Republic of Croatia under whose patronage the Symposium is held as well as to the co-organizers for their unselfish collaboration and comprehensive support.



## Impressum

To all agronomists, especially to authors, former and current I congratulate the 50<sup>th</sup> anniversary Symposium – 2015.

Zagreb, 27 January 2015  
Prof. Milan Pospíšil, PhD  
Editor-in-Chief