



AgroSym

# BOOK OF ABSTRACTS



AGRO 2018  
sym

*IX International Scientific Agriculture Symposium  
"Agrosym 2018"  
Jahorina, October 04-07, 2018*

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**IX International Scientific Agriculture Symposium  
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## Impressum

IX International Scientific Agriculture Symposium „AGROSYM 2018“

### Book of Abstracts Published by

University of East Sarajevo, Faculty of Agriculture, Republic of Srpska, Bosnia  
University of Belgrade, Faculty of Agriculture, Serbia  
Mediterranean Agronomic Institute of Bari (CIHEAM - IAMB) Italy  
International Society of Environment and Rural Development, Japan  
Balkan Environmental Association (B.EN.A), Greece  
Centre for Development Research, University of Natural Resources and Life Sciences (BOKU), Austria  
Perm State Agro-Technological University, Russia  
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Institute of Lowland Forestry and Environment, Serbia  
Institute for Science Application in Agriculture, Serbia  
Agricultural Institute of Republic of Srpska - Banja Luka, Bosnia and Herzegovina  
Maize Research Institute "Zemun Polje", Serbia  
Faculty of Agriculture, University of Novi Sad, Serbia  
Institute for Animal Science, Ss. Cyril and Methodius University in Skopje, Macedonia  
Academy of Engineering Sciences of Serbia, Serbia  
Balkan Scientific Association of Agricultural Economics, Serbia  
Institute of Agricultural Economics, Serbia

### Editor in Chief

Dusan Kovacevic

### Technical editors

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### Website:

<http://agrosym.ues.rs.ba>

CIP - Каталогизacija у публикацији  
Народна и универзитетска библиотека  
Републике Српске, Бања Лука

631(048.3)(0.034.2)

INTERNATIONAL Scientific Agricultural Symposium "Agrosym 2018"  
(9 ; Jahorina)

Book of Abstracts [Elektronski izvor] / IX International Scientific  
Agriculture Symposium "Agrosym 2018", Jahorina, October 04 - 07,  
2018 ; [editor in chief Dušan Kovačević]. - East Sarajevo = Istočno  
Sarajevo : Faculty of Agriculture = Poljoprivredni fakultet, 2018. - 1  
elektronski optički disk (CD-ROM) : tekst, slika ; 12 cm

CD ROM čitač. – Nasl. sa nasl. ekrana. - Registar.

ISBN 978-99976-718-5-1

COBISS.RS-ID 7679512

## UNUSUAL GROWTH OF POLLEN TUBES IN THE OVARY OF PLUM GENOTYPES DEVELOPED AT FRUIT RESEARCH INSTITUTE (ČAČAK, SERBIA)

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### Abstract

Unusual growth of pollen tubes in different pollination variants (self-, cross- and open pollination) was observed in the ovary of six promising plum (*Prunus domestica* L.) genotypes developed at Fruit Research Institute (FRI), Čačak (hybrids 38/62/70, IV/63/81, 32/21/87, 34/41/87 and 22/17/87 and cultivar 'Nada') in Serbia. The cross-pollination was performed using the pollen of plum cultivar 'Čačanska Lepotica'. The occurrence of unusual pollen tubes growth in the ovary was studied over the three-year period (2009–2011) using fluorescent microscopy method. The appearance of unusual growth of pollen tubes in the ovary of all studied genotypes during the whole examination period was recorded in the region of the obturator and the micropyle, with or without further growth of the pollen tubes to the nucellus. Several different types of unusual growth of pollen tubes were observed, i.e. the growth of pollen tubes in opposite direction in relation to the nucellus, the curling up of pollen tubes, the branching of pollen tubes, as well as combinations of some of the above mentioned types of specific pollen tubes growth. Average values of all analyzed genotypes showed that the highest frequency of the ovaries with unusual growth of pollen tubes was determined in the open pollination variant (7.89%), followed by the cross-pollination variant (6.27%), while the smallest frequency was found in the self-pollination variant (3.12%).

**Key words:** *Prunus domestica* L., promising genotypes, pollination variant, pollen tubes growth, ovary, unusual growth.