

BOOK OF ABSTRACTS



*XIV International Scientific Agriculture Symposium
"Agrosym 2023"
Jahorina, October 05-08, 2023*



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Jahorina, October 05 - 08, 2023

Impressum

XIV International Scientific Agriculture Symposium „AGROSYM 2023“

Book of Abstracts Published by

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Mediterranean Agronomic Institute of Bari (CIHEAM - IAMB) Italy

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

631(048.3)(0.034.4)

INTERNATIONAL Scientific Agricultural Symposium "Agrosym
2023" (14 ; Jahorina)

Book of Abstracts [Електронски извор] / XIV International
Scientific Agriculture Symposium "Agrosym 2023", Jahorina,
October 05 - 08, 2023 ; [editor in chief Dušan Kovačević]. - East
Sarajevo =Istočno Sarajevo : Faculty of Agriculture =Poljoprivredni
fakultet, 2023. - 1 електронски оптички диск (CD-ROM) : текст,
слика ; 12 cm

Системски захтеви: Нису наведени. - Насл. са насл. екрана. -
Регистар.

ISBN 978-99976-987-7-3

COBISS.RS-ID 139166465

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PHYSICAL AND CHEMICAL CHARACTERISTICS OF SOUR CHERRY (*PRUNUS CERASUS* L.) CULTIVARS

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Abstract

In the experiment, fruit characteristics (fruit weight, fruit length, fruit width, fruit thickness, stone weight, stone share, stalk length and stalk weight) and contents of primary metabolites (soluble solids, total sugars, invert sugars, proteins, sucrose, titratable acidity and pH) of sour cherry cultivars were studied. The research included fruits of five cultivars ('Sofija', 'Iskra', 'Nevena', 'Šumadinka' and 'Čačanski Rubin') developed in a breeding program at the Fruit Research Institute in Čačak and 'Heimanns Konserven Weichsel' as a standard cultivar. During the experimental period, significant differences in the parameters tested were observed among the cultivars. Fruit weight ranged from 5.69 g ('Heimanns K.W.') to 7.68 g ('Sofija'), while stone weight ranged from 0.36 g ('Iskra') to 0.48 g ('Čačanski Rubin'). The cultivar 'Sofija' had the highest fruit dimensions and stalk length, whereas the highest value for stone share was found in 'Čačanski Rubin'. Among primary metabolites, soluble solids content (16.43%) was highest in 'Iskra', while total sugars and invert sugars were high in 'Čačanski Rubin' (10.17% and 9.15%, respectively). Also, 'Čačanski Rubin' was the cultivar with the highest content of sucrose, while 'Nevena', 'Šumadinka' and 'Sofija' had higher contents of proteins compared to the other cultivars studied. In contrast, the highest level of titratable acidity was obtained in 'Heimanns K.W.', and the highest fruit pH in 'Čačanski Rubin'. The present results indicate that tested sour cherry cultivars due to the numerous positive physical and chemical characteristics deserve a place in intensive orchards and breeding programs as cultivars with enhanced nutritional value of fruits.

Keywords: *Prunus cerasus* L., cultivar, fruit size, primary metabolites.