BOOK of ABSTRACTS

4th INTERNATIONAL CONFERENCE ON PLANT BIOLOGY

(23rd SPPS Meeting)

6-8 OCTOBER 2022
BELGRADE

Serbian Plant Physiology Society

Institute for Biological Research "Siniša Stanković"
National Institute of Republic of Serbia, University of Belgrade

Faculty of Biology, University of Belgrade

BOOK OF ABSTRACTS
4th International Conference on Plant Biology

(23rd SPPS Meeting)

Belgrade, 2022

CIP - Каталогизација у публикацији - Народна библиотека Србије, Београд

581(048)

INTERNATIONAL Conference on Plant Biology (4 ; 2022 ; Belgrade)

Book of Abstracts / 4th International Conference on Plant Biology [and] 23rd SPPS Meeting, 6-8 October 2022, Belgrade ; [organized by] Serbian Plant Physiology Society [and] Institute for Biological Research "Siniša Stanković", University of Belgrade [and] Faculty of Biology, University of Belgrade ; [editor Milica Milutinović]. - Belgrade : Serbian Plant Physiology Society : University, Institute for Biological Research "Siniša Stanković" : University, Faculty of Biology, 2022 (Zemun : Alta Nova). - 169 str. : ilustr. ; 24 cm

Tiraž 30. - Registar.

ISBN 978-86-912591-6-7 (SPPS)

1. Društvo za fiziologiju biljaka Srbije. Sastanak (23 ; 2022 ; Beograd)

a) Ботаника - Апстракти

COBISS.SR-ID 74996233

4th International Conference on Plant Biology
(23rd SPPS Meeting)
6-8 October, Belgrade

Publishers	Serbian Plant Physiology Society
	Institute for Biological Research "Siniša Stanković" – National Institute of Republic of Serbia, University of Belgrade
	Faculty of Biology, University of Belgrade
Editor	Milica Milutinović
Graphic design	Dejan Matekalo
Prepress	Marija G. Gray
Printed by	Alta Nova, Zemun
Print run	30 pcs
	Belgrade, 2022

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

'Joly' and 'Sibilla': Two newer strawberry cultivars with better biochemical traits compared with their common parent 'Clery'

PP3-15

Dragica Milosavljević[1], Vuk Maksimović[1], Jasminka Milivojević[2], Jelena Dragišić Maksimović[1]

(dragicar@imsi.rs)

[1] University of Belgrade, Institute for Multidisciplinary Research, Kneza Višeslava 1, 11030 Belgrade, Serbia

[2] University of Belgrade, Faculty of Agriculture, Nemanjina 6, 11080 Belgrade, Serbia

The most popular cultivated strawberry is the dessert strawberry (*Fragaria×ananassa* Duch.) from which breeders have created an abundance of new improved cultivars with specific agronomic, qualitative and sensorial characteristics. In this study, two newly introduced strawberry cultivars 'Joly' and 'Sibilla' were compared with their mutual parent and commercial cultivar 'Clery' in terms of individual phenolics, sugars, and organic acids content. All forms of free pelargonidin were significantly higher in 'Joly' and 'Sibilla' (17.6 and 11.3 µg/g FW, respectively) compared to 'Clery' (3.4 µg/g FW), in which cyanidin 3-glucoside is the dominant (6.2 µg/g FW). Quercetin 3-O-glucuronide values were higher in 'Sibilla' and 'Joly' (17.4 and 11.6 µg/g FW, respectively) than in 'Clery' (2.6 µg/g FW). The highest values of *p*-coumaric acid were detected in 'Sibilla' (6.2 µg/g FW). Fructose content (3.1 g/100g FW) was the highest in 'Joly', sucrose content (0.8 g/100g FW) in 'Sibilla', while glucose content was similar in all three cultivars. The highest value of fumaric and citric acid (13.1 µg/g and 6.2 mg/g FW, respectively) was detected in 'Sibilla', while malic and shikimic acid had similar values in all three cultivars. Two newer strawberry cultivars 'Joly' and 'Sibilla' generally had higher levels of analyzed bioactive compounds compared to their common parent 'Clery'. Given that sensorial and nutritional quality of strawberry fruit is significantly affected by the ratio of sugars and organic acids, as well as their combination with phenolic compounds, the established better fruit quality of newer cultivars indicated their significant potential for commercial cultivation.

Keywords: strawberry cultivars, fruit quality, organic acids, sugars, phenolics, HPLC

Acknowledgment: This work was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia (grant No. 451-03-68/2022-14/200053 and 451-03-68/2022-14/200116).