



12-16 May 2024
Bucharest, Romania

EUROPEAN
HORTICULTURE
CONGRESS

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S10: POSTHARVEST AND HORTICULTURAL PRODUCTS QUALITY

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**S10: POSTHARVEST AND HORTICULTURAL PRODUCTS
QUALITY; BUCHAREST, EHC2024, MAY 12-16**

ORAL PRESENTATIONS

S10-P-IV-15

Primary metabolites in the fruits of plum cultivars grown in Western Serbia

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The objective of this study was to examine the content of the primary metabolites (soluble solids, total sugars, invert sugars, proteins, sucrose, titratable acidity and pH) in the fruits of 10 introduced plum cultivars ('Katinka', 'Opal', 'Viktorija', 'Hanita', 'Jubileum', 'Valor', 'Stanley', 'Jojo', 'Presenta and 'Tegera'), 13 plum cultivars developed in a breeding program at the Fruit Research Institute, Čačak ('Čačanska Rana', 'Boranka', 'Čačanska Lepotica' 'Valerija', 'Timočanka', 'Čačanska Najbolja', 'Zlatka', 'Valjevka', 'Mildora', 'Nada', 'Krina', 'Pozna Plava' and 'Čačanska Rodna') and myrobalan plum (*Prunus cerasifera* Ehrh.). In the present results, significant differences were observed in the biosynthesis of primary metabolites between fruits from the various cultivars. The synthesis of soluble solids was the most intensive in the fruit of cultivar 'Mildora' (23.97%), and the lowest in *Prunus cerasifera* (12.15%). The highest values of total sugars (14.25%) and pH (4.18), and the lowest level of titratable acidity (0.49%) were also recorded in 'Mildora', while the highest level of invert sugars was determined in 'Krina' (9.51%) and 'Hanita' (9.45%). The difference between the cultivars exhibiting the highest and the lowest in the content of proteins was 1.89-fold, while the difference in the sucrose contents was 2.89-fold. Generally, the highest protein content was found in myrobalan plum (1.15%), and sucrose in 'Stanley' (5.54%) and 'Mildora' (5.49%). The present results showed that tested cultivars are rich in primary metabolites and the genetic background of cultivars is an important factor in determining the composition and content of primary compounds in plum fruits.

Keywords: *Prunus domestica* L., cultivar, chemical properties