

BOOK OF ABSTRACTS

3rd International Conference on Plant Biology (22nd SPSS Meeting)



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Institute for Biological Research "Siniša Stanković", University of Belgrade

Faculty of Biology, University of Belgrade

**3rd International Conference
on Plant Biology
(22nd SPPS Meeting)**



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Phenolic profiles of June bearing and everbearing strawberries

PP4-8

Dragica Ristić¹, Vuk Maksimović¹, Jasminka Milivojević², Jelena Dragišić Maksimović¹
(dragicar.88@gmail.com)

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

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

The delicious fruits of strawberry (*Fragaria x ananassa* Duch.), consumed in both fresh and processed form, are an important source of health promoting compounds. Amongst them, strawberries possess considerable quantities of various phenolics. For this study, twelve strawberry cultivars, 9 June bearing ('Roxana', 'Arosa', 'Joly', 'Asia', 'Alba', 'Jeny', 'Laetitia', 'Garda', 'Premy'), and 3 ever-bearing types ('Albion', 'Capri' and 'Irma'), were evaluated for anthocyanin, phenolic acid and flavonoid content using HPLC-MS. Dominant anthocyanin form in all cultivars was pelargonidin-3-glucoside with the highest values detected in 'Asia' and 'Joly' cultivars (487 and 464 $\mu\text{g g}^{-1}$ FW, respectively). 'Joly' also stands out for acylated pelargonidin-3-glucoside and prunin content, since the highest values of pelargonidin-3-rutinoside and ellagic acid were detected in 'Laetitia' (33 and 43 $\mu\text{g g}^{-1}$ FW, respectively). Uppermost on the flavonoid list was 'Asia' which was the richest in p-coumaroyl hexose and its derivate (87 and 64 $\mu\text{g g}^{-1}$ FW, respectively), followed by 'Joly' dominating in kaempferol 3-glucuronide and kaempferol 3-coumaroyl glucuronide. The identification of phenolic compounds revealed some interesting differences correlated to the cultivar: June bearing cultivars 'Asia' and 'Joly' were distinguished from others as the richest in terms of identified phenolic compounds. Branding the cultivars with optimal phenolic composition empowers their consumption for human health and wellbeing.

Keywords: anthocyanin, flavonoids, phenolic acid, HPLC-MS

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GC-MS analysis of commercial essential oils of basil

PP4-9

Jelena Dumanović, Milena Dimitrijević, Slobodan Krnjajić, Sonja Veljović Jovanović
(jelena.dumanovic@imsi.rs)

Institute for Multidisciplinary Research, University of Belgrade, Serbia

Basil (*Ocimum basilicum* L.) is an aromatic plant used for thousands of years as a culinary and medicinal herb by virtue of its positive therapeutic effects. Essential oil content may vary depending on leaf maturity, genetic and environmental factors (UV-B, temperature, etc.).

In this study we compared the composition of three essential oils of basil commercially available on Serbian markets using Gas Chromatography with Mass Spectrometry (GC-MS) as the method of choice for analysing volatile compounds. Analyzed oils (A, B, C) differed in their qualitative and quantitative composition. The most prominent component of oil A was phenylpropanoid estragole with the peak area of 70% normalized to Total Ion Chromatogram (TIC), followed by monoterpene linalool with 20% presence. Estragole is suspected to be carcinogenic and terato-