

**Faculty of Agriculture  
Goce Delcev University - Stip**



**2<sup>nd</sup> INTERNATIONAL MEETING  
AGRISCIENCE & PRACTICE  
(ASP 2019)**

**BOOK OF ABSTRACTS**

**12<sup>th</sup> April 2019  
Stip, Republic of North Macedonia**

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**FACULTY OF AGRICULTURE  
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12 April 2019, Stip, Republic of North Macedonia**

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BOOK OF ABSTRACTS  
SECTION: QUALITY CONTROL AND FOOD SAFETY

**CHEMICAL COMPOSITION, ANTIRADICAL AND ANTIMICROBIAL ACTIVITY OF EXTRACTS AND COLD-PRESSED EDIBLE OILS FROM MACEDONIAN NUTTY FRUITS**

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**Abstract**

The chemical composition, antiradical and antimicrobial activity of cold-pressed edible oils from nutty fruits (almond and walnut) and oils from poppy seed and wheat germ from North Macedonia were studied. Regarding the fatty acid composition, the highest level of oleic acid was determined in almond oil (67.6±0.02%) whereas poppy seed oil was the richest sources of linoleic acid with abundance of 72.3±0.06%. The highest level of  $\alpha$ -tocopherol (23.8±0.01 mg/100 g of oil) was quantified in almond oil while  $\gamma$ -tocopherol was the most abundant in walnut and wheat germ oil. Wheat germ oil was the richest source of phytosterols (3894±155.0 mg/kg) with domination of  $\beta$ -sitosterol and campesterol. Although DPPH radical is less sensitive against phenolic compounds in comparison to ABTS radical, its relationship with tocopherols and tocotrienols was indicative. Poppy seed oil had the lowest level of tocopherols, but it indicated the highest antibacterial activity against *Listeria monocytogenes* and antifungal activity against *Candida albicans*.

**Key words:** extracts, nutty fruits, antiradical activity, antimicrobial activity