

PROCEEDINGS OF THE

20th INTERNATIONAL SUNFLOWER CONFERENCE



Novi Sad, Serbia
June 20-23, 2022

Proceedings of the

20th International Sunflower Conference



Novi Sad, Vojvodina, Serbia
June 20-23, 2022

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Proceedings of the 20th International Sunflower Conference
Novi sad, Serbia, June 20-23, 2022

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The proceedings of the 20th International Sunflower Conference contain 153 contributions from scientists of 30 countries. They include plenary lectures, oral talks and regular communications presented with posters, among which, selected contributions were emphasized with short oral talks. The manuscripts are classified by research areas in ten separate sections. They offer a thorough review of the current state of the art of sunflower research and production around the world. The Organizing Committee is grateful to Tanja Vunjak and Aleksandar Vojisavljević for their excellent editorial assistance in the preparation of these Proceedings.

ISC2022 Organizing committee



Conference program

Sunday, 19 June

16.00-21.00	Registration
19.00-21.00	Welcome Reception

Monday, 20 June

8.00-17.00	Registration	
9.00-9.30	Opening Ceremony	
9.30- 10.15	Invited talk Section 1: Dr. Felicity Vear (France)	
10.15-11.00	Coffee break	
11.00-12.00	Section 1: Breeding – New/old breeding goals and challenges	Section 2: Oils and proteins – Innovations for increased quality and feedstock supply
	Oral and short oral presentations	Oral and short oral presentations
12.00-13.30	Lunch	
13.30-14.30	Invited talks Section 3: Dr. C.C. Jan (China) Section 4: Dr. Sreten Terzić (IFVCNS, Serbia)	
14.30-15.00	Coffee break	
15.00-16.00	Section 3: Confectionery sunflower – Emerging crop	Section 4: Genetic resources – Investment for the future
	Oral and short oral presentations	Oral and short oral presentations
16.00-17.00	Poster session – Sections 1, 2, 3, 4	
18.00-21.00	Novi Sad and Petrovaradin fortress tour	

Tuesday, 21 June

8.30-17.00	Registration	
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10.30-11.00	Coffee break	
11.00-12.00	Section 5: Biotic stress resistance – New and emerging pests and diseases	Section 6: Crop production and modeling – Yield stability in changing environment
	Oral and short oral presentations	Oral and short oral presentations
12.00-13.30	Lunch	
13.30-14.30	Invited talks Section 7: Dr. Nicolas Langlade (INRAE, France) Section 8: Etienne Pilorgé (Terres Inovia, France)	
14.30-15.00	Coffee break	
15.00-16.00	Section 7: Abiotic stress resistance – Challenges of changing environment	Section 8: Economy and market – Trends and prospects
	Oral and short oral presentations	Oral and short oral presentations
16.00-17.00	Poster session – Sections 5, 6, 7, 8	

Wednesday, 22 June

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10.30-11.00	Coffee break	
11.00-12.00	Section 9: Broomrape – Constant challenge	Section 10: Bees and seeds – Exploring new venues for increased yield and seed production
	Oral and short oral presentations	Oral and short oral presentations
12.00-13.30	Lunch	
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14.30-15.00	Coffee break	
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15.00-16.30	ISA Assembly	
16.30-17.00	Closing ceremony	
20.00-24.00	Gala Dinner Pustavoit Award Presentation Ceremony IFVCNS Best Poster Award Presentation	

Thursday, 23 June

9.00-15.00	Field day
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**POLYPHENOLS AND FLAVONOIDS CONTENTS
IN SEED CAKE FROM SERBIA
CONFECTIONARY SUNFLOWER (*Helianthus Annuus L.*)**

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Abstract

Polyphenols and flavonoids represent a group of compounds with high antioxidant activity. They are called nutraceuticals due to the many favorable effects on human health including anti-cancer, anti-inflammation, anti-allergenic, anti-microbial and anti-atherogenic actions. Those bioactive compounds can be extracted from many plant sources, including wastes from various food industries, and further be utilized for the development of various functional foods. Sunflower seed cake represents a waste from production of cold pressed sunflower oils. It can be exploited for isolation of various bioactive compounds which it contains. In this work, contents of total polyphenols and flavonoids were determined in sunflower seed cakes (n=20) in order to assess potential of this by-product as a source of beneficial natural compounds. Total polyphenols contents were estimated according to Folin-Ciocalteu assay, while flavonoid contents were determined by a colorimetric method with AlCl₃. Extracts for analyses were obtained by using 80% ethanol and ultrasound-assisted extraction at 30°C for 30 minutes. The content of total polyphenols was in the range from 535.9 to 872.4 mg of chlorogenic acid equivalent/100 g d.m, while flavonoid content was in range from 303.3 to 770.5 mg of catechine equivalent/100 g d.m. The results proved that sunflower seed cakes obtained from cold pressed oil production is valuable by-product and can be used as a source for isolation of compounds with high antioxidant activity such as polyphenols and flavonoids. Proper valorization of sunflower seed cake is beneficial from both economic and environmental aspects.

Keywords: confectionary sunflower, polyphenols, flavonoids, seed cake, valorisation

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