

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

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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	
14.30-15.30	Poster session – Sections 9, 10	
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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SUNFLOWER SEED OIL CONTENT DEPENDING ON THE SEEDLING TYPE

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Abstract

The problem of the appearance of abnormal seedlings is often manifested in sunflower seed germination testing. Abnormality is most often caused by a lack of primary root. However, when sown in a field, abnormal seedlings develop into normal yielding plants. The aim of study was to determine whether the seedling type causes a significant decrease in sunflower seeds oil content. The trial was carried out during the two growing seasons, at the Experimental fields of Institute of Field and Vegetable Crops and Zrenjanin Agricultural Advisory Services, according to split-plot model design in three repetitions. A seed lot of hybrid NS-H-111, which had a higher percentage of abnormal seedlings in the preliminary germination test, was selected for the research. Seeds were germinated, and then seedlings were analyzed and separated normal and abnormal. After that, the seedlings were planted into seedling trays first, and when the plants reached the stage of a well-developed first pair of leaves they were planted on the field. Plots were formed in the field, as follows: one is planted with plants that developed from normal seedlings, the next is planted with plants developed from abnormal seedlings, while the third plots represented a combination of normal and abnormal, depending on the percentage share of abnormal seedlings in initial lot (11.0%). The oil content was determined by the method of nuclear magnetic resonance (NMR), and the values of this parameter were expressed as a percentage. According to the obtained results, oil content highly significantly depended on the year and locality of the test, while the influence of the seedling type was significant. The results of the ANOVA show that the greatest influence on the formation of this trait was precisely the year, whose share in the total variation was 70.0%. Significantly the highest average oil content was found in plants originating from abnormal seedlings (47.86%), while the lowest was found in normal ones (47.09%). On average, for both years of testing, the highest oil content at Rimski šančevi locality was achieved in plants originating from abnormal seedlings (49.53%) and in the Zrenjanin locality in the combined ones (46.46%).

Keywords: germination, oil content, seed, seedling type, sunflower

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