

# HELIA

## International Sunflower Association Scientific International Journal of Sunflower

e-ISSN: 2197-0483

### **About Journal;**

Scientific Journal HELIA has been published since 1971 biannually online & print versions by ISA (International Sunflower Association) contribution with FAO as well as Institute of Field and Vegetable Crops, Novi Sad, Serbia until 2023. Currently, Helia journal is started to publish by the IRA (International Researchers Association, Turkey) in Pen Publishing platform authorized by International Sunflower Association.

Helia publish twice in a year in June and December, in only online version. It publishes only English language articles.

### **Objective**

HELIA publishes original theoretical, experimental and technical contributions arising from the scientific study of sunflower crops and production.

### **Topics**

Crop agronomy and production  
Sunflower genetic resources  
Sunflower improvement, breeding and genetic  
Sunflower Biotechnology and molecular studies  
Sunflower oil and quality  
Phytopathology and plant protection  
Sunflower physiology  
Sunflower marketing, economy and trade  
Biochemistry, metabolism, structure, genetics, at diverse levels of integration  
Ecology  
Soil, water and mineral nutrition management and farming systems

### **Article formats**

Original Articles, Technical Articles (including computer applications), Short Communications, Reports, Letters to the Editor, Hypotheses and Reviews

**Your benefits** are highly ranked journal devoted to the study of sunflower crops and farming, Recognized editorial board and insightful reviews, Comprehensive outlook on problematic aspects of HELIA's topics.

Copyright © 2024. This is an open access journal under the CC BY



# **HElia**

**International Sunflower Association**  
**Scientific International Journal of Sunflower**

Volume 48 Issue 83, December 2025

[heliajournal.org](http://heliajournal.org)

<https://doi.org/10.29329/helia.2025.1411>

## **Publisher**

International Researcher Association

Edirne / Türkiye



## **Editor in Chief**

Prof. Dr. Yalçın KAYA  
*Trakya University, Türkiye*

### **Associate Editor**

Zvonimir Sakač, MSc, Serbia

### **Associate Editor**

Dr Ahmet Semsettin TAN, Turkey

### **Language Editor   Statistics Editor**

Dr Nicky CREUX   Dr James McNellie,  
*South Africa*   USA

### **Section Editors**

#### **Crop Agronomy, Production Techniques   Sunflower Genetic Resources**

Dr Maria Duca   Dr Daniela Valkova  
Moldova   Bulgaria

#### **Sunflower Breeding and Genetics   Phytopathology and Plant Protection**

Dr Brent HULKE   Dr Rita BAN  
USA   Hungary

#### **Sunflower Physiology   Oil Quality**

Dr Philip DEBBAKE   Dr Yakov Demurin  
France   Russia

#### **Economy and Trade   Molecular Genetics and Biotechnology**

Dr Vladimir MIKLIC   Dr Sujatha MULPURI  
Serbia   India

## **Editorial Board**

Dr Begoña Pérez-Vich, Spain	<i>Sunflower Molecular Breeding</i>
Dr Lili Qi, USA	<i>Sunflower Molecular Pathology</i>
Dr Jun Zhao, China	<i>Sunflower Phytopathology</i>
Dr Etienne PILORGE, France	<i>Sunflower Ecology, Production</i>
Dr Abelardo de la Vega, Argentina	<i>Sunflower Breeding</i>
Dr Nicolas LANGLADE, France	<i>Sunflower Molecular Breeding</i>
Dr Kateryna MAKLIAK, Ukraine	<i>Sunflower Breeding</i>
Dr Leonardo VELASCO, Spain	<i>Sunflower Oil Quality</i>
Dr Loren Rieseberg, Canada	<i>Sunflower Wild Species</i>
Dr Stéphane Muños, France	<i>Sunflower Molecular Genetics</i>
Dr Leire Molinero RUIZ, Spain	<i>Sunflower Broomrape Resistance</i>
Dr Philippe DEBAEKE, France	<i>Sunflower Physiology</i>
Dr Norma B PANIEGO, Argentina	<i>Sunflower Diseases</i>
Dr Sandra Cvejic, Serbia	<i>Sunflower Breeding</i>
Dr Dragana Mladinovic, Serbia	<i>Sunflower Biotechnology</i>
Dr Maria Pacureanu, Romania	<i>Sunflower Broomrape</i>
Dr Sinisa Jocic, Serbia	<i>Sunflower Breeding</i>
Dr Saeed Rauf, Pakistan	<i>Sunflower Physiology</i>
Dr Mehdi GHAFFARI, Iran	<i>Sunflower Adaptation</i>

## **Indexing/Abstracting**

1. AGRICOLA (National Agricultural Library)
2. Baidu Scholar
3. CABI (over 50 subsections)
4. CNKI Scholar (China National Knowledge Infrastructure)
5. CNPIEC - cnpLINKer
6. Dimensions
7. EBSCO (relevant databases)
8. EBSCO Discovery Service
9. Genamics JournalSeek
10. Google Scholar
11. Japan Science and Technology Agency (JST)
12. J-Gate
13. JournalGuide
14. JournalTOCs
15. KESLI-NDSL (Korean National Discovery for Science Leaders)
16. MyScienceWork
17. Naver Academic
18. Naviga (Softweco)
19. Primo Central (ExLibris)
20. ProQuest (relevant databases)
21. Publons
22. QOAM (Quality Open Access Market)
23. ReadCube
24. Scilit
25. SCImago (SJR)
26. SCOPUS
27. Semantic Scholar
28. Sherpa/RoMEO
29. Summon (ProQuest)
30. TDNet
31. Ulrich's Periodicals Directory/ulrichsweb
32. WanFang Data
33. WorldCat (OCLC)
34. X-MOL
35. Yewno Discover

## Table of Contents

Page <b>74</b>	Original article <b>Interspecific Crosses Between Cultivated Sunflower (<i>Helianthus Annuus</i> L.) and the Perennial Species <i>Helianthus Mollis</i> (Gt M-020) Applying Embryo Culture</b> Nina Nenova, Daniela Valkova
Page <b>84</b>	Original article <b>Study of New Hosts of Sunflower Broomrape (<i>Orobanche Cumana</i> Wallr.)</b> Maria Petrova, Hristo Stoyanov
Page <b>94</b>	Original article <b>Embryo Culture Under Interspecific Hybridization in Genus <i>Helianthus</i></b> Radostina Damyanova-Serbezova, Miglena Drumeva, Nina Nenova, Daniela Valkova
Page <b>103</b>	Original article <b>Unlocking The Genetic Code of the Sunflower Resistance to Downy Mildew and <i>Orobanche</i>: A Review</b> Özlem Gü'l Yasti, Abdullah Çil, Ayşe Nuran Çil, Muhammet Şakiroğlu
Page <b>125</b>	Original article <b>Components Related to Higher Head Diameter, Heterosis and Type of Inheritance in Oil Seed Sunflower (<i>Helianthus Annuus</i> L.)</b> Georgi Georgiev, Daniela Valkova, Radostina Damyanova-Serbezova
Page <b>135</b>	Original article <b>The Yabby Gene Network in Sunflower: Evolutionary Dynamics and Drought-Responsive Expression Profiling</b> Deniz Sarel, İlker Büyük
Page <b>154</b>	Original article <b>The Effects of Price and Support Policies on Sunflower Production in Turkey on the Welfare of Producers</b> Metin Badem
Page <b>172</b>	Original article <b>Mapping the Intellectual Landscape of Sunflower Technological Innovations: Bibliometric Insights into Research Focus, Findings, and Future Directions</b> Erasto Kivuyo, Salma Khatibu

Page

**198**

Original article

**Control of Genetic Purity of Parental Lines of Sunflower by Allelic Variants of Electrophoretic Spectra of Seed Storage Proteins**

Igor Aksyonov

Page

**212**

Original article

**Productivity of sunflower (*Helianthus annuus* L.) introduced at different dates into sesame-based intercropping system in a humid tropical location**

Olabisi Somefun, Victor Olowe, Sunday Adigbo, Faucett Olasantan