

HELIA

MANAGING EDITOR

Dragan Škorić, *Serbia*

EDITOR

Zvonimir Sakač, *Serbia*

EDITORIAL BOARD

Yakov Demurin, *Russia*

Jose Fernández-Martinez, *Spain*

Wolfgang Friedt, *Germany*

Thomas Gulya, *USA*

Antonio Hall, *Argentina*

Yalcin Kaya, *Turkey*

Viktor V. Kirichenko, *Ukraine*

Maria Pacureanu-Joita, *Romania*

Monica Poverene, *Argentina*

Herve Serieys, *France*

Mulpuri Sujatha, *India*

Gian Paolo Vannozzi, *Italy*

Kirichenko Victor Vasylyovich, *Ukraine*

Felicity Vear, *France*

Abelardo de la Vega, *Argentina*

Ferenc Viranyi, *Hungary*

Jun Zhao, *China*

DE GRUYTER

HELIA is published by the Serbian Academy of Sciences and Arts (SASA), Branch in Novi Sad in cooperation with De Gruyter. HELIA publishes original theoretical, experimental and technical contributions arising from the scientific study of sunflower crops and farming systems. The subject fields covered include crop agronomy; sunflower genetic resources; sunflower improvement and breeding; phytopathology and plant protection; sunflower physiology, biochemistry, metabolism, structure, genetics, at diverse levels of integration; ecology; soil, water and mineral nutrition management and farming systems.

ABSTRACTED/INDEXED IN Celdes, CNKI Scholar (China National Knowledge Infrastructure), CN-PIEC, EBSCO Discovery Service, Elsevier - SCOPUS, Google Scholar, J-Gate, Naviga (Softweco), Primo Central (ExLibris), SCImago (SJR), Summon (Serials Solutions/ProQuest), TDOne (TDNet), WorldCat (OCLC).

ISSN 1018-1806 · e-ISSN 2197-0483

All information regarding notes for contributors, subscriptions, Open Access, back volumes and orders is available online at <http://www.degruyter.com/journals/helia>.

MANGING EDITOR Prof. Dr. Dragan Škorić, Serbian Academy of Sciences and Arts (SASA), Branch in Novi Sad, Nikole Pašića 6, 21000 Novi Sad, Serbia, Email: draganskoric@sbb.rs

JOURNAL MANAGER Friederike Winter, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany, Tel.: +49 (0)30 260 05-376, Fax: +49 (0)30 260 05-250, Email: friederike.winter@degruyter.com

RESPONSIBLE FOR ADVERTISEMENTS Claudia Neumann, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany. Tel.: +49 (0)30.260 05-226, Fax: +49 (0) 30.260 05-322, Email: anzeigen@degruyter.com

TYPESETTING Integra Software Service Pvt. Ltd, Pondicherry, India

© 2016 Walter de Gruyter GmbH, Berlin/Boston and SASA, Branch in Novi Sad, Serbia.

PRINTING Franz X. Stückle Druck und Verlag e.K., Ettenheim
Printed in Germany



Contents

Alan W. Bowsher, Ethan F. Milton and Lisa A. Donovan

Comparison of Desert-Adapted *Helianthus niveus* (Benth.) Brandegees ssp. *tephrodes* (A. Gray) Heiser to Cultivated *H. annuus* L. for Putative Drought Avoidance Traits at Two Ontogenetic Stages — 1

Agustina Gutierrez, Miguel Cantamutto and Monica Poverene

Cold Stress Tolerance during Early Growth Stages of Naturalized *Helianthus petiolaris* Populations — 21

J. R. Prasifka, L. F. Marek, D. K. Lee, S. B. Thapa, V. Hahn and J. D. Bradshaw

Effects from Early Planting of Late-Maturing Sunflowers on Damage from Primary Insect Pests in the United States — 45

K. V. Vedmedeva and A. I. Soroka

Influence of Some Mutant Genes on Certain Agronomically Important Traits in Sunflower — 57

S. K. Dhillon and Vikrant Tyagi

Combining Ability Studies for Development of New Sunflower Hybrids Based on Diverse Cytoplasmic Sources — 71

N. A. Poliakova and E. V. Vedmedeva

Inheritance of Anthocyanin Coloration Trait in Pericarp of Sunflower Seeds — 81

L. Hlisnikovský, E. Kunzová, M. Hejzman, P. Škarpa and L. Menšík

Effect of Nitrogen, Boron, Zinc and Molybdenum Application on Yield of Sunflower (*Helianthus annuus* L.) on Greyic Phaeozem in the Czech Republic — 91

Maria Iwebor, Tatiana Sergeevna Antonova and Svetlana Saukova

Changes in the Racial Structure of *Plasmopara halstedii* (Farl.) Berl. et de Toni Population in the South of the Russian Federation — 113

Khoufi Sahari, Pouilly Nicolas, Muños Stéphane, Bérard Aurélie, Ben Jeddi Fayçal, Vincourt Patrick and Brunel Dominique

Genetic Diversity and Core Collection Constitution for Subsequent Creation of New Sunflower Varieties in Tunisia — 123