

Special Issue

Response of Turfgrass to Environmental Stress

Message from the Guest Editors

Turfgrasses are unique plants valued for their functional, aesthetic, and recreational uses. Their diverse uses result in turfgrasses being exposed to a wide variety of stresses. In addition, turfgrass species are perennial and must persist year after year while still meeting stakeholder expectations.

Both C3 and C4 turfgrass species can be exposed to environmental stresses of extreme temperatures, hypoxia/anoxia from flooding or ice cover, prolonged periods of water deficit, exposure to excessive salt quantities, light-related stresses, and mineral nutrient deficiencies. Many of the stresses are naturally combined, but interactions are rarely investigated due to their complex nature.

This Special Issue focuses on the response of turfgrass to various abiotic stresses with emphasis on environmental extremes and interactive stresses. This issue will cover a broad scope, ranging from field-level management interventions to molecular approaches focused on understanding stress responses. We aim to explore the intricate pathways of stress acclimation, adaptation, and recovery, leveraging high-throughput phenotyping, gene editing, and multi-omics approaches to decipher complex responses.

Guest Editors

Dr. Dominic Petrella

Department of Horticultural Science, University of Minnesota, St. Paul, MN, USA

Dr. Florence Sessoms

Department of Horticultural Science, University of Minnesota, 1970 Folwell Ave., St. Paul, MN 55108, USA

Deadline for manuscript submissions

31 August 2026



Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.6
CiteScore 6.3



mdpi.com/si/266706

Agriculture
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agriculture@mdpi.com

[mdpi.com/journal/
agriculture](https://mdpi.com/journal/agriculture)





Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.6
CiteScore 6.3



[mdpi.com/journal/
agriculture](https://mdpi.com/journal/agriculture)



About the Journal

Message from the Editor-in-Chief

Agriculture (ISSN 2077-0472) is an international, scholarly and scientific open access journal publishing peer-reviewed research papers, review articles, communications and short notes that reflect the breadth and interdisciplinarity of agriculture.

Editor-in-Chief

Prof. Dr. Les Copeland
Sydney Institute of Agriculture, School of Life and Environmental
Sciences, The University of Sydney, Sydney, NSW 2006, Australia

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), GEOBASE, PubAg, AGRIS, RePEc, and other databases.

Journal Rank:

JCR - Q1 (Agronomy) / CiteScore - Q1 (Plant Science)