

Special Issue

Towards Sustainability of Controlled Environment Agriculture: Vertical Farms vs. Greenhouses—2nd Edition

Message from the Guest Editors

In the modern day, the escalating demand for food and agricultural products necessitates innovative solutions through controlled environment agriculture. This Special Issue is dedicated to exploring the sustainability aspects of controlled environment agriculture, specifically focusing on the benefits and potential enhancements of vertical farming and greenhouses within sustainable agriculture frameworks. It will examine the role and impact of low-carbon, energy-efficient technologies in crop production systems, including next-generation energy management, waste-heat recovery, and solar-energy applications. Additionally, it will delve into the application of automation systems, robotics and intelligent equipment in planting, harvesting and processing processes, along with advancements in infrastructure design, including materials for covering and shading. Moreover, the Issue will cover the significance of intelligent data capture, environmental management and the refinement of control strategies within these production systems, particularly highlighting the latest developments in LED lighting technology, smart irrigation systems and integrated water and nutrient management.

Guest Editors

Prof. Dr. Shumei Zhao

Key Laboratory of Agricultural Engineering in Structure and Environment, Ministry of Agriculture and Rural Affairs, College of Water Resources and Civil Engineering, China Agricultural University, Beijing 100083, China

Prof. Dr. Weitang Song

Key Laboratory of Agricultural Engineering in Structure and Environment, Ministry of Agriculture and Rural Affairs, College of Water Resources and Civil Engineering, China Agricultural University, Beijing 100083, China

Deadline for manuscript submissions

31 August 2026



Agronomy

an Open Access Journal
by MDPI

Impact Factor 3.4
CiteScore 6.7



mdpi.com/si/261871

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

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





Agronomy

an Open Access Journal
by MDPI

Impact Factor 3.4
CiteScore 6.7



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



About the Journal

Message from the Editor-in-Chief

Agronomy draws together researchers from diverse areas of agricultural research with a common aim of enhancing agricultural productivity globally. The journal provides unlimited free access to all those interested in advancing agricultural science from both the research and general community. Papers are released immediately after acceptance through the internet.

Agronomy is supported by our authors and their institutes through low article processing charges (APC) for accepted papers. We hope you will support the journal by becoming one of our authors.

Editor-in-Chief

Prof. Dr. Leslie A. Weston

Gulbali Centre for Agriculture, Water and Environment Research,
Charles Sturt University, Wagga Wagga, NSW 2678, 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, and other databases.

Journal Rank:

JCR - Q1 (Agronomy) / CiteScore - Q1 (Agronomy and Crop Science)