

## Special Issue

# Towards Sustainability of Controlled Environment Agriculture: Vertical Farms vs. Greenhouses

### 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

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

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

closed (30 June 2025)



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*Agronomy*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[agronomy@mdpi.com](mailto:agronomy@mdpi.com)

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### Editor-in-Chief

Prof. Dr. Leslie A. Weston

Gulbali Centre for Agriculture, Water and Environment Research,  
Charles Sturt University, Wagga Wagga, NSW 2678, Australia

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