

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

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