

## Special Issue

# Nutrient Management Practices for Sustainable Vegetable and Fruit Production

### Message from the Guest Editors

Intensive vegetable and fruit production systems face the dual challenge of meeting rising global food demand while minimizing nutrient losses, environmental degradation, greenhouse gas emissions, and crop susceptibility to abiotic and biotic stresses. Growing evidence indicates that conventional approaches often overestimate plant nutrient availability, particularly in sandy or low-buffering soils, leading to inefficient nutrient use. Such inefficiencies not only increase production costs but also exacerbate nutrient leaching, surface runoff, and long-term soil quality deterioration.

This Special Issue seeks to showcase innovative strategies that enhance nutrient efficiency and environmental sustainability in horticultural systems. Topics of interest include next-generation fertilizers (e.g., oxygen fertilizers, in situ hydrogel-coated fertilizers, and controlled-release formulations), elite genotype identification for improved NUE, rhizosphere-mediated nutrient mobilization, thermodynamic and mechanistic analyses of nutrient availability, and precision nutrient management technologies.

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## Agriculture

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