



Plant-Based, Proximal and Remote Sensing in Orchards and Vineyards — State of the Art, Challenges, Data Fusion and Integration

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Message from the Guest Editors

Orchard and vineyard management is rapidly changing as we navigate a fast-paced revolution often referred to as Agriculture 4.0.

Plant-based or contact sensing (e.g., trunk and fruit dendrometry, near-infrared and fluorescence spectroscopy) obtains the most accurate information on plants' physiological responses to biotic and abiotic stress at a tree level and on a continuous time scale. Proximal and remote sensing (e.g., machine vision, LiDAR, multispectral and hyperspectral) from ground or aerial platforms and satellites allows for the collection of larger datasets that can provide more detailed spatial information across orchard blocks. Data fusion and integration from different plant-based, proximal and remote sensors and/or data sources remains a practical challenge, but successful attempts can provide the most consistent and accurate data and information about orchards and vineyards.

This Special Issue aims to collect state-of-the-art research on innovative plant-based, proximal and remote sensors used to collect data in orchards and vineyards and on their data fusion and integration to inform orchard management decisions





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Message from the Editor-in-Chief

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