

Special Issue

Bio-Based Solutions for Sustainable Plant Systems

Message from the Guest Editor

This Special Issue explores bio-based solutions that enhance plant systems while reducing the environmental impact of agricultural practices. A major focus is on biostimulants, natural substances that stimulate plant growth, improve nutrient uptake, and increase resilience to stress. Their role in enhancing root development, crop productivity, and overall plant health is crucial for sustainable agriculture. Specifically, wood distillates and essential oils are gaining interest for their ability to enhance crop yield and nutritional value, providing eco-friendly alternatives to synthetic agrochemicals. Another key topic is biochar, a carbon-rich material that improves soil fertility, water retention, and carbon sequestration, making it an essential tool for regenerative agriculture. This Special Issue also explores green solutions for mitigating abiotic stress, such as drought, salinity, and temperature fluctuations, which significantly impact crop growth. In addition, it examines the effects of bio-based products on crop species as well as spontaneous species within agroecosystems, which may be affected during the application of these products.

Guest Editor

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Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, and conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

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