

Special Issue

Precision Plant Pathology: A New Approach to the Study of Epidemiology and Diagnosis of Plant Diseases

Message from the Guest Editors

New satellite constellations (Sentinel), cloud computing, low-cost sensors, Internet of Things, big data, and "machine learning" and artificial intelligence are expected to be fundamental in various disciplines of plant pathology and the decision making that will drive integrated pest management in the coming years. A pathosystem is represented by the "disease triangle"; that is, disease requires the interaction of a susceptible host, a virulent pathogen, and a favorable environment. In this context, "Precision plant pathology" is a set of techniques aimed at optimizing the management of diseases based on the quantification of their spatial and temporal variability. These techniques seek to reduce costs and improve production and sustainability by creating risk prediction algorithms and models for the main diseases and adapting them to specific conditions. The four following areas of research are proposed: (1) visualization and statistical analysis of disease data using R and Python; (2) disease modeling using machine learning techniques and fuzzy logic; (3) automatic plant disease diagnosis using deep learning; and (4) remote and proximal sensing for early plant disease detection.

Guest Editors

Dr. Antonio Santos-Rufo

Prof. Dr. Francisco Javier López-Escudero

Dr. Fernando Pérez Porras

Deadline for manuscript submissions

closed (10 April 2024)



Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 4.9



mdpi.com/si/163924

Agriculture

MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agriculture@mdpi.com

[mdpi.com/journal/
agriculture](https://mdpi.com/journal/agriculture)





Agriculture

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 4.9



[mdpi.com/journal/
agriculture](https://mdpi.com/journal/agriculture)



About the Journal

Message from the Editor-in-Chief

Agriculture (ISSN 2077-0472) is an international, crossdisciplinary and scholarly open access journal on the science and technology of crop and animal production, and management of the natural resource base for agricultural production. *Agriculture* is published in an open access format – research articles, reviews and other contents are released on the internet immediately after acceptance. The scientific community and the public have unlimited and free access to the content as soon as it is published.

Editor-in-Chief

Prof. Dr. Les Copeland
Sydney Institute of Agriculture, School of Life and Environmental
Sciences, The University of Sydney, Sydney, NSW 2006, Australia

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubAg, AGRIS, RePEc, and other databases.

Journal Rank:

JCR - Q1 (Agronomy) / CiteScore - Q1 (Plant Science)