Special Issue

Smart Spraying Technology in Orchards: Innovation and Application

Message from the Guest Editors

This Special Issue explores how smart spraying technology, driven by sensor and image recognition systems, can revolutionize orchard management by optimizing pesticide use, minimizing environmental impact, and ensuring the quality and safety of agricultural products. By enabling real-time monitoring of orchard environments, pest infestations, and disease outbreaks, smart spraying technology allows for precise, targeted applications that reduce pesticide residues and waste, ensuring effective deposition on fruit tree targets. This Issue will focus on the latest innovations and evaluations of smart spraying systems, with a particular emphasis on improving the efficiency of pest and disease monitoring, reducing application volumes, and enhancing precision. We welcome interdisciplinary research spanning agriculture, agricultural machinery, artificial intelligence, and botany. Contributions may address the development and application of smart spraying technologies, the assessment of environmental impacts, and the effectiveness of these technologies across various fruit tree species. Topics may also include IoT- and big data-based spraying management.

Guest Editors

Dr. Pengchao Chen

1. College of Electronic Engineering and Artificial Intelligence, South China Agricultural University, Wushan Road, Guangzhou 510642, China
2. National Center for International Collaboration Research on Precision Agricultural Aviation Pesticide Spraying Technology, Guangzhou 510642, China

Dr. Juan Wang

Mechanical and Electrical Engineering College, Hainan University, Haikou 570228, China

Deadline for manuscript submissions

10 November 2025

Agriculture

an Open Access Journal by MDPI

**Impact Factor 3.6
CiteScore 6.3**

MDPI

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Message from the Editor-in-Chief

Agriculture (ISSN 2077-0472) is an international, cross-disciplinary and scholarly journal on the science and technology of crop and animal production, and management of the natural resource base for agricultural production. We invite submissions from authors according to the aims and scope of the journal described in more detail on this page. *Agriculture* is published in an open access format – articles are published on the journal's website immediately after acceptance, giving the scientific community and the public unlimited and free access to the content.

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

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