

Special Issue

Modeling of Plants Phenotyping and Biomass

Message from the Guest Editor

Several perennial and annual crops have been considered as leading candidates for bioenergy production. Increased productivity and sustainability of plant feedstocks in bioenergy crops are key factors for biofuel production. Factors affecting plant quality and performance can be broadly attributed to plant genetics and the growing environment. However, phenotyping resources have created a bottleneck in biofuel crop improvement and breeding. Research on this topic is important to fight against climate/ecosystem changes, leading to climate-smart or eco-efficient agriculture. We welcome the research but are not limited to:

Perspectives of biofuel plant phenomics;

Big data challenges for genomics and phenotyping data; High-throughput phenotyping: tools and techniques for assessment;

Genomic selection in biofuel crops: Benefits of high throughput phenotyping;

Precision agriculture association with high throughput biofuel plant phenotyping;

Biomass quantity/quality assessment;

Biotic/abiotic stress assessment;

Sustainability trait assessment.

Guest Editor

Dr. Yaping Xu

1. Department of Plant Sciences, University of Tennessee, Knoxville, TN 37996, USA

2. Center for Agricultural Synthetic Biology, University of Tennessee, Knoxville, TN 37996, USA

3. Center for Bioenergy Innovation, Oak Ridge National Laboratory, Oak Ridge, TN 37830, USA

4. Department of Environmental and Geoscience, Sam Houston State University, Huntsville, TX 77340, USA

Deadline for manuscript submissions

closed (30 August 2025)



Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



mdpi.com/si/155622

Plants

Editorial Office

MDPI, Grosspeteranlage 5

4052 Basel, Switzerland

Tel: +41 61 683 77 34

plants@mdpi.com

mdpi.com/journal/

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





Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



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



About the Journal

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, 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.

Editor-in-Chief

Prof. Dr. Dilantha Fernando

Department of Plant Science, University of Manitoba, Winnipeg, MB
R3T 2N2, Canada

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), PubMed, PMC, PubAg, AGRIS, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Plant Sciences) / CiteScore - Q1 (Ecology, Evolution, Behavior and Systematics)