

Special Issue

Role of Plant Growth-Promoting Microbes in Agriculture

Message from the Guest Editors

By the end of the 1970s, the term plant growth-promoting rhizobacteria (PGPR) was coined to designate rhizosphere-isolated pseudomonads that, following seed inoculation, rapidly colonized plant roots and increased crop yield. The concept was adopted and developed by several researchers and, more recently, it was extended to any bacteria (PGPB) or any microorganism (PGPM) exhibiting plant growth-promoting (PGP) traits, such as nitrogen fixation, phosphate and potassium solubilization, the production of siderophores, indolic compounds, and 1-aminocyclopropane-1-carboxylate (ACC) deaminase or that lessen or prevent the deleterious effects of one phytopathogenic organism, and that is effective in benefiting plants. In addition to the formulation of conventional inoculants, studies with PGPM are evolving to the construction of synthetic communities, an approach that can be linked to metagenomic analysis, in order to identify the keystone taxa of soil microbiome and interfere in it to improve plant growth. This Special Issue welcomes all types of articles focusing on PGPM, including original research and reviews.

Guest Editors

Dr. Luciano Kayser Vargas

Department of Agricultural Research and Diagnosis, Department of Agriculture, Livestock, Sustainable Production and Irrigation of Rio Grande do Sul, Porto Alegre, Brazil

Prof. Dr. Marco Antonio Nogueira

Soil Biotechnology Laboratory, Embrapa Soja, C.P. 4006, Londrina 86001-970, Paraná, Brazil

Deadline for manuscript submissions

closed (25 June 2023)



Agronomy

an Open Access Journal
by MDPI

Impact Factor 3.4
CiteScore 6.7



mdpi.com/si/142656

Agronomy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agronomy@mdpi.com

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





Agronomy

an Open Access Journal
by MDPI

Impact Factor 3.4
CiteScore 6.7



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



About the Journal

Message from the Editor-in-Chief

Agronomy draws together researchers from diverse areas of agricultural research with a common aim of enhancing agricultural productivity globally. The journal provides unlimited free access to all those interested in advancing agricultural science from both the research and general community. Papers are released immediately after acceptance through the internet.

Agronomy is supported by our authors and their institutes through low article processing charges (APC) for accepted papers. We hope you will support the journal by becoming one of our authors.

Editor-in-Chief

Prof. Dr. Leslie A. Weston

Gulbali Centre for Agriculture, Water and Environment Research,
Charles Sturt University, Wagga Wagga, NSW 2678, 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, and other databases.

Journal Rank:

JCR - Q1 (Agronomy) / CiteScore - Q1 (Agronomy and Crop Science)