Special Issue

Biochar-Based Fertilizers for Sustainable Agriculture: Feedstocks, Production, and Effects on the Soil-Plant System

Message from the Guest Editors

Biochar is a solid material, rich in carbon, obtained by thermochemical processes from various organic residues. Biochar as a soil amendment has been widely studied and the results indicate that it can partially or fully replace chemical fertilizers in agricultural production. However, in some cases, low concentrations or imbalanced nutrients may limit the use of biochar as a fertilizer. In view of this, several strategies have been assessed to make use of biochar as a fertilizer viable. Enriching biochar with one or multiple nutrients is a promising strategy to increase nutrient-use efficiency, reduce final product costs and reduce the environmental damage caused by chemical fertilizers, such as nutrient leaching and greenhouse gas emissions. There are several techniques to enrich biochar with nutrients to produce biochar-based fertilizers, including pre- and post-pyrolysis procedures. The feedstocks used to enrich biochar can be grouped into chemical fertilizers, organic wastes, rock dust, minerals, and pure inorganic compounds. This Special Issue welcomes submissions on biochar-based fertilizers including feedstocks, production, and effects on the soil–plant system.

Guest Editors

Prof. Dr. Cícero Célio de Figueiredo

Dr. José Ferreira Lustosa Filho

Dr. Keiji Jindo

Deadline for manuscript submissions

closed (25 July 2025)

Agriculture

an Open Access Journal by MDPI

Impact Factor 3.6
CiteScore 6.3

mdpi.com/si/211512

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

mdpi.com/journal/agriculture

Agriculture

an Open Access Journal by MDPI

Impact Factor 3.6
CiteScore 6.3

mdpi.com/journal/agriculture

MDPI

About the Journal

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

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)