# Special Issue

# Biochar-Nitrogen Interactions: Mechanisms, Transformations, and Agricultural Impacts

### Message from the Guest Editor

Nitrogen (N) management plays a central role in agriculture. Recently, the study of N interaction with biochar has gained attention, with this interaction being proposed to maximize N use efficiency in agricultural systems. Nitrogen-rich materials, when pyrolyzed, depending on the pyrolysis temperature, can be sources of N for plants. Additionally, when biochars are mixed at different stages with N sources, this interaction can also improve the N use efficiency for plants. However, for proper management, the mechanisms involved, both during and after pyrolysis, need to be elucidated, creating a foundation for recommendations and guidelines on biochar–nitrogen interaction. This interaction significantly affects N dynamics in plants, as well as its uptake by plants. In this context, this Special Issue focuses on the following:
(i) The dynamics of N during the production of biochars by pyrolysis;
(ii) The interaction between biochar and nitrogen when mixed after pyrolysis;
(iii) Providing information on how biochar–nitrogen interaction affects N dynamics and other elements in the soil;
(iv) Elucidating how these interactions affect nitrogen uptake dynamics in plants.

### Guest Editor

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### Deadline for manuscript submissions

closed (31 July 2025)

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# About the Journal

## Message from the Editor-in-Chief

*Nitrogen*, the element that is intimately associated with essentially all processes on Earth, is the broad focus of a new online, open access journal. The intention of this publication is to offer a venue for research papers, reviews, short notes, and communications that have as a nexus this critical element.

## Editor-in-Chief

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