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Special Issue

Green Extraction, Chemical Characterization, and Biological Activities of Natural Extracts from Agricultural By-Products:

Towards Sustainable Valorization and High-Value Applications

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About this Special Issue

Agricultural by-products represent an abundant yet underutilized source of valuable bioactive compounds, including polyphenols, flavonoids, carotenoids, alkaloids, terpenoids, polysaccharides, and numerous other phytochemicals with promising biological properties. Growing awareness of sustainable resource management and the circular bioeconomy has stimulated extensive research into environmentally friendly extraction technologies and the development of high-value products from agro-industrial residues.

This Special Issue aims to provide an international platform for publishing high-quality research on the green extraction, chemical characterization, biological evaluation, and industrial applications of natural extracts obtained from agricultural by-products. We welcome original research articles, comprehensive reviews, short communications, and methodological studies that advance sustainable extraction technologies, phytochemical analysis, waste valorization, and the development of functional products for food, pharmaceutical, cosmetic, nutraceutical, packaging, and biomaterial applications.

Researchers from academia, research institutes, industry, and governmental organizations are encouraged to submit their latest findings and innovative approaches that contribute to sustainable utilization of agricultural resources.

Scope of the Special Issue

Topics of interest include, but are not limited to:

- Green and sustainable extraction technologies
- Agricultural by-product valorization
- Recovery of natural bioactive compounds
- Phytochemical profiling and chemical characterization
- Advanced analytical techniques for natural product analysis
- Polyphenols, flavonoids, carotenoids, alkaloids, and terpenoids
- Antioxidant, antimicrobial, anti-inflammatory, anticancer, and other biological activities
- Functional ingredients and nutraceutical applications
- Food, pharmaceutical, and cosmetic applications
- Active packaging and bio-based materials
- Process optimization and extraction efficiency
- Chemometric analysis and quality control
- Bioavailability and safety assessment
- Circular bioeconomy and sustainable development
- Biotechnology and industrial applications of natural extracts
- Agro-industrial waste utilization and resource recovery

Keywords

- Agricultural by-products
- Green extraction
- Natural bioactive compounds
- Phytochemical characterization
- Biological activities
- Polyphenols
- Circular bioeconomy
- Sustainable valorization
- Functional ingredients
- High-value applications
- Waste valorization
- Sustainable development

Important Dates

Submission Opens	**15 August 2026**
Manuscript Submission Deadline	**15 November 2026**
First Decision	**Approximately 2–3 weeks after submission**
Publication	Articles will be published online immediately after acceptance and production.

Article Types

The Special Issue welcomes:

- Original Research Articles
- Review Articles
- Short Communications
- Technical Notes
- Methodological Studies
- Perspectives

Why Submit to this Special Issue?

Authors will benefit from:

- ✔ Rigorous and constructive peer review
- ✔ Rapid editorial assessment
- ✔ International visibility through open-access publication
- ✔ Publication within a focused collection dedicated to sustainable natural product research
- ✔ Wide dissemination among researchers from academia and industry
- ✔ Promotion through the journal's communication channels after publication

Submission Information

All manuscripts will undergo an initial editorial assessment followed by independent peer review in accordance with the journal's editorial policies.

Submitted manuscripts must be original, unpublished, and not under consideration by another journal.

Email: submissions@goajs.com