

ISSN: 2162-5360

Volume 15, Number 6, June 2025



Open Journal of Soil Science



ISSN: 2162-5360



9 772162 536000 06

<https://www.scirp.org/journal/ojss>

Journal Editorial Board

ISSN: 2162-5360 (Print) 2162-5379 (Online)

<https://www.scirp.org/journal/ojss>

Editor-in-Chief

Prof. Haiyan Chu

Chinese Academy of Sciences, China

Editorial Board

Prof. Wael Abdel Kawy

Cairo University, Egypt

Dr. Daniel J. Ashworth

University of California, USA

Dr. Thomas John Aspray

Heriot Watt University, UK

Prof. Jie Chen

Shanghai Jiao Tong University, China

Dr. Wilfredo Jr., Arellano Dumale

The University of Tokyo, Japan

Prof. Thomas E. Fenton

Iowa State University, USA

Prof. W. G. Dilantha Fernando

University of Manitoba, Canada

Dr. Bente Foereid

Bioforsk Soil and Environment, Norway

Dr. Bin Gao

University of Florida, USA

Dr. Michael B. Jenkins

United States Department of Agriculture-Agricultural
Research Service, USA

Dr. Antonio Jordán López

University of Seville, Spain

Prof. Mehmet Rüstü Karaman

Gaziosmanpasa University, Türkiye

Prof. Tasios Karathanasis

University of Kentucky, USA

Prof. Usama F. A. Karim

University of Twente, Netherlands

Dr. Sandeep Kumar

South Dakota State University, USA

Prof. Dar-Yuan Lee

National Taiwan University, Chinese Taipei

Dr. Ana Teresa Lima

Utrecht University, Netherlands

Dr. Guodong (David) Liu

University of Florida, USA

Prof. Francisco Jose Martín Peinado

University of Granada, Spain

Dr. Julia Martínez Fernández

University of Murcia, Spain

Prof. Kenneth Ray Olson

College of ACES, USA

Dr. Shambhu Prasad Sah

University of Helsinki, Finland

Dr. Yang-Hsin Shih

National Taiwan University, Chinese Taipei

Prof. Vinod K. Singh

Bundelkhand University, India

Prof. Abdou Abdou Soaud

Cairo University, Egypt

Dr. A. K. Srivastava

ICAR-Central Citrus Research Institute, India

Prof. Berrin Tansel

Florida International University, USA

Dr. Gang Wang

China Agricultural University, China

Dr. Xinhua (Frank) Yin

University of Tennessee-Knoxville, USA

Dr. Qinku Zhang

Yulin University, China

Table of Contents

Volume 15 Number 6

June 2025

Israel Border Security Threats: Soil Tunnels

K. R. Olson, Pam. Olson, E. Wagner 361

Evaluating the Effect of Subsurface Drainage on Soil Properties and Maize Crop Production in Tina Plain Egypt

A. A. M. Eissa, M. B. Abdel Ghany, B. M. E. H. Ebead, A. I. M. Ahmed 388

Morpho-Cultural Characterization, Physicochemical Activities, and Effect of Abiotic Factors on the Growth of *Rhizobium* sp. Isolated from Nodules of 18 Soybean (*Glycine max* (L.) Merr.) Varieties Farmed in Cameroon

L. Manet, H. Mouafo Tene, E. L. Ngonkeu Mangaptche, O. Boyomo, F. L. Edoun Ebouel,
G. Medoua Nama, A. D. Begoudé Boyogueno 408

Irrawaddy River Valley, Delta and Control of Myanmar's Lifeline

K. R. Olson, W. Frenelus 445

Open Journal of Soil Science (OJSS)

Journal Information

SUBSCRIPTIONS

The *Open Journal of Soil Science* (Online at Scientific Research Publishing, <https://www.scirp.org/>) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$69 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright and reuse rights for the front matter of the journal:

Copyright © 2025 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

Copyright for individual papers of the journal:

Copyright © 2025 by author(s) and Scientific Research Publishing Inc.

Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

Disclaimer of liability

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: ojss@scirp.org



Open Journal of Soil Science

ISSN: 2162-5360 (Print) ISSN: 2162-5379 (Online)

<https://www.scirp.org/journal/ojss>

Open Journal of Soil Science (OJSS) is an international journal dedicated to the latest advancements of soil science. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of soil science.

Editor-in-Chief

Prof. Haiyan Chu

Chinese Academy of Sciences, China

Editorial Board

Prof. Wael Abdel Kawy
Dr. Daniel J. Ashworth
Dr. Thomas John Aspray
Prof. Jie Chen
Dr. Wilfredo Jr., Arellano Dumale
Prof. Thomas E. Fenton
Prof. W. G. Dilantha Fernando
Dr. Bente Foereld
Dr. Bin Gao
Dr. Michael B. Jenkins

Dr. Antonio Jordán López
Prof. Mehmet Rüstü Karaman
Prof. Tasios Karathanasis
Prof. Usama F. A. Karim
Dr. Sandeep Kumar
Prof. Dar-Yuan Lee
Dr. Ana Teresa Lima
Dr. Guodong (David) Liu
Prof. Francisco Jose Martín Peinado
Dr. Julia Martínez Fernández

Prof. Kenneth Ray Olson
Dr. Shambhu Prasad Sah
Dr. Yang-Hsin Shih
Prof. Vinod K. Singh
Prof. Abdou Abdou Soaud
Dr. A. K. Srivastava
Prof. Berrin Tansel
Dr. Gang Wang
Dr. Xinhua (Frank) Yin
Dr. Qinku Zhang

Subject Coverage

This journal invites original research and review papers that address the following issues in soil science. Topics of interest include, but are not limited to:

- Soil and Global Change
- Soil Biology and Biochemistry
- Soil Chemistry
- Soil Ecology
- Soil Environment
- Soil Fertility and Plant Nutrition
- Soil Geography
- Soil Improvement Studies
- Soil Microbiology
- Soil Physics
- Soil Remediation
- Soil Resources and Use
- Soil Science in Other Disciplines
- Soil Survey and Evaluation
- Soil Taxonomy
- Soil Tillage

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the **OJSS**.

Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

Website and E-Mail

<https://www.scirp.org/journal/ojss>

E-mail: ojss@scirp.org

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

What is Open Access?

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



Website: <https://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org