

Soil Physics

- 1509–1517 **Maxwell's Law Based Models for Liquid and Gas Phase Diffusivities in Variably-Saturated Soil**
Shoichiro Hamamoto, Per Moldrup, Ken Kawamoto, and Toshiko Komatsu
- 1518–1528 **Turbulence Effect on Gas Transport in Three Contrasting Forest Soils**
Martin Maier, Helmer Schack-Kirchner, Marc Aubinet, Stéphanie Goffin, Bernard Longdoz, and Florian Parent
- 1529–1535 **Estimation of Soil Clay Content from Hygroscopic Water Content Measurements**
Mark N. Wuddivira, David A. Robinson, Inma Lebron, Laëtitia Brécher, Melissa Atwell, Sunshine De Caires, Michael Oatham, Scott B. Jones, Hiruy Abdu, Aditya K. Verma, and Markus Tuller
- 1536–1547 **Estimating Soil Solution Nitrate Concentration from Dielectric Spectra Using Partial Least Squares Analysis**
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- 1548–1563 **Simulation of Overwinter Soil Water and Soil Temperature with SHAW and RZ-SHAW**
Zizhong Li, Liwang Ma, Gerald N. Flerchinger, Lajpat R. Ahuja, Hao Wang, and Zishuang Li
- 1564–1578 **Diffusion Aspects of Designing Porous Growth Media for Earth and Space**
Chamindu Deepagoda T.K.K., Per Moldrup, Maria P. Jensen, Scott B. Jones, Lis Wollesen de Jonge, Per Schjønning, Kate Scow, Jan W. Hopmans, Dennis E. Rolston, Ken Kawamoto, and Toshiko Komatsu

Soil Chemistry

- 1579–1591 **Effect of pH and Weathering Indices on the Reductive Transformation of 2-Nitrophenol in South China**
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- 1592–1605 **Molecular Composition of Humic Acids from Coastal Wetland Soils along a Salinity Gradient**
Syam K. Dodla, Jim J. Wang, and Robert L. Cook
- 1606–1613 **Dissolution and Re-crystallization Processes of Active Calcium Carbonate in Soil Developed on Tufa**
Guy Tamir, Moshe Shenker, Hadar Heller, Paul R. Bloom, Pinchas Fine, and Asher Bar-Tal

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- 1614–1623 **Carbon Allocation, Belowground Transfers, and Lipid Turnover in a Plant–Microbial Association**
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- 1624–1633 **Changes in Soil Organic Carbon and Nitrogen Fractions with Duration of No-Tillage Management**
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- 1634–1643 **Soil Aggregate Destruction by Ultrasonication Increases Soil Organic Matter Mineralization and Mobility**
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- 1644–1654 **Relationship between Food Resource, Soil Physical Condition, and Invertebrates in Pastoral Soils**
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- 1655–1666 **Spent Mushroom Substrates Influence Soil Quality and Nitrogen Availability in a Semiarid Vineyard Soil**
F. Peregrina, C. Larrieta, M. Colina, I. Mariscal-Sancho, I. Martín, J. M. Martínez-Vidaurre, and E. García-Escudero
- 1667–1677 **Biodegradation of Soluble Organic Matter as Affected by Land-Use and Soil Depth**
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- 1678–1684 **Phosphorus Availability in an Oxisol Amended with Biosolids in a Long-Term Field Experiment**
Luis Reynaldo F. Alleoni, Antonio R. Fernandes, and Camila B. Jordão

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- 1685–1695 **Biological Soil Crusts in the Mojave Desert, USA: Micromorphology and Pedogenesis**
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- 1696–1706 **Topographic and Soil Constraints to Shale-Gas Development in the Northcentral Appalachians**
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- 1707–1718 **Assessing the Suitability of Rotary Coring for Sampling in Rocky Soils**
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- 1719–1727 **Precision of Soil Particle Size Analysis using Laser Diffractometry**
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- 1728–1740 **Temporal Variability of Nitrous Oxide from Fertilized Croplands: Hot Moment Analysis**
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- 1741–1757 **Dryland Soil Greenhouse Gas Emissions Affected by Cropping Sequence and Nitrogen Fertilization**
Upendra M. Sainju, Thecan Caesar-TonThat, Andrew W. Lenssen, and Joy L. Barsotti
- 1758–1767 **Soil and Polymer Properties Affecting Water Retention by Superabsorbent Polymers under Drying Conditions**
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- 1768–1775 **Soil Water Dynamics of Conventional and No-Till Wheat in the Southern Great Plains**
A. Patrignani, C. B. Godsey, T. E. Ochsner, and J. T. Edwards
- 1776–1788 **Strategies for Soil Quality Assessment Using Visible and Near-Infrared Reflectance Spectroscopy in a Western Kenya Chronosequence**
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- 1789–1797 **Cropping and Tillage Systems Effects on Soil Erosion under Climate Change in Oklahoma**
X.-C. (John) Zhang

- 1798–1809 **Long-Term No-Till Impacts on Organic Carbon and Properties of Two Contrasting Soils and Corn Yields in Ohio**
Sandeep Kumar, Atsunobu Kadono, Rattan Lal, and Warren Dick

- 1867–1876 **Nutrient Balance and Use Efficiency in Sandy Soils Cropped with Tomato under Seepage Irrigation**
Shinjiro Sato, Kelly T. Morgan, Monica Ozores-Hampton, Kamal Mahmoud, and Eric H. Simonne

- 1877–1886 **Soil pH and Crop Grain Yield as Affected by the Source and Rate of Lime**
Agustin Pagani and Antonio P. Mallarino

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- 1810–1815 **Bulk Density of Rocky Mine Soils in Forestry Reclamation**
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Forest, Range & Wildland Soils

- 1816–1827 **Effects of Forest Harvest on Soil Carbon and Related Variables in Canadian Spodosols**
Stephanie Grand and Les M. Lavkulich

- 1828–1841 **Human-Altered and Human-Transported Soils in an Italian Industrial District**
Gian Franco Capra, Sergio Vacca, Emanuela Cabula, Eleonora Grilli, and Andrea Buondonno

Nutrient Management & Soil & Plant Analysis

- 1842–1854 **Nitrogen Transformation, Ammonia Volatilization Loss, and Nitrate Leaching in Organically Enhanced Nitrogen Fertilizers Relative to Urea**
U. Singh, J. Sanabria, E.R. Austin, and S. Agyin-Birikorang

- 1855–1866 **Comparison of Methods to Determine Crop Lime Requirement Under Field Conditions**
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Soil Mineralogy

- 1887–1903 **Conceptual Mineral Genesis Models for Calcic Pendants and Petrocalcic Horizons, Nevada**
Colin R. Robins, Amy L. Brock-Hon, and Brenda J. Buck

Wetland Soils

- 1904–1910 **Carbon Sequestration Potential at Central Wisconsin Wetland Reserve Program Sites**
Nicholas J. Besasie and Meghan E. Buckley

- 1911–1918 **Uncertainty in Peat Volume and Soil Carbon Estimated Using Ground-Penetrating Radar and Probing**
Andrew D. Parsekian, Lee Slater, Dimitrios Ntarlagianis, James Nolan, Stephen D. Sebesteyen, Randall K. Kolka, and Paul J. Hanson

- 1919–1927 **Fate of Nitrate in Vegetated Brackish Coastal Marsh**
Christine M. VanZomerem, John R. White, and Ronald D. DeLaune

Book Reviews

- 1928 **Amazon Forest & Savanna Lands: A guide to the climates, vegetation, landscapes, and soils of central tropical South America**
Reviewed by Charles Allan Jones