

**CONTENTS**

**Volume 66 Number 8 July 2020**

**Articles**

- 1027 Dose-dependent effect of compost amendment on soil bacterial community composition and co-occurrence network patterns in soybean agroecosystem  
*Wei Yang, Zhongzan Yang, Yupeng Guan, Cheng Zhai, Dengyu Shi, Jianghui Chen, Tao Wang and Siyu Gu*
- 1042 Influence of Zn nutrition on the productivity, grain quality and grain biofortification of wheat under conventional and conservation rice–wheat cropping systems  
*Faisal Nadeem, Muhammad Farooq, Aman Ullah, Abdul Rehman, Ahmad Nawaz and Muhammad Naveed*
- 1058 Effect of legume and legume-festulolium mixture and their mulches on cereal yield and soil quality in organic farming  
*Ausra Arlauskienė, Danute Jablonskyte-Rasce and Alvyra Slepetiene*
- 1074 Potentialities and soil impact analysis of rock phosphorus fertilization of perennial and annual legume crops  
*Ameni Ben Zineb, Darine Trabelsi, Fathi Barhoumi, Sana Fitouri Dhane and Ridha Mhamdi*
- 1089 Enhanced bioremediation of PAH-contaminated soil by wheat bran and microbial community response  
*Jie Zhang, Jing Yuan, Qingling Wang, Jun Wang, Wuxing Lju, Yongming Luo and Peter Christie*
- 1103 Response of photosynthetic active radiation interception, dry matter accumulation, and grain yield to tillage in two winter wheat genotypes  
*Junmei Liu, Yanli Fan, Yuzhao Ma and Quanqi Li*
- 1115 Global sensitivity and uncertainty analysis of the AquaCrop model for maize under different irrigation and fertilizer management conditions  
*Daxin Guo, Rongheng Zhao, Xuguang Xing and Xiaoyi Ma*
- 1134 Selecting the ideotype of improved rice cultivars using multiple regression and multivariate models  
*Hassan Haghshenas, Afshin Soltani, Abbas Ghanbari Malidarreh, Hossein Ajam Norouzi and Salman Dastan*
- 1154 Nitrogen nutrition and changes in the chemical attributes of the soil for cultivars of *Brachiaria brizantha* intercropped with *Stylosanthes* in different forage systems  
*Patrícia Soares Epifanio, Kátia Aparecida De Pinho Costa, Eduardo Da Costa Severiano, Gustavo André Simon and Valdevino Rodrigues Da Silva*

**Volume 66 Number 9 July 2020**

**Articles**

- 1171 Plastic-film mulch improves *Vicia unijuga* seed yield and yield components under subalpine climate conditions  
*Wei Tang, Jeffrey A. Coulter, Xiao-Wen Hu, Yun-Hua Han, Yan-Rong Wang, Zhi-Xin Zhang, Rui Li and Zhi-Biao Nan*
- 1188 Multifractal characteristics of the pore structures of physically amended sandy soil and the relationship between soil properties and multifractal parameters  
*Shilei Zhu, Qing Zhen and Xingchang Zhang*

- 1546 Cry1Ab/Ac proteins released from subspecies of *Bacillus thuringiensis* (Bt) and transgenic Bt-rice in different paddy soils  
*Ling Liu, Stefan Knauth, Longhua Wu and Thilo Eickhorst*
- 1556 Unraveling the local and structured variation of soil nutrients using two-dimensional empirical model decomposition in Fen River Watershed, China  
*Hongfen Zhu, Ruipeng Sun, Rutian Bi, Tiangliang Li, Yaodong Jing and Wei Hu*
- 1570 Influence of field pea (*Pisum sativum* L.) as catch crop cultivated for green manure on soil phosphorus and P-cycling enzyme activity  
*Anna Piotrowska-Długosz and Edward Wilczewski*
- 1583 The spatial pattern and seasonal changes in the soil phosphorus content in relation to the phosphatase activity: a case study of Luvisols  
*Anna Piotrowska-Długosz, Joanna Lemanowicz and Jacek Długosz*
- 1598 Distribution and formation of degradation products of <sup>14</sup>C-quinclorac in five tropical soils  
*Felipe Gimenes Alonso, Kassio Ferreira Mendes, Leonardo Vilela Junqueira, Vanessa Takeshita, Cassio De Souza Almeida and Valdemar Luiz Tornisielo*

**Volume 66 Number 12 October 2020**

**Articles**

- 1611 Energy use efficiency of deficit-irrigated silage maize in different soil tillage practices on a high plain with a semi-arid climate  
*Zinnur Gozubuyuk, Ustun Sahin, Mesut Cemal Adiguzel and Erdal Dasci*
- 1627 Effects of a super-absorbent polymer derived from poly-γ-glutamic acid on water infiltration, field water capacity, soil evaporation, and soil water-stable aggregates  
*Jianzhong Guo, Wenjuan Shi, Lijun Wen, Xiaoxiao Shi and Jiake Li*
- 1639 Spatio-temporal variability of soil salinity and sodicity in agricultural reclaimed coastal wetlands, Eastern China  
*Xuefeng Xie, Lijie Pu, Ming Zhu, Tao Wu and Yan Xu*
- 1651 Sorption-desorption isotherms and biodegradation of glyphosate in two tropical soils aged with eucalyptus biochar  
*Leonardo Vilela Junqueira, Kassio Ferreira Mendes, Rodrigo Nogueira de Sousa, Cassio de Souza Almeida, Felipe Gimenes Alonso and Valdemar Luiz Tornisielo*
- 1668 Evaluating fractal dimension of the soil particle size distributions and soil water retention curve obtained from soil texture components  
*Chari Mohammad Mahdi and Mohammad Reza Dahmardeh Ghaleno*
- 1679 Soil tillage and herbicide applications in pea: arbuscular mycorrhizal fungi, plant growth and nutrient concentration respond differently  
*Kathrin Rosner, Karin Hage-Ahmed, Gernot Bodner and Siegrid Steinkellner*
- 1692 Salinity-induced changes in biometric, physiological and anatomical parameters of *Passiflora edulis* Sims plants propagated by different methods  
*Regiana dos Santos Moura, Taliane Leila Soares, Lucas Kennedy Silva Lima, Hans Raj Gheyi, Onildo Nunes Jesus and Mauricio Antonio Coelho Filho*

- 1707 Increased plant density with reduced nitrogen input can improve nitrogen use efficiency in winter wheat while maintaining grain yield  
*Shuxin Dong, Juan Zhang, Ting Zha, Xinglong Dai and Mingrong He*
- 1721 The variation of phosphorous content, grain yield, and rhizosphere microbial biomass among durum wheat cultivars under salinity stress  
*Khaoula Boudabbous, Imen Bouhaouel, Chahine Karmous, Nadhira Benaissa, Youssef Trifa, Ali Sahli and Hajer Slim Amara*
- 1735 Assessing cadmium availability of contaminated saline-sodic soils as influenced by biochar using the adsorption isotherm models  
*Maryam Zahedifar and Ali Akbar Moosavi*

**Volume 66 Number 13 November 2020**

**Articles**

- 1753 The effects of chicken manure on the immobilization and bioavailability of cadmium in the soil-rice system  
*Qingqing Huang, Yanan Wan, Zhang Luo, Yuhui Qiao, Dechun Su and Huafen Li*
- 1765 An empirical model for estimating soil wetting pattern dimensions during film hole irrigation  
*Yanwei Fan, Xiaoxia Shao, Jianguo Gong and Ying Wang*
- 1780 The role of extracellular polymeric substances in bacterial adhesion onto variable charge soils  
*Nkoh Jackson Nkoh, Zhao-Dong Liu, Jing Yan, Shu-Jie Cai, Zhi-Neng Hong and Ren-Kou Xu*
- 1794 Characteristics and agricultural potential of soils with plin:hic materials in the savanna ecology of south western Nigeria  
*Gabriel Akinboye Oluwatosin, Kayode Steven Are, Olateju Dolapo Adeyolanu and Omololu John Idowu*
- 1812 Effect of long-term fertiliser regimes and weather on spring barley yields in sandy soil in North-East Germany  
*Thi Huyen Thai, Sonoko Dorothea Bellingrath-Kimura, Carsten Hoffmann and Dietmar Barkusky*
- 1827 The scarcity and distribution of rainfall drove the performance (i.e., mitigation of N oxide emissions, crop yield and quality) of calcium ammonium nitrate management in a wheat crop under rainfed semiarid conditions  
*Guillermo Guardia, Carmen González-Murua, Teresa Fuertes-Mendizábal and Antonio Vallejo*
- 1845 Integrated soil-cotton management system enhances nitrogen use efficiency under different soil fertility levels  
*Xinyue Zhang, Hongkun Yang, Rizwan Zahoor, Binglin Chen, John L. Snider and Zhiguo Zhou*
- 1861 Rice straw biochar effects on Atterberg limits and aggregate characteristics of an Acrisol in Ghana  
*Emmanuel Arthur, Eric Oppong Danso, Mojgan Beiranvand, Nastaran Pouladi, Adam Yakubu, Stephen Abenney-Mickson and Edward Benjamin Sabi*
- 1873 Soil respiration in relation to cropping sequence, nutrient management and environmental variables  
*Dinesh Kumar Benbi, A.S. Toor, Kiranvir Brar and Chandni Dhall*
- 1888 Relationship of red and red-edge reflectance-based vegetation indices with stalk and fiber yield of energy cane harvested at different dates  
*Marilyn Dalen, Brenda Tubana, Yumiko Kanke and Collins Kimbeng*

- 1909 An optimized artificial intelligence approach and sensitivity analysis for predicting the biological yield of grass pea (*Lathyrus sativus* L.)  
*Moslem Abdipour, Behrouz Vaezi, Karim Khademi and Soraya Ghasemi*
- 1925 Biomass and carbon projection models in *Hardwickia binata* Roxb. vis a vis estimation of its carbon sequestration potential under arid environment  
*Suresh Pal Singh Tanwar, Archana Verma, Praveen Kumar, Nurnabi Meherul Alam and Ram Krishna Bhatt*
- 1936 Soil temperature modeling in topsoil with plastic film mulching and low spring temperatures  
*Lifeng Zhou, Wenzhi Zhao, Rong Yang and Hao Feng*
- 1948 Inoculation of diazotrophic bacteria modifies the growth rate and grain yield of maize at different levels of nitrogen supply  
*Farley Alexandre da Fonseca Breda, Gabriela Cavalcanti Alves, Bruna Daniela Ortiz Lopez, Alison Rocha de Aragão, Adelson Paulo Araújo and Veronica Massena Reis*
- 1963 A study of the responsiveness of crops to fertilizers by zones of stable intra-field heterogeneity based on big satellite data analysis  
*Nikolay B. Khitrov, Dmitry I. Rukhovich, Polina V. Koroleva, Natalia V. Kalinina, Alexey V. Trubnikov, Dmitry A. Petukhov and Andrey L. Kulyanitsa*
- 1976 Increasing straw incorporation rates improves subsoil fertility and crop yield in the Huang-Huai-Hai Plain of China  
*Ping Cong, Yuyi Li, Jing Wang, Zhijuan Gao, Huancheng Pang, Li Zhang, Na Liu and Jianxin Dong*
- 1991 Ammonium nutrition modulates K<sup>+</sup> and N uptake, transport and accumulation during salt stress acclimation of sorghum plants  
*Daniel Gomes Coelho, Rafael de Souza Miranda, Stelamaris de Oliveira Paula-Marinho, Humberto Henrique de Carvalho, José Tarquinio Prisco and Enéas Gomes-Filho*
- 2005 Shrinkage-swelling characteristics and plasticity indices of paddy soils: spatial variability and their influential parameters  
*Leila Rezaee, Ali Akbar Moosavi, Naser Davatgar and Ali Reza Sepaskhah*
- 2026 Organic carbon sequestration and nitrogen content in forest soils versus arable soils within a heavy-clay Phaeozem landscape: a Romanian case study  
*Paltineanu Cristian, Lacatusu Radu, Vrinceanu Andrei and Lacatusu Anca Rovena*
- 2039 Identifying optimum rates of fertilizer nitrogen application to maximize economic return and minimize nitrous oxide emission from rice–wheat systems in the Indo-Gangetic Plains of India  
*Tek B. Sapkota, Love K. Singh, Arvind K. Yadav, Arun Khatri-Chhetri, Hanuman S. Jat, Parbodh C. Sharma, Mangi L. Jat and Clare M. Stirling*
- 2055 Long-term winter wheat cropping influenced soil organic carbon pools in different aggregate fractions of Chernozem soil  
*Srdjan Šeremešić, Vladimir Ćirić, Ivica Djalović, Jovica Vasin, Tijana Zeremski, Kadambot H. M Siddique and Muhammad Farooq*