

## CONTENTS

Volume 40 Number 17 2017

### Articles

- Application of the end-of-season stalk nitrate test for a high-yield maize production system in Northwestern China  
*Zhi-ping Yang, Yong-liang Wang, Cai-xia Guo, Jun-ling Guo, Xiu-fu Shuai, Russell Yost, Xun-zhong Zhang, and Qiang Zhang* 2373
- Switchgrass forage yield and biofuel quality with no-tillage interseeded winter legumes in the southern Great Plains  
*Apurba K. Sutradhar, Eric C. Miller, Daryl B. Arnall, Bruce L. Dunn, Kefyalew Girma, and William R. Raun* 2382
- Will selenium fertilization improve biological nitrogen fixation in lentils?  
*Lukshman J. Ekanayake, Dil Thavarajah, Rebecca McGee, and Pushparajah Thavarajah* 2392
- Crop rhizospheric microbial community structure and functional diversity as affected by maize and potato intercropping  
*Xiao Min Qin, Yi Zheng, Li Tang, and Guang Qiang Long* 2402
- Perusing biochemical antioxidant enzymes as selection criteria under drought stress in wheat varieties  
*Amir Tabarzad, Boshra Ayoubi, Mehrnaz Riasat, Armin Saed-Moucheshi, and Mohammad Pessarakli* 2413
- Effects of different boron concentration on the growth and physiological characteristics of two olive cultivars  
*Hojat Rostami, Seyed Jalal Tabatabaei, and Fariborz Zare Nahandi* 2421
- Variation of mineral nutrient contents of modern and heirloom cultivars of cabbage in different regimes of soil fertility  
*Allen V. Barker, Touria E. Eaton, Md J. Meagy, Emad Jahanzad, and Gretchen M. Bryson* 2432
- Effect of silicon amendment on soil-cadmium availability and uptake in rice grown in different moisture regimes  
*Tapasya Babu and Prakash Nagabovanalli* 2440
- Effect of silicon on the alleviation of boron toxicity in wheat growth, boron accumulation, photosynthesis activities, and oxidative responses  
*Chunguang Liu, Wenkai Lu, Qingna Ma, and Chengcang Ma* 2458
- Macronutrient accumulation dynamics in apple fruits  
*Tomás Casero, Estanis Torres, Simó Alegre, and Inmaculada Recasens* 2468
- Nitrogen application in direct wet-seeded rice under alternate wetting and drying irrigation condition: Effects on grain yield, dry matter production, nitrogen uptake and nitrogen use efficiencies  
*M. K. A. Bhuiyan, S. U. Bhuiya, M. A. Saleque, and A. Khatun* 2477
- Growth kinetics at early stages of sunflower (*Helianthus annuus* L.) under soil compaction  
*Virginie Mirleau-Thebaud, Jean Dayde, and Javier David Scheiner* 2494

Articles

- Analysis and use of cumulative nutrient uptake formulas in plant nutrition and the temporal-weight-averaged influx  
*Juan C. Reginato, Jorge L. Blengino, and Domingo A. Tarzia* 2511
- Effect of Zinc applied together with compound fertilizer on yield and quality of sugar beet (*Beta vulgaris* L.)  
*Ahmet Piskin* 2521
- Nitrogen efficiency in hydroponic chicory  
*Arthur Bernardes Cecílio Filho, Roberto Luciano Coelho, Tatiana Pagan Loeiro da Cunha, and Et Miguel Urrestarazu* 2532
- Exogenous abscisic acid promotes the nitrogen use efficiency of *Brassica napus* by increasing nitrogen remobilization in the leaves  
*Yong-Liang Han, Jia-Yuan Liao, Yin Yu, Hai-Xing Song, Nan Rong, Chun-Yun Guan, Joe Eugene Lepo, Abdelbagi M. Ismail, and Zhen-Hua Zhang* 2540
- Bioremediation of heavy metals from municipal sewage by cyanobacteria and its effects on growth and some metabolites of *Beta vulgaris*  
*Mustafa A. Fawzy and Abdel Kareem S. H. Mohamed* 2550
- Physiological responses of the two blueberry cultivars to inoculation with an arbuscular mycorrhizal fungus under low-temperature stress  
*Xiao M. Liu, Qing L. Xu, Qing Q. Li, Hong Zhang, and Jia X. Xiao* 2562
- Updating the main vegetable fertilization index system for southern China  
*Rongping Wang, Xinrong Liao, Weimin Yu, Shuyi Li, Zhenshou Zhan, and Jiawei Liang* 2571
- Polymer coated DAP helps in enhancing growth, yield and phosphorus use efficiency of wheat (*Triticum aestivum* L.)  
*Imran Ali, Ayesha Mustafa, Muhammad Yaseen, and Muhammad Imran* 2587
- Effect of *Pseudomonas putida* and inorganic fertilizer on growth and productivity of habanero pepper (*Capsicum Chinense* Jacq.) in greenhouse  
*Roberto G. Chiquito-Contreras, Bernardo Murillo-Amador, Cesar J. Chiquito-Contreras, Jhovana C. Márquez-Martínez, Miguel V. Córdoba-Matson, and Luis G. Hernández-Montiel* 2595
- Foliar application of calcium and kinetin on soybean at reproductive stage  
*Samuel Luiz Fioreze, João Paulo Costa Carneiro, Daniela Dias Pinto, and João Domingos Rodrigues* 2602
- The effect of N and NaCl on growth, yield, and nitrate content of salad rocket (*Eruca sativa* Mill.)  
*Branimir Urlić, Gvozden Dumičić, Marija Romić, and Smiljana Goreta Ban* 2611
- Differential responses of three chamomile genotypes to salinity stress with respect to physiological, morphological, and phytochemical characteristics  
*Omid Askari-Khorasgani, Safura Emadi, Forough Mortazaienezhad, and Mohammad Pessarakli* 2619
- Cultivars of canola respond similarly to applied nitrogen in n-deficient soils of south Western Australia  
*Mark Seymour and Ross F. Brennan* 2631

## Volume 40 Number 19 2017

### Articles

- Assessing suitability of different extractants for determining available boron in soil  
*Aritra Saha, P. K. Mani, G. C. Hazra, and Tarik Mitran* 2651
- Investigation of the potential use of recycling spent mushroom compost as Marigold (*Calendula officinalis*) bedding medium  
*Davood Naderi and Jaber Fallahzade* 2662
- Substrate effects on vegetative and reproductive growth of *Ornithogalum thyrsoides* "Royal Beauty"  
*C. Bonomelli, V. Celis, and F. Schiappacasse* 2669
- The effect of different N rates on Cd speciation of Cd-contaminated soil with oilseed rape  
*Shiqi Fan and Yulong Zhang* 2680
- Manganese deficiency in wheat genotypes: Physiological responses and manganese deficiency tolerance index  
*Arijit Barman, Raghu Nath Pandey, Bhupinder Singh, and Bappa Das* 2691
- Evaluating the performance of mungbean genotypes for grain yield, phosphorus accumulation and utilization efficiency  
*Muhammad Irfan, Javaid Ahmed Shah, and Muhammad Abbas* 2709
- The effects of autumn foliar applications of boron and urea on flower quality, yield, boron and nitrogen reserves of apricot  
*Hüseyin Karlıdag, Ahmet Esitken, Metin Turan, and Salih Atay* 2721
- The effect of foliar application of Moringa leaf extract on biomass, grain yield of wheat and applied nutrient efficiency  
*Henry G. Brockman and Ross F. Brennan* 2728
- Growth and acquisition of Na, K and Ca in some elite sweetpotato [*Ipomoea batatas* (Lam.) L.] genotypes under salinity stress  
*Keso Evoi, Rajashekhar Rao B. K., and A. Ramakrishna* 2737
- Effect of interaction between salinity and nanoparticles ( $\text{Fe}_2\text{O}_3$  and ZnO) on physiological parameters of *Zea mays* L.  
*Alireza Fathi, Morteza Zahedi, and Shahram Torabian* 2745
- Scaling-up of boron sources for yield and quality of large seeded peanut cultivars under varied agro-ecological conditions in India  
*A. L. Singh, R. S. Jat, A. Zala, H. Bariya, S. Kumar, Y. S. Ramakrishna, G. Rangaraju, M. Rani Masih, T. B. Bhanusali, S. Vijaykumar, E. Somasundaram, and I. M. Singh* 2756
- Investigative approaches associated with plausible chemical and biochemical markers for screening wheat genotypes under salinity stress  
*Armin Saed-Moucheshi, Mohammad Pessarakli, Azadeh Mikhak, Pouya Ostovar, and Asra Ahamadi-Niaz* 2768

## Volume 40 Number 20 2017

### Articles

- Yield and nutritional requirements of cassava in response to potassium fertilizer in the second cycle  
*Adalton Mazetti Fernandes, Bruno Gazola, Jesion Geibel da Silva Nunes, Emerson Loli Garcia, and Magali Leonel* 2785

Evaluation of nanosilicon dioxide and chitosan on tissue culture of apple under agar-induced osmotic stress <i>Saber Avestan, Lotfali Naseri, and Allen V. Barker</i>	2797
Quantification of seed ionome variation in 90 diverse soybean ( <i>Glycine max</i> ) lines <i>Gokhan Hacisalihoglu and A. Mark Settles</i>	2808
In-season decision support tools for estimating sidedress nitrogen rates for corn in the Mid-Atlantic Coastal Plain <i>Bee Khim Chim, Tyler Black, Paul Davis, and Wade Thomason</i>	2818
Evaluation of drum cavity size and planter tip on singulation and plant emergence in maize ( <i>Zea mays</i> L.) <i>J. S. Dhillon, B. Figueiredo, L. Aula, T. Lynch, R. K. Taylor, and W. R. Raun</i>	2829
Humic substrates application in diluted form enhanced availability of phosphorus (P) and its uptake by tea bushes in the tea-growing soil of Northeast India <i>Prabhat Pramanik, Shamina Safique, Asrafa Jahan, and Rajib M. Bhagat</i>	2841
Responses of <i>Polygonatum odoratum</i> seedlings in aeroponic culture to treatments of different ammonium: nitrate ratios <i>Tingting Zou, Chenzhong Jin, Yong Chen, Zefa Liu, and Yihong Hu</i>	2850
Effect of indigenous arbuscular mycorrhizal fungi combined with manure on the change in concentration some mineral elements in cotton ( <i>Gossypium hirsutum</i> L.) <i>Mazen Ibrahim</i>	2862
Impact of cropping intensity on soil properties and plant available nutrients in hot arid environment of North-Western India <i>T. P. Verma, P. C. Moharana, R. K. Naitam, R. L. Meena, Sunil Kumar, R. Singh, B. L. Tailor, R. S. Singh, and S. K. Singh</i>	2872
Enhanced phosphorus fertilizers (Carbond P <sup>®</sup> and Avail <sup>®</sup> ) supplied to maize in hydroponics <i>Jeffrey S. Summerhays, Von D. Jolley, Michael W. Hill, and Bryan G. Hopkins</i>	2889
Accumulation of lead and arsenic in Malabar spinach ( <i>Basella alba</i> L.) and sweet potato ( <i>Ipomoea batatas</i> L.) leaves grown on urban and orchard soils <i>E. E. Codling and J. Onyeador</i>	2898