

Journal of Plant Nutrition

CONTENTS

Volume 38, Number 8 2015

- SOIL BORON FRACTIONS AND RESPONSE OF GREEN GRAM IN CALCAREOUS SOILS** □ Rajeev Padbhushan and D. Kumar 1143
- MACRONUTRIENTS COMPOSITION OF LETTUCE PLANTS (*LACTUCA SATIVA* L.) AS AFFECTED BY MINERAL NUTRITION LEVEL AND ION EXCHANGE SUBSTRATE BIONA-312 SUPPLEMENTATION** □ Renata Matraszek 1158
- ELEVATED CO₂ IMPROVES GROWTH AND PHOSPHORUS UTILIZATION EFFICIENCY IN CEREAL SPECIES UNDER SUB-OPTIMAL PHOSPHORUS SUPPLY** □ Renu Pandey, Krishna Kant Dubey, Altaf Ahmad, Rakshanda Nilofar, Rachana Verma, Vanita Jain, Gaurav Zinta, and Vikas Kumar 1196
- EFFECTS OF COCONUT HUSK AND SPHAGNUM MOSS-BASED MEDIA ON GROWTH AND YIELD OF ROMAINE AND BUTTERCRUNCH LETTUCE (*LACTUCA SATIVA*) IN A NON-CIRCULATING HYDROPONICS SYSTEM** □ Norman Q. Arancon, Nicholas Schaffer, and Chad E. Converse 1218
- EFFECTS OF SOME ORGANIC NITROGEN SOURCES AND ANTIBIOTICS ON CALLUS GROWTH OF *INDICA* RICE CULTIVARS** □ Arman Pazuki, Jafar Asghari, Mohammad Mehdi Sohani, Mohammad Pessarakli, and Fatemeh Aflaki 1231
- REPLACING CONVENTIONAL NUTRIENT INPUTS FOR BASAL APPLICATION WITH ANAEROBICALLY DIGESTED PIG SLURRY FOR BULB ONION PRODUCTION** □ Jongtae Lee and Deuggyeong Seong 1241
- NUTRIENT RELEASE CHARACTERISTICS OF COATED FERTILIZERS BY SUPERFINE PHOSPHATE ROCK POWDER AND ITS EFFECTS ON PHYSIOLOGICAL TRAITS OF CHINESE CABBAGE** □ Jun Hou, Yuan-Jie Dong, Chun-Sheng Liu, Guo-Sheng Gai, Gui-Yan Hu, Zhen-Yi Fan, and Lin-Lin Xu 1254
- GROWTH PARAMETERS, LEAF CHARACTERISTICS AND NUTRIENT STATUS OF BANANA AS INFLUENCED BY ORGANICS, BIOFERTILIZERS AND BIOAGENTS** □ T. K. Hazarika, R. K. Bhattacharyya, and B. P. Nautiyal 1275

Contents

REPRODUCTION OF MM.106 ROOTSTOCKS PROPAGATED BY STOOILING AS AFFECTED BY ORGANIC SOURCES □ Hyun-Sug Choi, Curt R. Rom, Mengmeng Gu, Bruce L. Dunn, Yong-In Kuk, and Seok-Kyu Jung **1289**

CONTENTS **Volume 38, Number 9** **2015**

SOIL FERTILITY, NUTRITION AND EARLY GROWTH OF PHYSIC NUT AS AFFECTED BY NITROGEN FERTILIZATION □ Mariângela Brito Freiburger, Iraê Amaral Guerrini, Gustavo Castoldi, and Lilian Guimarães de Favare **1309**

EFFECT OF NITROGEN ON THE ALLEVIATION OF BORON TOXICITY IN RICE (*ORYZA SATIVA* L.) □ Hadi Koohkan and Manouchehr Maftoun **1323**

VEGETATIVE GROWTH, YIELD AND LEAF MINERAL COMPOSITION IN STRAWBERRY (*FRAGARIA* × *ANANASSA* DUCH. CV. PAJARO) AS INFLUENCED USING NICKEL SULFATE AND UREA SPRAYS □ Sæid Eshghi and Rouhollah Ranjbar **1336**

ZINC, COPPER, BORON AND IRON REQUIREMENT OF UPLAND RICE GROWN ON A BRAZILIAN OXISOL □ N. K. Fageria **1346**

ENHANCED PHOSPHORUS FERTILIZER (CARBOND P[®]) SUPPLIED TO MAIZE IN MODERATE AND HIGH ORGANIC MATTER SOILS □ Jeffrey S. Summerhays, Bryan G. Hopkins, Von D. Jolley, Michael W. Hill, Curtis J. Ransom, and Tabitha R. Brown **1359**

EFFECT OF SOURCES, METHODS AND TIME OF APPLICATION OF ZINC ON PRODUCTIVITY, ZINC UPTAKE AND USE EFFICIENCY OF OATS (*AVENA SATIVA* L.) UNDER ZINC DEFFICIENT CONDITION □ Yashbir Singh Shivay, Rajendra Prasad, and Madan Pal **1372**

INTERACTION OF PH AND MN ON PHYSIOLOGICAL PARAMETERS OF *BRASSICA OLERACEA* L. □ Mahlagha Ghorbanli, Mozghan Farzami Sepehr, and Nafiseh Shekarkar **1383**

MAIZE IN-SEASON GROWTH RESPONSE TO ORGANIC ACID-BONDED PHOSPHORUS FERTILIZER (CARBOND P[®]) □ Micheal W. Hill, Bryan G. Hopkins, and Von D. Jolley **1398**

PHOSPHORUS MOBILITY THROUGH SOIL INCREASED WITH ORGANIC ACID-BONDED PHOSPHORUS FERTILIZER (CARBOND[®] P) □ Micheal W. Hill, Bryan G. Hopkins, Von D. Jolley, and Bruce L. Webb **1416**

Contents

THE SYMBIOTIC PERFORMANCE AND PLANT NUTRIENT UPTAKE OF CERTAIN NATIONALLY REGISTERED CHICKPEA (<i>CICER ARIETINUM</i> L.) CULTIVARS OF TURKEY □ Erdal Elkoca, Tulin Kocli, Adem Gunes, and Metin Turan	1427	
PHOSPHATE FERTILIZERS FOR SUGARCANE USED AT PRE-PLANTING (PHOSPHORUS FERTILIZER APPLICATION) □ Robson Thiago Xavier de Sousa, Gaspar Henrique Korndörfer, Rogério Augusto Brem Soares, and Patrícia Rezende Fontoura	1444	
IMPACT OF POSTHARVEST SPRAYS OF NITROGEN, BORON AND ZINC ON NUTRITION, REPRODUCTIVE RESPONSE AND FRUIT QUALITY OF 'SCHATTENMORELLE' TART CHERRIES □ Paweł Wójcik and Halina Morgaś	1456	
CONTENTS	Volume 38, Number 10	2015
<hr/>		
RE-VISITING CALCIUM CONCENTRATION AND DISTRIBUTION IN APPLE FRUIT (<i>MALUS DOMESTICA</i> BORKH.) □ Elmi Lotze, Robert Wilsdorf, Sandy Turketti, Wojciech Józef Przybyłowicz, and Jolanta Mesjasz-Przybyłowicz	1469	
EFFECT OF ARBUSCULAR MYCORRHIZAL (AM) INOCULATION ON GROWTH AND FLOWERING IN <i>CROSSANDRA INFUNDIBULIFORMIS</i> (L.) NEES □ Jyoti D. Vaingankar and B. F. Rodrigues	1478	
COMMON CHICORY PERFORMANCE AS INFLUENCED BY IRON CONCENTRATION IN THE NUTRIENT SOLUTION □ Arthur Bernardes Cecílio Filho, Juan Waldir Mendoza Cortez, Daniel de Sordi, and Miguel Urrestarazu	1489	
PRODUCTIVITY UNDER SHADE AND DIFFERENT NUTRIENT SOLUTION OF HYDROPONIC WATERCRESS (<i>NASTURTIUM OFFICINALE</i> R. BR.) □ Yolanda D. Ortiz-Hernández, Gabino Alberto Martínez-Gutiérrez, Miguel Urrestarazu, L. Vasquez-Vasquez, and Cirenio Escamiroso-Tinoco	1495	
CHARACTERIZATION OF ZINC OXIDE NANO PARTICLES AND THEIR EFFECT ON GROWTH OF MAIZE (<i>ZEA MAYS</i> L.) PLANT □ Tapan Adhikari, S. Kundu, A. K. Biswas, J. C. Tarafdar, and A. Subba Rao	1505	
GROWTH AND NUTRIENT CONTENT OF TRIFOLIATE ORANGE SEEDLINGS INFLUENCED BY ARBUSCULAR MYCORRHIZAL FUNGI INOCULATION IN LOW MAGNESIUM SOIL □ Jia X. Xiao, Cheng Y. Hu, Ying Y. Chen, Jun Hua, and Bo Yang	1516	

Contents

- COMPARATIVE EFFECT OF NITROGEN FORMS ON NITROGEN UPTAKE AND COTTON GROWTH UNDER SALINITY STRESS** □ Jianlong Dai, Liusheng Duan, and Hezhong Dong **1530**
- YIELD AND ZINC, COPPER, MANGANESE AND IRON CONCENTRATION IN MAIZE (*ZEA MAYS* L.) GROWN ON VERTISOL AS INFLUENCED BY ZINC APPLICATION FROM VARIOUS ZINC FERTILIZERS** □ Sanjib K. Behera, Arvind K. Shukla, M. V. Singh, Ravi H. Wanjari, and Pooja Singh **1544**
- YIELD AND PERFORMANCE AND SOIL PROPERTIES OF ORGANICALLY FERTILIZED FODDER CROPS** □ Francesco Montemurro, Angelo Fiore, Gabriele Campanelli, Corrado Ciaccia, Donato Ferri, Michele Maiorana, and Mariangela Diacono **1558**
- BORON FOLIAR APPLICATION IN NUTRITION AND YIELD OF BEET AND TOMATO** □ Ancélio Ricardo de Oliveira Gondim, Renato de Mello Prado, Arthur Bernardes Cecílio Filho, Adriana Ursulino Alves, and Marcus André Ribeiro Correia **1573**
- PHYTOREMEDIATION OF VINEYARD COPPER-CONTAMINATED SOIL AND COPPER MINING WASTE BY A HIGH POTENTIAL BIOENERGY CROP (*HELIANTHUS ANNUUS* L.)** □ Robson Andreazza, Leandro Bortolon, Simone Pieniz, Amauri A. Barcelos, Maurizio S. Quadro, and Flavio A. O. Camargo **1580**
- FALL AND SPRING PHOSPHORUS FERTILIZATION OF POTATO USING A DICARBOXYLIC ACID POLYMER (AVAIL[®])** □ Jeffrey C. Stark and Bryan G. Hopkins **1595**
- ASSESSMENT OF NUTRITIONAL STATUS OF GUAVA SEEDLINGS USING PRELIMINARY DRIS NORMS AND SUFFICIENCY RANGES** □ H. A. Souza, D. E. Rozane, D. A. Amorim, M. J. T. Dias, V. C. Modesto, and W. Natale **1611**
- FRUIT QUALITY AND NITROGEN, POTASSIUM, AND CALCIUM CONTENT OF APPLE AS INFLUENCED BY NITRATE: AMMONIUM RATIOS IN TREE NUTRITION** □ Salim Mohammad Sokri, Mesbah Babalar, Allen V. Barker, Hosein Lesani, and Mohammad Ali Asgari **1619**
- NITROGEN SOURCES AND ADVENTITIOUS ROOT DEVELOPMENT IN *EUCALYPTUS GLOBULUS* MICROCUTTINGS** □ Joséli Schwambach, Carolina Michels Ruedell, Márcia Rodrigues de Almeida, and Arthur G. Fett-Neto **1628**

-
- OPTIMIZING FERTILIZER NITROGEN FOR WINTER WHEAT PRODUCTION IN YANGTZE RIVER REGION IN CHINA** □ Q. Yi, P. He, X. Z. Zhang, L. Yang, and G. Y. Xiong 1639
- INOCULATION WITH PHOSPHATE SOLUBILIZING MESORHIZOBIUM STRAINS IMPROVES THE PERFORMANCE OF CHICKPEA (*CICER ARITENIUM* L.) UNDER PHOSPHORUS DEFICIENCY** □ Hmissi Imen, Abdi Neila, Bargaz Adnane, Bouraoui Manel, Yassine Mabrouk, Mouldi Saidi, and Sifi Bouaziz 1656
- QUANTITATIVE TRAIT LOCI (QTL) OF SEED ZN ACCUMULATION IN BARLEY POPULATION CLIPPER X SAHARA** □ Behzad Sadeghzadeh, Zed Rengel, and Chengdao Li 1672
- EFFECTS OF CASPIAN SEA WATER ON SUGAR BEET SEED GERMINATION** □ Mehdi Sadughi, Hossein Sharifan, and Mohammad Pessarakli 1685
- SPECIFIC LEAF AREA AND SPECIFIC LEAF WEIGHT IN SMALL GRAIN CROPS WHEAT, RYE, BARLEY, AND OATS DIFFER AT VARIOUS GROWTH STAGES AND NPK SOURCE** □ Amanullah 1694
- OPTIMIZATION OF FARMYARD MANURE TO SUBSTITUTE MINERAL FERTILIZER FOR SUSTAINABLE PRODUCTIVITY AND HIGHER CARBON SEQUESTRATION POTENTIAL AND PROFITABILITY UNDER GARDENPEA-FRENCH BEAN CROPPING SYSTEM IN THE INDIAN HIMALAYAS** □ Dibakar Mahanta, R. Bhattacharyya, D. C. Sahoo, M. D. Tuti, K. A. Gopinath, R. Arunkumar, B. L. Mina, B. M. Pandey, J. K. Bisht, A. K. Srivastva, and J. C. Bhatt 1709
- ZINC BIOFORTIFICATION IN SIXTY GROUNDNUT CULTIVARS THROUGH FOLIAR APPLICATION OF ZINC SULPHATE** □ A. L. Singh and V. Chaudhari 1734
- SOME MORPHO-PHYSIOLOGICAL CHARACTERISTICS OF MUNG BEAN MYCORRHIZAL PLANTS UNDER DIFFERENT IRRIGATION REGIMES IN FIELD CONDITION** □ Yagoob Habibzadeh, Jalal Jalilian, Mohammad Reza Zardashti, Alireza Pirzad, and Omid Eini 1754
- ALLEVIATION OF ALKALINITY-INDUCED FE DEFICIENCY IN EGGPLANT (*SOLANUM MELONGENA* L.) BY FOLIAR APPLICATION OF DIFFERENT FE SOURCES IN RECIRCULATING SYSTEM** □ Hamid R. Roosta and Yaser Mohsenian 1768

Contents

**IRON SOURCES EFFECTS ON GROWTH, PHYSIOLOGICAL
PARAMETERS AND NUTRITION OF CACAO** □ V. C. Baligar,
R. C. Sicher, M. K. Elson, Z. He, N. K. Fageria, J. O. De Souza Junior,
A.-A. Almeida, and D. Ahnert

1787