



# SECOND JOINT MEETING ON SOIL AND PLANT SYSTEM SCIENCES

BOOK OF ABSTRACTS

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SECOND JOINT MEETING ON SOIL AND PLANT SYSTEM SCIENCES

# The soil-plant-environment nexus and emerging challenges across terrestrial ecosystems

Società Italiana di Chimica Agraria (SICA)  
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The organizing committee  
Biogeochemistry & Soil Science Group  
UNITO, DISAFA



## Poster

**What can we learn from plants and mycorrhiza in urban ecosystems?**

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Positive interactions between people and nature inspire behaviours that are in harmony with biodiversity conservation and also afford physical and mental health benefits. Since most people live in towns and cities, urban greenspaces are key points of influence for conservation, but also provide diverse ecosystem services. City trees are a foundation for biodiversity in urban ecosystems, and their belowground interactions with mycorrhizal fungi must be central to urban ecosystem planning. Messaging about biodiversity must be clearer to avoid unintended negative outcomes from conservation actions such as low diversity tree planting. Trees are a foundation for biodiversity in urban ecosystems and therefore must be able to withstand global change and biological challenges over decades and even centuries to prevent urban ecosystems from deteriorating. Tree quality and diversity should be prioritized over simply numbers to optimize resilience to these challenges. Successful establishment and renewal of trees in cities must also consider belowground (e.g., mycorrhizas) and aboveground (e.g., pollinators) interactions to ensure urban ecosystem longevity, biodiversity conservation and continued provision of the full range of ecosystem services provided by trees. Positive interactions with nature inspire people to live more sustainable lifestyles that are consistent with stopping biodiversity loss and to participate in conservation actions such as tree-planting. Interacting with nature simultaneously provides mental and physical health benefits to people. Since most people live in cities, here we argue that urban ecosystems provide important opportunities for increasing engagement with nature and educating people about biodiversity conservation. While advocacy on biodiversity must communicate in language that is relevant to a diverse audience, over-simplified messaging, may result in unintended negative outcomes. For example, tree planting actions typically focus on numbers rather than diversity. Ultimately multiple ecosystem services must be considered (and measured) to optimize their delivery in urban ecosystems and messaging to promote the value of nature in cities must be made widely available and more clearly defined.

## INDEX

- Abbate C., Fontanazza S., Scavo A., Restuccia A., Mauromicale G. *Biodegradable plastic mulching: isolation and quantification of Pseudomonas putida responsible of degradation in soil.* Pag. 25
- Agrelli D., Fagnano M., Fiorentino N., Adamo P. and Amalfitano C. *Fate of lead in a skeet shooting range soil without shot barriers* Pag. 26
- Alfonzo A., Laudicina V.A., Muscarella S.M., Badalucco L., Moschetti G., Francesca N. *Cellulolytic bacteria combined with deproteinized whey as improvers of compost from wine production chain by-products* Pag. 54
- Alicandri E., Covino S., Sebastiani B., Biscontri M., Palmisano I.C., Paolacci A.R., Catarcione G., Badiani M., Manti F., Bonsignore C.P., Castiglione E., Sorgonà A., and Ciaffi M. *Diterpene resin acids and olefins in Calabrian pine (Pinus nigra subsp. laricio (Poiret) Maire) oleoresin: GC-MS profiling of major diterpenoids in different plant organs and molecular identification of diterpene synthase genes.* Pag. 9
- Allevato E., Marabottini R., Vinciguerra V., Carbone F., Barbarese F., Nano G., Stazi S.R. *Microbial community structure to evaluate the impact of chestnut coppice on soil quality: comparison between two different sites in the Lazio region (ITALY)* Pag. 10
- Andreetta A., Cecchini G., Marchetto A., Carnicelli S. *Monitoring trends and fluxes in deposition and soil solutions through forest ecosystems in Italy.* Pag. 1
- Auteri N., Saiano F., Scalenghe R. *Phosphorus recycling using a type of agricultural waste, prickly pear stems* Pag. 55
- Barbaccia P., Settanni L., Gaglio R., Dazzi C., Lo Papa G. *Microbial diversity in anthropogenic Mediterranean soils* Pag. 27
- Barbera M., Zuddas P., Palazzolo E., Saiano F. *REE3+ polluted soil does not affect Vitis Vinifera L. Xylem-sap nutrients transport mechanism* Pag. 28
- Bonifacio E., Negri S., Suzuki S., Nozaka T., Matsumoto N., Seike A., Celi L. *Soils and discontinuities at the Tobiotsuka Kofun (Okayama Prefecture)* Pag. 29
- Bouaicha O., Tiziani R., Lucini L., Begona M., Trevisan M., Cesco S., Borruso L., Mimmo T., *Impact of Micro-Polyethylene on seed germination of mono- and dicot plants* Pag. 30
- Buffagni V., Ganugi P., Pii Y., Roupheal Y., Colla G., Trevisan M., Lucini L. *The biostimulant effect of protein hydrolysates distinctively mitigate salt stress in lettuce and tomato: a combined phenotyping and metabolomics approach* Pag. 46
- Buoso S., Tomasi N., Arkoun M., Maillard A., Jing L., Marroni F., Pluchon S., Pinton R., Zanin L. *Transcriptomic and metabolomic profiles of Zea mays plants fed with urea and ammonium* Pag. 56

Buscaroli A., Greggio N., Zannoni D., Dinelli E. <i>Dittrichia viscosa</i> (L.) Greuter and <i>Helicrysum italicum</i> (roth) G. Don: two interesting species for the phytostabilization of the polluted mine sites of Montevecchio (Sardinia, Italy).	Pag. 17
Camponi L., Cardelli V., Serrani D., Salvucci A., Agnelli A., Roggero P.P., Cutini A., Corti G., Cocco S. <i>Effects of natural evolution and thinning on soil organic C and nutrient stock under turkey oak (Quercus cerris L.) coppice</i>	Pag. 2
Caporale A.G., Ceruso M., Ruggiero L., Adamo P. <i>Soil and food quality assessment in urban agricultural areas of Naples, to foster a sustainable use of resources and to enhance food safety</i>	Pag. 31
Caputo A., Blaiotta G., Gambuti A., Picariello L., Vingiani S., <i>The role of soil geochemical composition in the quality of wine grapes and wines of viticultural terroirs</i>	Pag. 57
Cavallaro V., Pesenti M., Negrini N., Lucchini G., Abruzzese A., Morgutti S., Sacchi G.A. <i>Antioxidant response to salt stress of putative salt-tolerant rice (Oryza sativa L., ssp japonica) lines in hydroponic culture</i>	Pag. 58
Ceccanti C., Landi M., Rocchetti G., Giuberti G., Lucini L., Guidi L., <i>Untargeted metabolomics study to explore nutraceutical differences between elephant garlic (Allium ampeloprasum var. holmense) (Tuscany, Italy) and common garlic (Allium sativum) from Val di Chiana area subjected to in vitro gastrointestinal digestion</i>	Pag. 59
Celletti S., Quagliata G., Spada M., Astolfi S. <i>Durum wheat capability to cope with drought seems to be related to root morphological characteristics</i>	Pag. 60
Charzyński P., Capra G.F., Ganga A., Kabala C., Mendyk Ł., Penížek V., Pulido M.F., Reintam E., Repe B., Switoniak M., Szabolcs C., Vircava I. <i>SYStem share your soils - Improving knowledge in soil classification through edutainment tools</i>	Pag. 11
Circelli L., Di Iorio E., Colombo C. <i>Using of Vis-NIR spectroscopy and Sentinel-2 satellite data to assess soil carbon pools in organic farming of South of Italy</i>	Pag. 61
Cucina M., de Nisi P., Tambone F., Adani F. <i>The role of waste management in reducing bioplastics' leakage in the environment</i>	Pag. 18
Dalal N., Ruggiero L., Caporale A.G. and Adamo P. <i>Infrared spectroscopy to trace geographical origin of Mediterranean anchovies</i>	Pag. 62
D'Amico M.E., Pintaldi E., Colombo N., Stanchi S., Sapino E., Quaglino E., Navillod E., Freppaz M. <i>The new soil map of the Aosta Valley</i>	Pag. 12
D'Amico M.E., Stanchi S. <i>High pedodiversity in terraced soils in the Alps</i>	Pag. 13
De Mastro F., Cacace C., Traversa A., Pallara M., Coccozza C., Mottola F., Brunetti G. <i>Influence of chemical and mineralogical soil properties on the adsorption of Sulfamethoxazole and Diclofenac in Mediterranean soils</i>	Pag. 19

Del Buono D., Di Michele A., Costantino F., Trevisan M., Lucini L. <i>Use of biogenic ZnO nanoparticles to improve physiological and biochemical traits in maize shoots</i>	Pag. 63
Del Buono D., Senizza B., Lucini L., Trevisan M. <i>Physiological and biochemical effects of an extract of <i>Lemna minor</i> L. as a potential biostimulant for maize</i>	Pag. 64
Di Iorio E., Circelli L., Colombo C. <i>The significance of environmental proxies from the peat bog of the central-southern Apennine and their implications for paleo-environmental reconstructions</i>	Pag. 3
Di Rauso Simeone G., Coppola G.P., Vairo F., Caputo M., Calabritto M., Ciccone G., Amalfitano C., Zaccardelli M., Rao M.A. <i>Sustainable agricultural management of soil fertility through vermicompost based organic amendment under organic and conventional farming</i>	Pag. 65
D'Ippolito I., Sofo A., Mininni A., Dichio B., Mastrodonato M., Scillitani G., Xylogiannis E. <i>Soil anoxic conditions cause structural alterations of G3 kiwifruit roots</i>	Pag. 66
Diquattro S., Castaldi P., Ritch S., Juhasz A., Brunetti G., Scheckel K.G., Garau G., Lombi E. <i>Insights into the fate of antimony (Sb) in contaminated soils: Ageing influence on Sb mobility, bioavailability, bioaccessibility and speciation</i>	Pag. 32
Ertani A., Francioso O., Ferrari E., Carrozza D., Nardi S., Schiavon M. <i>Microalgae: an ecofriendly and sustainable strategy to mitigate the salinity stress in <i>Lactuca sativa</i> L.</i>	Pag. 67
Falsone G., Trenti W., Poesio C., De Feudis M., Bianchini G., Vittori Antisari L. <i>Soil quality: fate and role of organic matter - a study case in temperate climate (Northern Italy) under different land use</i>	Pag. 47
Feil S.B., Rodegher G., Gaiotti F., Zuluaga M.Y.A., Carmona F.J., Masciocchi N., Cesco S., Pii Y. <i>Physiological and molecular investigation of urea uptake dynamics in <i>Cucumis sativus</i> L. plants fertilized with urea-doped amorphous calcium phosphate nanoparticles</i>	Pag. 68
Fiorilli V., Novero M., Buffoni B., Votta C., Mazzarella T., Astolfi S., Vigani G. <i>Impact of arbuscular mycorrhizal (AM) symbiosis on wheat tolerance to water stress</i>	Pag. 69
Galluzzi G., Plaza C., Priori S., Giannetta B., Zaccone C. <i>Organic carbon sequestration along a soil chronosequence on fluvial terraces (Adige river, Italy)</i>	Pag. 14
Ganugi P., Fiorini A., Ardenti F., Caffi T., Bonini P., Taskin E., Puglisi E., Tabaglio V., Trevisan M., Lucini L. <i>Seed treatment with fungal or bacterial biostimulant consortia distinctively modulate root metabolome and rhizosphere community in maize in a coordinate manner</i>	Pag. 48
Gattullo C.E., Spagnuolo M., Pistillo F., Porfido C., Rotolo C., Gerin D., Faretra F., Pollastro S. <i>Antifungal activity of a zeolitesynthesized from recycled materials: Perspectives for sustainable plant protection</i>	Pag. 70
Genova G., Niedrist G., Della Chiesa S., Tasser, E., Borruso, L., Cesco, S., Mimmo, T. <i>Copper and Zinc concentration in agricultural soils as affected by land-use history</i>	Pag. 71

Giannetta B., Plaza C., Thompson A.A., Plante A.F., Zaccone C. <i>Iron speciation in fine sand and fine silt and clay fractions across different land uses</i>	Pag. 4
Giordano A., Padoan E., Amato F., Malandrino M., Ajmone Marsan F. <i>Chemistry and lead isotopic composition of PM10 fraction of roadside soils and road dust in Torino</i>	Pag. 33
Goglio A., Gualtieri M., Clagnan E., Adani F. <i>Wastewater treatment and nutrients enriched medium production for a sustainable agriculture</i>	Pag. 72
Goldoni S., Galluzzi G., Giannetta B., Plaza C., Zaccone C. <i>Soil organic matter accumulation in vineyard agroecosystems from the Valpolicella area</i>	Pag. 73
Guerrini I.A., Sampaio T.F., Roder L.R., Murgia I., Capra G.F., Ganga A. <i>Soil recovery in tropical areas affected by heavy machinery traffic for Eucalyptus plantations</i>	Pag. 5
Gugliucci, W., Ventorino, V., Cirillo, V., Maggio, A., Bianchi, D., Pepe, O. <i>Assessment of changes of rhizospheric soil microbial community after application of wastewater from hydrothermal liquefaction of food waste</i>	Pag. 74
Landi M., Lauria G., Lo Piccolo E., Ceccanti C., Guidi L., <i>Photosynthetic and biochemical responses in strawberry (Fragaria x ananassa Duch.) leaves exposed to supplemental monochromatic LED lights</i>	Pag. 75
Li Y., Ajmone Marsan F., Padoan E. <i>Health risk assessment via ingestion and inhalation of soil PTE of an urban area</i>	Pag. 34
Lo Papa G., Toktar M., Kozybayeva F.E., Dazzi C. <i>Preliminary results on the reclamation of a semi-desert phosphate mining area in Kazakhstan</i>	Pag. 35
Lodovici A., Buoso S., Miras-Moreno B., Martinelli E., Lucini L., Tomasi N., Zanin L., Pinton R. <i>Interaction between N and Fe nutrition: how N forms can promote Fe acquisition into tomato plants</i>	Pag. 49
Maretto L., Deb S., Ravi S., Campagna G., Squartini A., Nardi S., Concheri G., Stevanato P. <i>Effects of organic and conventional sugar beet farming on soil microbiome</i>	Pag. 76
Marinari S., Moscatelli M.C., Marabottini R. <i>The quality of soil under photovoltaic power plant: a case study in central Italy</i>	Pag. 36
Martinengo S., Schiavon M., Santoro V., Said-Pullicino D., Celi L., Martin M. <i>Assessing phosphorus availability to paddy rice: soil testing and plant responses</i>	Pag. 77
Mascetti G., Ferrè C., Gentili R., Comolli R. <i>Alpine soil organic matter and climate change: the case of the upper Adamè Valley</i>	Pag. 6
Mauceri A., Aci M.M., Lupini A., Araniti F., Sunseri F., Abenavoli M.R. <i>Metabolomics and transcriptomics integrative analysis reveals the pathway involved in NUE under N limiting condition in eggplants (Solanum melongena L.)</i>	Pag. 78



Maver M., Escudero-Martinez C., Abbott J., Morris J., Hedley P.E., Cesco S., Mimmo T., Bulgarelli D. <i>The application of the indole-alkaloid gramine shapes the prokaryotic communities thriving at the barley root-soil interface</i>	Pag. 79
Mazzon M., Gioacchini P., Montecchio D., Rapisarda S., Ciavatta C., Marzadori C. <i>Biodegradable plastics: effects on functionality and fertility of two different soils</i>	Pag. 37
Mazzon M., Cavani L., Campanelli G., Ciavatta C., Burgio G., Marzadori C. <i>Simple and complex indexes to assess soil quality under conventional and organic management</i>	Pag. 80
Mian, G., G. Cipriani, S. Saro, F. Bosetto, M. Martini, P. Ermacora. <i>Effect of kiwifruit vine decline inducing soils on growth, mineral uptake, and protein content in different Actinidia genotypes radical systems</i>	Pag. 81
Miras-Moreno B., Senizza B., Zhang L., Rocchetti G., Trevisan M., Lucini L. <i>Cyclic nucleotide monophosphate and membrane lipids signalling cascades in tomato under salinity: a metabolomics and lipidomics combined approach</i>	Pag. 82
Napoletano P., De Marco A., Circelli L., Di Iorio E., Colombo C. <i>Comparison between Technosols and volcanic forest soils assessed with XRF and Vis-NIR spectroscopy</i>	Pag. 20
Negri S., Giannetta B., Till J., Said Pullicino D., Bonifacio E. <i>A multi-technique approach to detect thermal transformations of Fe oxides in burnt soils</i>	Pag. 15
Noto R., Signorini M., Genova G., Bani A., Niedrist G., Hilpold A., Dumbrell A.J., Cesco S., Tappeiner U., Mimmo T., and Borruso L. <i>Effect of crop conversion on soil chemistry and soil biodiversity along with a time series</i>	Pag. 83
Pacchiarelli A., Priori S., Chiti T., Silvestri C., Cristofori V. <i>Carbon sequestration in differently aged hazelnut orchards</i>	Pag. 84
Padoan E., Maffia J., Dinuccio E., Ajmone Marsan F. <i>Soil PM10 emission potential under specific mechanical stress and particles characteristics</i>	Pag. 38
Panuccio M.R., Zumbo A., Romeo M., Petrovičová B., Gelsomino A. <i>Plant responses to amendment with compost enriched with exhausted fire-extinguishing powders in a microcosm study</i>	Pag. 85
Papa G., Pepe' Sciarria T., Carrara A., Scaglia B., D'Imporzano G., Adani F. <i>Integrated biorefinery-AD (anaerobic digestion) approach for conversion of organic fraction of municipal solid waste (OFMSW) to biomethane and bioplastics</i>	Pag. 39
Pellegrini M., Farda B., Djebaili R., Pace L., Del Gallo M. <i>In vitro antagonistic effects of selected plant growth-promoting bacteria against Fusarium oxysporum pathogenic strains of Crocus sativus L.</i>	Pag. 86



Pepe' Sciarria T., Costa de Oliveira M.A., Mecheri B., D'Epifanio A., Goldfarb J.L., Adani F. <i>Metal-free activated biochar as an oxygen reduction reaction catalyst in single chamber microbial fuel cells</i>	Pag. 21
Perreca C., Capra G.F., Fagnano M., Murgia I., Roder L., Terribile F., Vingiani S., Ganga A. <i>Characterizing anthropogenic soils for reclamation purposes: spatial variability of soil properties and PTE content in a Sardinia mining area</i>	Pag. 40
Pigoli A., Zilio M., Rizzi B., Herrera A., Tambone F., Adani F. <i>Agronomic effects of digestate fertilization on maize during a three years open field trial</i>	Pag. 87
Pinna M.V., Lauro G.P., Diquattro S., Garau M., Senette C., Garau G., Castaldi P. <i>Insights into biochar efficiency in the recovery strategies of soils polluted by herbicides or potentially toxic elements</i>	Pag. 22
Porfido C., Köpke K., Allegretta I., Cesco S., Mimmo T., Bandte M., Eschenbach A., Rybak M., Büttner C., Terzano R. <i>Innovative X-ray fluorescence approaches for the study of plant viroses: the case of flowering ash in the city of Hamburg</i>	Pag. 41
Porfido C., Allegretta I., Rascio I., Gattullo C.E., Terzano R., Spagnuolo M. <i>Investigating the hazard of a Pb polluted soil through microanalysis and bio-availability assays using earthworms</i>	Pag. 42
Prinsi B., Muratore C., Galli G., Cocetta G., Ferrante A., Espen L. <i>Physiological and biochemical responses to water stress in rocket (<i>Eruca sativa</i> Mill.) and interplay with biostimulant treatment</i>	Pag. 88
Puglisi I., La Bella E., Stevanato P., Baglieri A. <i>Chlorella vulgaris extract as biostimulant on growth of lettuce seedlings: foliar spray or root drenching application?</i>	Pag. 89
Rascio I., Allegretta I., Gattullo C.E., Porfido C., Suranna G., Grisorio R., Spiers K., Falkenberg G., Terzano R. <i>Effects of laboratory-simulated fires on the distribution and speciation of chromium in agricultural soils: An integrated investigation approach</i>	Pag. 23
Rascio I., Gattullo C.E., Porfido C., Allegretta I., Spagnuolo M., Tiziani R., Mimmo T., Cesco S., Terzano R. <i>Can fire events increase chromium uptake by durum wheat in polluted soils?</i>	Pag. 43
Rolando M., D'Amico M.E., Balint R., Mosca P., Said Pullicino D., Baneschi I., Provenzale A., Celi L. <i>Soil – plant interaction in high – elevation alpine proglacial chronosequences</i>	Pag. 16
Ruggiero L., Fontanella M.C., Amalfitano C., Beone G.M., Adamo P. <i>Geographical traceability of Limone di Sorrento PGI by multielement fingerprinting: the role of not-essential elements.</i>	Pag. 50
Santin M., Castagna A., Mariottini G., Pomarà L., Sciampagna M.C., Bonzi L., Rallo G., Ginanni M., Gabriele M., Longo V., Ranieri A., <i>Exploiting of halophyte-based farming system: valorization of <i>Salicornia europaea</i> grown in monoculture or intercropped with tomato plants in salt-affected soils</i>	Pag. 51

Santoro V., Schiavon M., Said Pullicino D., Martin M., Celi L. <i>P stress-induced changes in plant root exudation facilitate P mobilization from stable mineral forms</i>	Pag. 90
Santoro V., Schiavon M., Visentin I., Constan-Aguilar C., Cardinale F., Celi L. <i>Strigolactones involvement in tomato plants response to low P levels</i>	Pag. 91
Savy D., Verrillo M., Cozzolino V., Riccardo Spaccini, Alessandro Piccolo <i>Novel antimicrobial nanoparticles made with humic substances from green composts</i>	Pag. 92
Seidel F., Lopez M.L.C., Bonifacio E., Kurokawa H., Yamanaka T.4, Celi L. <i>Seasonal phosphorus and nitrogen cycling in four Japanese cool-temperate forest species in Yamagata prefecture, Japan</i>	Pag. 7
Serrani D., Cocco S., Cardelli V., D'Ottavio P., Rafael R.B.A., Feniassse D., Vilanculos A., Giosuè C., Tittarelli F., Corti G. <i>Effect of primitive management (slash and burn) on soil physicochemical properties</i>	Pag. 8
Signorini M., Midolo G., Cesco S., Mimmo T., and Borruso L. <i>Does soil bacterial and fungal alpha-diversity decrease after heavy metals addition? A meta-analysis</i>	Pag. 24
Sofo A. <i>Converting urban spaces into food gardens during the Covid-19 pandemic</i>	Pag. 44
Sofo A., D'Ippolito I. <i>What can we learn from plants and mycorrhiza in urban ecosystems?</i>	Pag. 45
Sofo A., Mininni A.N., Dichio B., Mastroleo M., Xylogiannis E. <i>Physical structure and chemical quality of soils in G3 kiwifruit orchards differentially managed</i>	Pag. 52
Tiziani R., Trevisan F., Pii Y., Celletti S., Cesco S., Mimmo T. <i>Root exudates reuptake and alteration of carbon isotope fractionation by tomatoes under P deficiency</i>	Pag. 53
Verrillo M., Cozzolino V., Rampler E., Koellensperger G., Spaccini R., Piccolo A. <i>Multiomics approach to evaluate the effect of different compost extracts on production of metabolites with pharmacological activity in Basil plants.</i>	Pag. 93
Vingiani S.,2, Amalfitano C., Basile B., Conti S., Gambuti A., Mataffo A., Matrone A., Melchionna G., Perreca C., Picariello L., Ruocco P., Scognamiglio P., Palladino M. <i>Water deficit in soils of volcanic environments. A study aimed to evaluate the effects on a native grapevine cultivar of Vesuvius (southern Italy).</i>	Pag. 94
Vingiani S., Caputo A., Carretta G.T., Di Matteo A., Manna P., Moio L., Perreca C., Picariello L., Ruocco P., Terribile F., Gambuti A. <i>Relationship between geochemical composition, physico-chemical soil properties and enological characteristics of Aglianico grapes in Irpinia (southern Italy): preliminary results.</i>	Pag. 95
Zhang L., Miras-Moreno B., Yildiztugay E., Ozfidan-Konakci C., Arikan B., Elbasan F., Ak G., Zengin G., Lucini L. <i>Exogenously applied phenolics provide distinctive biochemical responses in lettuce plants grown either under salinity or non-stress conditions</i>	Pag. 96

Zilio M., Pigoli A., Rizzi B., Herrera A., Tambone F., & Adani F. *Environmental impact of the use of stabilized digestate in agriculture: an open field approach*

Pag. 97

Zuluaga M.Y.A.,<sup>2</sup>, de Oliveira A.L.M.<sup>2</sup>, Valentinuzzi F., Tiziani R., Pii Y., Mimmo T., Cesco S. *Inoculation with Bacterial Biostimulant Enterobacter sp. Strain 15S Differentially Improves Phosphorus Nutrition and Plant Growth of Maize and Cucumber Under P-starvation*

Pag. 98

