



Food and Agriculture
Organization of the
United Nations

Agenda

GLOBAL SYMPOSIUM ON SOIL BIODIVERSITY

19-20-21-22
April 2021



itps
INTERGOVERNMENTAL
TECHNICAL PANEL ON SOILS



Convention on
Biological Diversity



GLOBAL
SOIL BIODIVERSITY
INITIATIVE

UNCCD **SP** Science - Policy
Interface

Co-organized by

FAO

Food and Agriculture Organization of the United Nations

GSP

Global Soil Partnership

ITPS

Intergovernmental Technical Panel on Soils

CBD

Convention on Biological Diversity

GSBI

Global Soil Biodiversity Initiative

SPI UNCCD

Science-Policy Interface of the United Nations Convention to Combat Desertification

The times indicated are local times for Rome, Italy. Rome time is in the Central European Summer Time Zone (CEST).



Summary agenda

19 APRIL / DAY 1

13.00 -14.15	High Level Opening Session
14.15-15.45	Keynote Speakers Setting the scene for the GSOBI21
15.45-16.00	Launch of the Poster Exhibition and Contest
	Launch of the collection of children's books on soil biodiversity

20 APRIL / DAY 2

13.00-14.00	Private sector actions on soil biodiversity/ soil health
14.00-16.00	Parallel sessions
	Theme 1 - State of knowledge on soil biodiversity
	Theme 1 - State of knowledge on soil biodiversity
	Theme 2 - Soil biodiversity in action
	Theme 2 - Soil biodiversity in action
	Theme 3 - Soil biodiversity shaping the future of food systems
	Theme 3 - Soil biodiversity shaping the future of food systems

21 APRIL / DAY 3

13.00 -14.00	Status of global soil biodiversity
14.00-16.00	Parallel sessions
	Theme 1 - State of knowledge on soil biodiversity
	Theme 1 - State of knowledge on soil biodiversity
	Theme 1 & 2 - State of knowledge on soil biodiversity & Soil biodiversity in action
	Theme 2 - Soil biodiversity in action
	Theme 3 - Soil biodiversity shaping the future of food systems
	Theme 3 - Soil biodiversity shaping the future of food systems

22 APRIL / DAY 4

13.00 -14.00	Soil biodiversity in the global agenda
14.00-15.00	Main Session Outcomes and Key Findings
15.00-15.30	Closure of the Symposium

Monday 19 April

HIGH LEVEL OPENING SESSION

13.00 -
14.15

J *N*
H L P Director-General of the Food and Agriculture Organization of the United Nations

J
C G M *M* Minister for Agriculture and Livestock, Costa Rica

C Q N Commissioner for Environment, Oceans and Fisheries, European Union

C O M Minister for Agriculture and Rural Affairs, People's Republic of China

C C H , Ambassador, Permanent Representative of the Arab Republic of Egypt to FAO,

C D O , Executive Secretary, United Nations Convention to Combat Desertification

C H H Executive Secretary, Convention on Biological Diversity

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Reconnecting biodiversity above and below ground, Mr Eduardo Mansur, FAO

ARSTISTIC VIDEO: Photographing soil animals, Mr Andy murray

Moderator

Ms Yasmina Bouziane, FAO

14.15 -
15.45

KEYNOTE SPEAKERS | Setting the scene for GSOBI21

Introduction to GSOBI21

H M K , ITPS chair

Soil biodiversity: where are we and how it can help in addressing the global challenges?

H R , Global Soil Biodiversity Initiative, USA

Soil borne diseases and ecological intensification

H R Q K Netherlands Institute of Ecology, the Netherlands

ARSTISTIC VIDEO: When soil biodiversity meets with art, Mr Christopher Marley

Soil biodiversity, nutrition and human health

H H , University of California, USA

Ecosystem restoration starting from the ground: is it really feasible?

H A K , Agenda Gotsch, Brazil

Moderator

Ms Yasmina Bouziane, FAO

15.45 -
16.00

Launch of the poster exhibition and contest

Launch of the collection of children's books on soil biodiversity

by *H G M N* , IUSS

Quiz on Soil Biodiversity

Tuesday 20 April

13.00 - 14.00	<p>Private sector actions on soil biodiversity/ soil health</p> <p>Towards living soils</p> <p><i>H K N</i> Moët Hennessy</p> <p>Sustainable eco-friendly fertilizers for conservation of soil diversity</p> <p><i>H N</i> Phosagro</p> <p>Project ACORN: Stimulating smallholder agroforestry at scale</p> <p><i>H H E</i> RABOBANK</p> <p>Synecoculture and Human Augmentation of Ecosystems: project overview</p> <p><i>H H A</i> , Sony CSL</p>	<p>Moderator:</p> <p>Mr Alexander Jones, FAO</p>
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Parallel session 1

14.00 - 15.00	<p>Theme 1 - State of knowledge on soil biodiversity Moderator: Ms Lydia Mumbi Chabala, ITPS</p> <p>Soil bioanalysis: a simple and effective tool to access and interpret soil health</p> <p>Ms Iêda de Carvalho Mendes, EMBRAPA Cerrados, Brazil</p> <p>Uncovering linkages between soil fauna and ecosystem function using factor analysis and structural equation modelling</p> <p>Ms Ashley B. Jernigan, Cornell AgriTech, USA</p> <p>Monitoring Soil Biological Quality in the Veneto region</p> <p>Ms Francesca Pocaterra, ARPAV, Italy</p> <p>The biodiversity of soil microfungi in Colombia</p> <p>Ms Nicola Lidia, University of Pavia, Italy</p>
15.00 - 16.00	<p>Theme 1 - State of knowledge on soil biodiversity Moderator: Ms Lydia Mumbi Chabala, ITPS</p> <p>Drivers of Short-to-Medium Term Litter Decomposition across Biomes</p> <p>Ms Ika Djukic, Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), Switzerland</p> <p>Litter decomposition and organic matter turnover by soil fauna in a sustainably managed olive grove</p> <p>Mr Adriano Sofo, Università degli Studi della Basilicata, Italy</p> <p>Developing a systematic sampling method for earthworms in and around deadwood</p> <p>Mr Frank Ashwood, Forest Research, United Kingdom</p> <p>Soil biodiversity and physico-hydraulic function: How earthworm and plant root interaction contribute to ecosystem services?</p> <p>Mr Jamal Hallam, National Institute for Agricultural Research (INRA)-CRRA-Agadir, Morocco</p>

Tuesday 20 April

Parallel session 2

<p>14.00 - 15.00</p>	<p>Theme 1 - State of knowledge on soil biodiversity Moderator: Mr Jun Murase, ITPS</p> <p>Soil Biodiversity from Sciences to Action – Feedback from two decades of soil bio-indicators development as agricultural soil management tool</p> <p>Ms Nolwenn Bougon, OFB, France</p> <p>Using environmental DNA to assess global soil biodiversity and build a soil quality bioindicator</p> <p>Ms Eva Bellemain, ARGALY, France</p> <p>Integrating Microbiological Quality Indicators and Soil Properties through Score Functions to Assess Land Use Changes in Colombian Andisols</p> <p>Mr Raul Aranguren, Universidad de Antioquia, Medellín, Colombia</p> <p>Bioturbations as quality indicators of Typic Argiudolls in the Southeast of Buenos Aires, Argentina. A micromorphological approach</p> <p>Ms Fernanda Alvarez, Universidad Nacional Mar de Plata, Argentina</p>
<p>15.00 - 16.00</p>	<p>Theme 1 - State of knowledge on soil biodiversity Moderator: Mr Jun Murase, ITPS</p> <p>Soil Macrofauna Biodiversity in Paraserianthes falcataria and Morus alba Plant Agroforestry in Bali Island</p> <p>Mr Nanang Sasmita, Udayana University, Indonesia</p> <p>Soil macroinvertebrates diversity and glyphosate distribution in soybean plantations and surroundings at the Yucatan Peninsula, Mexico</p> <p>Ms Esperanza Huerta Lwanga, Wageningen University, Netherlands</p> <p>Enchytraeids in two phytophysionomies of Brazilian Cerrado</p> <p>Ms Cintia Carla Niva, EMBRAPA, Brazil</p> <p>Regard and protect ground-nesting bees as part of soil biodiversity</p> <p>Ms Stefanie Christmann, ICARDA, Morocco</p>

Tuesday 20 April

Parallel session 3

<p>14.00 - 15.00</p>	<p>Theme 2 - Soil biodiversity in action Moderator: Ms Costanza Calzolari , ITPS</p> <p>Soil Biodiversity: Why Should We Care? Ms Briones M.J.I., Universidad de Vigo, Spain</p> <p>Soil biodiversity in action at ecosystem level Mr Flavio Fornasier, CREA VE, Italy</p> <p>Soil biodiversity for agricultural production and environmental integrity Mr Franz Bender, Research Division Agroecology and Environment Agroscope, Switzerland</p> <p>Participatory Learning Action is Important for Community Action to improve soil-biodiversity Mr Jayesh Joshi, VAAGDHARA, India</p>
<p>15.00 - 16.00</p>	<p>Theme 2 - Soil biodiversity in action Moderator: Ms Costanza Calzolari , ITPS</p> <p>A Coordinated Research Enterprise on Agricultural Soil Microbiomes and Soil Ecosystems across USDA Research Locations Mr David B. Knaebel, USDA – Agricultural Research Service, USA</p> <p>Understanding impact of soil biology on crops: the key to sustainability of farming systems Mr Gerard Rass, APAD-GCAN, France, and Ms Marie-Thérèse Gaessler, Gässler SARL, France</p> <p>Soil functioning relates to land use in a sustainably managed agro-sylvo-pastoral ecosystem Ms Sofia R. Costa, University of Minho, Portugal</p> <p>Utilization of Soil Microbial Diversity for Crop Production in Sri Lanka Mr Ananda Kulasooriya, National Institute of Fundamental Studies, Sri Lanka</p>

Tuesday 20 April

Parallel session 4

Theme 2 - Soil biodiversity in action

Moderator: Mr Peter de Ruiter, ITPS

Termites promote resource patchiness in Asia and constitute a model for achieving the sustainable development goals

Mr Pascal Jouquet, CNRS, IRD, INRA, France

14.00

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15.00

Re-carbonization of soils with intensive agricultural use with the presence of pine forests and provision of fungal ecosystem services (*suilus luteus* and *suilus granulatus*). Chilean experiences

Mr Samuel Francke Campaña, CONAF, Chile

Good agricultural practices help to restore sustainable biodiversity

Ms Beata Houšková, NPPC-VÚPOP, Slovakia

Intercrop management as a tool to increase soil fungal diversity on rainfed almond cultivations

Mr Raúl Ortega, University of Almería, Spain

Theme 2 - Soil biodiversity in action

Moderator: Mr Peter de Ruiter, ITPS

Recovery of soils biodiversity on reclaimed drilling pads of oil-gas wells in East Ukraine

Ms Oksana Naidonova, National Scientific Center "Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky", Ukraine

15.00 -

16.00

Urban soil biodiversity: A multi-city comparison

Ms Katalin Szlavecz, Johns Hopkins University, USA

Arbuscular mycorrhizal fungal abundance in dry Afromontane forests in northern Ethiopia

Ermias Betemariam, ICRAF, Ethiopia

Diversity in soil fauna: a good tool for soil quality monitoring

Cristina Menta, Università degli Studi di Parma, Italy

Tuesday 20 April

Parallel session 5

Theme 3 - Soil biodiversity shaping the future of food systems

Moderator: Mr Edmundo Barrios, FAO

Minimal Herbicide-Based Conservation Tillage Enhances Soil Macro fauna Abundance and Distribution in Uganda

Mr Patrick Musinguzi, Makerere University, Uganda

Perceptions on soil macrofauna in the agricultural field

Ms Marie L.C. Bartz, Universidade de Coimbra, Portugal

Biodiversity in hay meadows: effects of intensive agriculture on epigeic macro-invertebrates

Ms Julia Plunger, Eurac Research, Institute for Alpine Environment, Italy

Soil Organic Carbon and enzymatic activity under Conservation Agriculture in Moroccan Dry land

Mr Rachid Moussadek, ICARDA/INRA, Morocco

14.00 -
15.00

Theme 3 - Soil biodiversity shaping the future of food systems

Moderator: Mr Edmundo Barrios, FAO

Repeated Applications of Organic Amendments Promote Beneficial Microbiota, improve Soil Fertility

Mr Mohamed Idbella, Faculty of Agriculture, Federico II university of Naples, Italy

Microbial biodiversity in the field is related to fruit and vegetable health and linked to postharvest quality

Mr Peter Kusstatscher, Institute of Environmental Biotechnology, Austria

Effect of free living nematodes and their associated microbial community on conservation biological control, utilizing soil predatory mites

Mr Eric Palevsky, Agricultural Research Organization, Ramat Yishay, Israel

Microbial resources for Mozambican agriculture: use of arbuscular mycorrhizal fungi as a sustainable alternative to chemical input in cotton production

Ms Iris Victorino, Eduardo Mondlane University, Mozambique

15.00 -
16.00

Tuesday 20 April

Parallel session 6

14.00 -
15.00

Theme 3 - Soil biodiversity shaping the future of food systems

Moderator: Mr Luca Montanarella, European Commission

Soil biodiversity management for food security

Ms Veronica Andrea El Mujtar, Instituto de Investigaciones Forestales y Agropecuarias (IFAB, INTA EEA Bariloche - CONICET), Argentina

From soil to table: Agroforestry Systems as an alternative to regenerative agriculture

Ms Karina Gonçalves David, Rede Ecovida, AOPA - Associação para o Desenvolvimento da Agroecologia, Brazil

Enabling barley production in arid soils by only exploiting the indigenous microbial biodiversity

Ms Anna Rosa Sprocati, ENEA-Casaccia, Italy

15.00 -
16.00

Theme 3 - Soil biodiversity shaping the future of food systems

Moderator: Mr Luca Montanarella, European Commission

Rhizosphere ecological interactions for improved plant health and nutrition in sustainable agricultural production

Ms Cristina Lazcano, University of California Davis, USA

Symbiotic Relationships and Effectiveness of Soybean Rhizobia in Soils of the Nigerian Savanna

Mr Anthony Ozoemenam Uzoma, Federal University of Technology, Minna, Nigeria

Exploring the potential of three Rhizobium strains from Peruvian soils as biofertilizers for the common bean (*Phaseolus vulgaris*)

Ms Yohana Aguilar-Cuba, Universidad Nacional Agraria La Molina, Lima, Perú

Influence of soil type on the biodegradation of pesticides by rhizobacteria: case of Glyphosate and paraquat

Mr Mohamed Maldani, UMI, Morocco

Wednesday 21 April

13.00 - 14.00	<p>Status of global soil biodiversity</p> <p>State of knowledge of soil biodiversity: challenges and potentialities <i>H M</i> , FAO/GSP</p> <p>Reflections on the interaction between above ground and below ground biodiversity as a way to enhance sustainability and resilience of agroecosystem <i>H A</i> , Alliance Biodiversity International & CIAT</p> <p>About the importance of the soil microbiome for a healthy planet. What does agriculture have to do with it? <i>H R M</i> FAO</p> <p>Towards a large scale assessment of soil biodiversity <i>H J</i> , Joint Research Centre, European Commission</p> <p>Spatial distribution of soil faunal diversity: where ecology meets biogeography <i>H N U</i> , Russian Academy of Sciences, Russian Federation</p>	<p>Moderator:</p> <p>Ms Monica Farfan, GSBI</p>
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Parallel session 1

14.00 - 15.00	<p>Theme 1 - State of knowledge on soil biodiversity Moderator: Ms Lucía Helena Cunha dos Anjos, ITPS</p> <p>Comparative microbiology evaluation of bacterial biodiversity in rhizospheres of vegetative cover of exotic species of Australia (Eucalyptus), native to Chile (Quillay) and "badland" soils of Chile Mr Samuel Francke Campaña, University of Santiago, Chile</p> <p>Soil Protozoa diversity at coal post-mining area at different age of reclamation Ms Tati Suryati Syamsudin, Institut Teknologi Bandung, Indonesia</p> <p>Unexpected microbial functions in agricultural soil decontamination from PCB by SMS Spent Mushroom Substrate (SMS) Ms Simona Di Gregorio, University of Pisa, Italy</p> <p>Diversity and abundance of the entomopathogenic fungi <i>Metarhizium</i> spp. at high sampling resolution in typical Swiss permanent grassland Ms María Fernández-Bravo, Agroscope, Switzerland</p>
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15.00 - 16.00	<p>Theme 1 - State of knowledge on soil biodiversity Moderator: Ms Lucía Helena Cunha dos Anjos, ITPS</p> <p>Assessment of agroecological conditions of terrain and its soil cover using remote sensing data Ms Alexander Krenke, Russian Academy of Sciences Moscow, Russia</p> <p>Ciliated protists as indicators of soil health: Three case studies from Italy Ms Antonietta La Terza, University of Camerino, Italy</p> <p>Evaluation of soil health after digestate application using QBS-ar and Solvita® Ms Maria Chiara Rosace, Harper Adams University, United Kingdom</p> <p>Biofunctool®, a multifunctional approach of soil health related to soil biota activities Mr Alain Brauman, UMR Eco&Sols, France</p>
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Wednesday 21 April

Parallel session 2

<p>14.00 - 15.00</p>	<p>Theme 1 - State of knowledge on soil biodiversity Moderator: Mr Yi Peng, FAO/GSP</p> <p>Use the Metabolic Fingerprint in Microbial Communities to Evaluate the Anthropogenic Impact on Soils Ms Rosalina Gonzalez, La Salle University, Bogota, Colombia</p> <p>Next generation biomonitoring to assess key species and soil parameters determining the biodiversity in agricultural soils Mr Luigimaria Borruso, Free University of Bozen/Bolzano, Italy</p> <p>Knowledge of biodiversity and ecosystem services of South American mycorrhiza through research networking Mr César Marín, Universidad de O'Higgins, Chile</p> <p>First evaluation in South America of the "Soil Biological Quality Index QBS-ar": A pilot study in the Bolivian Amazon Mr Sergio Ledezma, FAO Bolivia</p>
<p>15.00 - 16.00</p>	<p>Theme 1 - State of knowledge on soil biodiversity Moderator: Mr Yi Peng, FAO/GSP</p> <p>Patterns of Soil Biodiversity Communities in Urban Microfarm Ms Sophie Joimel, INRA, France</p> <p>Plant productivity enhancement in a simulated Amazonian Dark Earth (Terra Preta Nova) Mr George G. Brown, Federal University of Paraná, Curitiba, Brazil</p> <p>Evaluation of PGP bacteria against <i>Rhizoctonia solani</i> in <i>Solanum tuberosum</i> plants under greenhouse conditions Ms Lizbeth Mamani-Rojas, Universidad Nacional Agraria La Molina, Peru</p> <p>Underestimated biodiversity of edaphic prokaryotic metacommunity in the Western Amazon: risks may be higher Mr Fernando Igne Rocha, Universidade Federal Rural do Rio de Janeiro, Brazil</p>

Wednesday 21 April

Parallel session 3

Theme 1 - State of knowledge on soil biodiversity

Moderator: Mr Yusuf Yigini, FAO/GSP

Mapping soil biodiversity research: a network analysis approach

Mr Giovanni Di Matteo, CREA, Italy

14.00

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A soil biodiversity survey coupled with the National Soil Quality Monitoring Network?

15.00

Ms Camille Imbert, INRAE, France

EUdaphobase – European Soil-Biology Data Warehouse for Soil Protection

Mr David J. Russell, Senckenberg Museum of Natural History Görlitz, Germany

The Italian skill network of Soil Biological Quality assessed by microarthropods' community

Mr Lorenzo D'Avino, CREA, Italy

Theme 2 - Soil biodiversity in action

Moderator: Mr Yusuf Yigini, FAO/GSP

How the biological activity of Oligochaeta shape soil aggregation and influence the soil functions

Mr Eduardo Carvalho da Silva Neto, Soils Department - Federal Rural University of Rio de Janeiro, Brazil

Cultural ecosystem services of soil biota and possibilities of their use

15.00 -

16.00

Ms Jurga Motiejūnaitė, Nature Research Centre, Lithuania

Soil biodiversity teems with life but faces pollution. Are we acting correctly in agro-ecosystems

Ms Caucci Serena, United Nations University, UNU-FLORES, Germany

Use of Biochar-Lupinus- Bradyrhizobium as an alternative to improve the vegetation cover of High Andean soils contaminated by heavy metals

Ms Nataly Taco-Taype, Universidad Nacional Agraria La Molina, Perú

Wednesday 21 April

Parallel session 4

14.00 -
15.00

Theme 2 - Soil biodiversity in action
Moderator: Mr Arwyn Jones, European Commission

Restoring the soil while preserving functions: a winning approach by exploiting microbial biodiversity

Ms Giada Migliore, SSPT-PROTER-BIOGEOC, Italy

Recent Successes and Persistent Challenges in Restoration of Degraded Dryland Soils

Ms Nichole N. Barger, University of Colorado, USA

Mass multiplication of native soil mesofauna for re-introduction in the degraded agro-ecosystems

Mr N.G. Kumar, University of Agricultural Sciences, Bengaluru, India

Recovering soil ecosystem services and functions at a burned native forest in the mediterranean zone of central Chile by the use of organic amendments

Ms Claudia Rojas, Institute of Agri-Food, Animal and Environmental Sciences (ICA3), Universidad de O'Higgins. Chile

15.00 -
16.00

Theme 2 - Soil biodiversity in action
Moderator: Mr Arwyn Jones, European Commission

Soil Macrofauna and Mesofauna Diversity in rehabilitated mine tailings

Ms Sara Pelaez, University of Limerick, Ireland

Recovery of microbiological status with organic amendments on soils affected by mining activity in a decadal temporal scale

Mr Raúl Ortega, University of Almeria, Spain

How much soil diversity is restored after a cattle ranching pasture is abandoned for its natural regeneration in the Amazon region?

Mr Daniel Castro, Instituto Amazónico de Investigaciones Científicas SINCHI, Colombia

Effect of Shifting Cultivations on Bacterial Communities in Hurulu Forest of Sri Lanka: A Metagenomic Approach for Diversity Estimation

Warshi Dandeniya, Faculty of Agriculture, University of Peradeniya, Sri Lanka

Wednesday 21 April

Parallel session 5

<p>14.00 - 15.00</p>	<p>Theme 3 - Soil biodiversity shaping the future of food systems Moderator: Ms Rosa M. Poch, ITPS</p> <p>Biofertilizer applications in India: Current status and future prospects</p> <p>Mr Ashok K Patra, ICAR-Indian Institute of Soil Science, India</p> <p>What dead wood microbiota contributes to soil biodiversity?</p> <p>Ms Mäkipää Raisa, Natural Resources Institute Finland, Finland</p> <p>Earthworms and microbial diversity under conventional and organic farms. Interaction with actual and inherited pesticides</p> <p>Ms Esperanza Huerta Lwanga, Wageningen University, Netherlands</p> <p>Construction of a nif- mutant strain from a psychrotolerant soil bacterium to evaluate the contribution of the biological nitrogen fixation in crop plants</p> <p>Mr Danilo Augusto Silvestre, Federal Rural University of Rio de Janeiro, Brazil</p>
<p>15.00 - 16.00</p>	<p>Theme 3 - Soil biodiversity shaping the future of food systems Moderator: Ms Rosa M. Poch, ITPS</p> <p>Soil physicochemical properties, seasonality, plant niche and plant genotype affect bacterial and fungal communities in olive orchard soils</p> <p>Mr Manuel Anguita-Maeso, CSIC, Spain</p> <p>Perennial crops for sustainable soil management – Symbiotic fungi benefit from cultivation of a perennial cereal in Europe</p> <p>Ms Linda-Maria Dimitrova Mårtensson, Swedish University of Agricultural Sciences, Sweden</p> <p>Volatile Organic Compounds Produced by selected Antagonistic Rhizobacteria against soil-borne Phytopathogenic Fungi</p> <p>Ms Doris Zúñiga-Dávila, Universidad Nacional Agraria La Molina, Perú</p> <p>Effect of different species of mycorrhizal fungi on growth and physiological characteristics of sorghum (<i>Sorghum bicolor</i> L.) in cadmium contaminated soil</p> <p>Mr Majid Rostami, Malayer University, Iran</p>

Wednesday 21 April

Parallel session 6

<p>14.00 - 15.00</p>	<p>Theme 3 - Soil biodiversity shaping the future of food systems Moderator: Ms Maria Konyushkova, FAO/GSP</p> <p>Conversion of native grasslands to food and fiber systems impact soil fauna community in Brazilian Pampa Ms Bruna R. Winck, Universidade Federal do Rio Grande do Sul, Brazil</p> <p>Transformation of the soil microbial community of the ordinary chernozem in irrigation Ms Ludmila Vorotyntseva, National Scientific Center "Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky", Ukraine</p> <p>Aromatic plants in vineyards: Mixed intercropping as a chance for promoting soil biodiversity and increasing economic revenues? Mr Felix Dittrich & Sören Thiele-Bruhn, Trier University, Germany</p> <p>Application of bacterial biostimulants in productive landscapes of <i>Allium cepa</i> L. Ms Marika Pellegrini, AGIRE Soc., Italy</p>
<p>15.00 - 16.00</p>	<p>Theme 3 - Soil biodiversity shaping the future of food systems Moderator: Ms Maria Konyushkova, FAO/GSP</p> <p>Prospection, identification and antagonistic activity of native strains of beneficial microorganisms for the biological control of rice pathogens in Panama Mr Rito Herrera, Universidad de Panamá, Panama</p> <p>Increased soil-enzyme activity at reduced tillage and cover crops after one year of application among organic farming conditions Ms Eszter Tóth, Szent István University, Hungary</p> <p>A new integrate land degradation assessment approach considering soil biodiversity, humus forms and vegetation Mr Francesco Bigaran, Centro Studi per la Biodiversità del GMEM-AMB, Italy</p> <p>Response of Soil Biological Indicators under Long-Term Wheat Production Management Practices in a Semi-Arid Climate Ms Elmarie Kotzé, University of the Free State, Bloemfontein, South Africa</p>



Thursday 22 April

<p>13.00 - 14.10</p>	<p>Soil biodiversity in the global agenda</p> <p>Soil health and biodiversity in relation to UN SDGs <i>H M G</i> SPI-UNCCD</p> <p>Mainstreaming biodiversity across agricultural sectors <i>H D C</i> FAO</p> <p>Soil biodiversity and antimicrobial resistance <i>H B</i> , Swedish Ministry of Enterprise and Innovation</p> <p>Soil Biodiversity: its potential for crop nutrition and disease management <i>H H</i> ITPS</p> <p>Bioremediation of polluted soils: status and challenges <i>H</i> Sapienza University of Rome</p>	<p>Moderator</p> <p>Ms Natalia Rodriguez-Eugenio FAO/GSP</p>
<p>14.10 - 15.00</p>	<p>MAIN SESSION OUTCOMES AND KEY FINDINGS</p> <p>Theme 1: State of Knowledge on Soil Biodiversity <i>H B H I H M K</i></p> <p>Theme 2: Soil Biodiversity in Action <i>H U G P R J</i></p> <p>Theme 3: Soil Biodiversity shaping the future of food systems <i>H M K DKN</i></p>	<p>Moderator</p> <p>Ms Caridad Canales, CBD</p>
<p>15.00 - 15.30</p>	<p>CLOSURE OF THE SYMPOSIUM</p> <p>Artistic perspective by <i>Suzette Bousema</i>: <i>Super Organism, the hidden mycorrhizal fungal network (in collaboration with Nadia Soudzilovskaia, Leiden University)</i></p> <p>Result of the GSOBI poster competition</p> <p>Conclusions of the Symposium and the way forward <i>H M Q</i> FAO</p> <p>Closing remarks <i>H H C N</i> , FAO</p>	<p>Moderator</p> <p>Mr Eduardo Mansur, FAO</p>



Poster session - Theme 1

| Earthworm diversity and soil-related processes in disturbed Caspian forest

T F, *Tarbiat Modares University, Iran*

| Soils of Georgia Highlands and their Biodiversity

H F, *Ilia State University, Georgia*

| Modelling decomposition and microbial processes under waterlogging

A, *Norwegian Institute of Bioeconomy Research, Norway*

| Ecotoxicological evaluation of lead in distinct soil classes based on acute bioassays with earthworms

H Q, *Federal Fluminense University, Brazil*

| Biodiversity of arbuscular mycorrhizae and chemical properties in soils of the Colombian coffee zone

H H, *AGROSAVIA, Colombia*

| A large database on functional traits for soil ecologists: BETSI

N E, *INRA, France*

| Soil survey within the Biodiversity Monitoring South Tyrol

E K, *Eurac Research, Institute for Alpine Environment, Italy*

| Automatic detection of (micro)arthropods in soils

I A, *Centre for Agricultural Research, Hungary*

| Ant and termite diversity of the Colombian Amazon soils

K Q, *Instituto Amazónico de Investigaciones Científicas SINCHI, Colombia*

| Microbial diversity in forest soil from Vitosha mountain

Q, *University of Forestry, Bulgaria*

| Fungal community assembly in soils of different crops farming in the Puna (North Argentina)

G, *MICODIF, Argentina*

Slope on soil organic carbon in domazlice district in Czech Republic

N I, *Faculty of Agrobiolgy, Food, and Natural Resource, Czech Republic*

| Soil biotic component indicators in Lombardy agro-ecosystems

H K, *TIMESIS Srl, Italy*

| Microscopic “canaries in the coal mine” – environmental sequencing of microbial communities uncovers how changes in climate and land cover affect soil biodiversity and functionality

E B, *Eszterházy Károly University, Hungary*

| Earthworm biodiversity from Hyrcanian forests: natural vs. agricultural

H E D, *Universidad de Vigo, Spain*

Poster session - Theme 1

| Biotechnological prospecting studies on microbial strains isolated from different natural biotopes in order to obtain biologically active substances and biomaterials

O , National Institute for Chemical-Pharmaceutical Research & Development, ICCF, Roumania

| QBS-ar in soil biodiversity monitoring: the experience of Emilia-Romagna Region

A N , Servizio Geologico, Sismico e dei Suoli, Direzione Generale Cura del Territorio e dell'Ambiente, Regione Emilia-Romagna, Italy

| Biodiversity in a soil sequence under different use in an area in the interior of the Valencian Community

Desamparados Soriano Soto, Universitat Politècnica de València, Spain

| Kinetic Diversity Indices for the Characterization of Topsoil Formation in Natural and Augmented Ecosystems

H A , Sony Computer Science Laboratories, Japan

| Soil biotic component indicators in Lombardy agro-ecosystems

H K , TIMESIS Srl, Italy

| Comparison between soil biodiversity at Rio da Garça (degraded watershed) and Ribeirão Arrependido (preserved watershed)

Oswaldo Julio Vischi Filho, UNICAMP, Brazil

Poster session - Theme 2

| Progress in agro-environmental policy for the protection of soil biodiversity in Cuba

E H A B , University of Havana, Cuba

| Communicating the importance of soils to human health: New options and opportunities

, Dickinson State University, USA

| Marine Soil Biodiversity as a Key Factor for Ecosystemic Health

O T

| Effect of Fairy Ring fungi on topsoil micromorphology in Pyrenean grasslands

G H N , University of Lleida, Spain

| Utilisation of grassland vegetation is favourable to the development of earthworm communities

F C , INRAE, France

| Effect of warming-induced shrub encroachment on soil fungal communities in Western Greenland

A , University of Tuscia, Italy

| The change in biological activity is a good indicator of soil organic matter change

U F , Hungary Department of Soil Science and Water Management, Hungary

Poster session - Theme 2

| The issue of soil pollution solved using organic farming #2: tried-out research of soil biodiversity

K N D, Chulalongkorn University, Bangkok and Panyapiwat Institute of Management, Nonthaburi, Thailand

| How much the Soil Biodiversity is known in Mexico?

D, Instituto de Ecología A. C., Red de Ecología Funcional, Mexico

| In Vitro Screening for Highly Effective Strains of Azotobacter

H K, Loei Rajabhat University, Thailand

| Vermicompositng: An alternative and complimentary eco-friendly tool for sustainable waste management and soil fertility enhancement

F H, Bharathiar University, India

| Thirty Years Of Different Amendment Practices: Effects On Microbial Soil Turnover

B M, Council for Agricultural Research and Economics, Research Center for Agriculture and Environment, Italy

| Urban and peri-urban gardening promotes urban and soil biodiversity

, Council for Agricultural Research and Economics, Research Center for Agriculture and Environment, Italy

| Assessment of the influence of urban soil use classes on soil biological quality and biodiversity of micro arthropods

H, Institute for BioEconomy, National Research Council, Italy

| Development of a multi-criteria evaluation of agroecological practices involving soil biodiversity, agronomic performance and farmer perception

G, IRD UMR Eco&sols, France

| Yatesbury House Farm is Growing Soil

M B, University of Reading, United Kingdom

Poster session - Theme 3

| Phosphate Solubilizing Bacteria and Arbuscular Mycorrhizal Fungi Differentially Benefit Barley and Enhance Phosphate Contents

A, Hassan II University, Morocco

| Metabolic activity of Pseudomonas sp isolated from agricultural soils

M, Instituto de Ciencias de la Benemérita Universidad Autónoma de Puebla, Mexico

| Perennial Energy Crops and Organic Fertilization increase Soil Biological Activity and Soil Fertility on Sandy Substrate

H I, German Federal Agency for Nature Conservation, Germany

Poster session - Theme 3

| Effect of different Inoculants in growth of *Solanum tuberosum* and the control of *Rhizoctonia solani*

K Q H, Universidad Nacional Agraria La Molina, Peru

| Diversity and distribution of mycorrhizal arbuscular fungi associated to Bambara groundnut (*Vigna subterranea* (L.) Verdcourt) in different agro-ecological zones in Benin

G M JNNJ P, Laboratory of Soil Microbiology and Microbial Ecology, Benin

H

B, CREA, Italy

| The Interdependence of Soil Function and Soil Biological Diversity: Lessons from an 8-year Cover Crop Study in Semi-Arid Montana, USA

U, Montana State University, USA

| Long term impact of soil fauna conservation practices on the introduced mesofauna and soil chemical properties in rain fed agro ecosystem

F I B, University of Agricultural Sciences GKVK, BENGALURU, India

| ZEWINE ZEOLite and WINery waste as innovative product for wine production

H, CNR-IRET, Italy

| Soil biodiversity in action: ecological intensification of soil processes for agrosystem services in the tropics

IRD, UMR Eco&Sols, France

| Arbuscular mycorrhizal fungi mitigate drought impacts and improve nutrient status of *Commiphora myrrha* seedlings

Mekelle University, Ethiopia

| Soil biodiversity enhancement in European agroecosystems to promote their stability and resilience by external inputs reduction and crop performance increase – SoildiverAgro

A, University of Vigo, Spain

| Conservation of biodiversity through sustainable management of phytonematodes in plantain cultivated soils (Musa AAB SIMONDS)

G B H, AGROSAVIA, Colombia

| Soil Biodiversity and Sustainable Vineyards: Hints From the Analysis of Microarthropod Communities

Aldo D'Alessandro, University of Camerino, Italy

| Bacterial community in melon/cowpea intercropping systems with reduced nitrogen application

H M, CEBAS-CSIC, Spain

| Ecological intensification of Mediterranean vineyards: effects on soil conservation and economic viability

K, CREAF, Spain

| Cultivation and Grazing Impact on Extracellular Enzyme Activity in Alberta Grasslands

F, University of Alberta, Canada

GLOBAL SYMPOSIUM ON SOIL BIODIVERSITY

19-20-21-22

April 2021



The Global Soil Partnership (GSP) is a globally recognized mechanism established in 2012. Our mission is to position soils in the Global Agenda through collective action. Our key objectives are to promote Sustainable Soil Management (SSM) and improve soil governance to guarantee healthy and productive soils, and support the provision of essential ecosystem services towards food security and improved nutrition, climate change adaptation and mitigation, and sustainable development.

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