



**International Conference**  
**Impacts of Soil Amendments on**  
**Dryland Agro-Ecosystems**

**28-30 October 2024**

*UFR STAPS, Bât.25, Campus moulin de la Housse*

*Reims, France*

**Scientific Program**

# Day1: Monday October 28, 2024

- 8h30 - 9h30 Welcome participant & Breakfast  
Opening remarks
- 9h30 – 9h40 Mr. Vincent Vuiblet, Vice President of the University of Reims Champagne-Ardenne
- 9h40 – 9h50 Mr. Fabrice Dentressangle, Project officer at PRIMA fundation
- 9h50 – 10h00 Mrs Nuria Ruiz, Scientific Project Manager at National Agency for Research (ANR)
- 10h00 – 10h10 Mr. Hugues Clivot, local member of French research program PEPR FairCarboN
- 10h10 – 10h20 Mr. Xavier Morvan, Organising Committee ISADAE 2024

## Session 1: Soil degradation, conservation and mitigation strategies in dry areas

Chairman: Beatrice Marin & Maxime Gommeaux

- 10h20 – 10h50 **Degradation and conservation strategies of soils in dry areas: land degradation processes related to soil management and example of mitigation strategies for soil and water conservation**  
*Keynote speaker: Pascal Podwojewski*
- 10h50 -11h05 **Green Earth Program – Ecological engineering through induced biocrusts as valuable tool for combating desertification and mitigation of climate change in dryland ecosystems – a case study of Western Burkina Faso**  
*Ines Wagner, Josué Maré Boussa Tockville, Andreas Burr, Pia Swatkowski, Marvin Braun, Jessica Friedrichs, Olga Spang, Waldemar Spsychalski, Lukasz Wolko, Jérôme Juilleret*
- 11h05 -11h20 **Mitigation ability of humified organic matter towards soil salinity and sodicity**  
*Daniel Moro, Elisa Pellegrini, Marco Contin, Maria De Nobili*
- 11h20 – 11h35 **Reactivity towards Na of biochars produced from palm date residues with different oxygen proportions during pyrolysis**  
*Marie Ponthieu, Jeremy Beucher, Alexandra Guillaneuf, Elie Le Guyader, Vincent Miconnet, Maxime Gommeaux, Rachidou Amadou Guimbari, Mohamed El Mazlouzi, Béatrice Marin, Xavier Morvan*
- 11h35 – 11h50 **Dynamic of woody vegetation in two protected areas of South semi-arid Tunisia**  
*Refka Mnasri, Khaoula Ben Atia Zrouga, Christophe Mahuzier, Mustapha Gorai, Pascal Podwojewski, Séraphine Grellier*

12h05 – 13h30

Lunch

- 13h30 – 14h00 **Case Studies on the interactive effect of zeolite and treated agricultural residues (composts) on crop performance**  
*Keynote Speaker: Victor Kavvadias*
- 14h00 – 14h15 **Carbon farming and the trials for the agricultural sector**  
*Ilaria Falconi, Irene Criscuoli*
- 14h15 – 14h30 **Enhancing Soil Organic Carbon Predictions with High-Resolution Hyperspectral Imaging**  
*Shayan Kabiri, Sharon M. O'Rourke*
- 14h30 – 14h45 **The EOM4SOIL project and the best practices for adding organic matter to the soil**  
*Ilaria Falconi, Irene Criscuoli, Maria Valentina Lasorella*
- 14h45 – 15h00 **A project for mapping the invasive species *Prosopis Juliflora* using satellite imaging and its effect as an organic amendment on soil fertility in Djibouti**  
*Sougueh Cheik, Abdourahman Daher, Oumarou Malam Issa, Pascal Jouquet, Séraphine Grellier, Pascal Podwojewski*

15h00 – 16h00

Coffee Break + Poster session

- 16h00 – 16h15 **The eco-physiological and fodder resources in El Haouch area (Biskra) from south-east of Algeria: situation and preservation**  
*Hadda Arab, Sassia Sellaoui, Nadia Boufedda, Said Dekhinat, Smail Mehennaoui*
- 16h15 – 16h30 **Assessing the impact of combining organic and inorganic fertilization on greenhouse gas emissions from agricultural soils**  
*Georgios Giannopoulos, Elpida Pasvadoglou, Georgios Kourtidis, Lars Elsgaard, Georgios Zanakakis, Ioannis Anastopoulos, Vasileios Tzanakakis*
- 16h30 – 16h45 **Analysis of soil clay content changes on agricultural fields due to applications of sediments from water reservoirs in India**  
*Juliette Gaab, Cécile Gomez, Laurent Ruiz*
- 16h45 – 17h00 **Technosol's aggregation patterns according restoration treatments in limestone cement quarry in a semi-arid environment**  
*Françoise Watteau, Rocío Soria, Adeline Bouchard, Raúl Ortega, Isabel Miralles*

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## Day 2: Tuesday October 29, 2024

### Session 2: Optimizing crop productivity and ecosystem services in dryland agro-ecosystems

Chairman: Victor Kavvadias

- 9h00 – 9h30 **The use of organic matter in orchards: effect on soil and plant performances**  
*Keynote speaker: Pr. Elena Baldi*
- 9h30 – 9h45 **Relationships between soil and green covers development in persimmon orchards**  
*Carmen Orts, Angel Marqués-Mateu, Rafael Boluda, Cristina Lull, Josep Llinares, Desamparados Soriano*
- 9h45 – 10h00 **Nutrient uptake and leaching of barley cultivated with organic amendments form date palm residues**  
*Mohamed El Mazlouzi, Elie Le Guyader, Alexandra Guillaneuf, Marin Béatrice, Gommeaux Maxime, Xavier Morvan*
- 10h00 – 10h15 **Exploring Soil Physical and Chemical Dynamics in Different Soil Organic Amendment Systems in Arid Forests Post-Planting**  
*Adnane Beniaich, Mohamed Louay Metougui, Mohamed El Gharous*
- 10h15 – 10h30 **Effect of date palm waste-based organic amendments on some melon agronomic parameters cultivated in Biskra (Algeria)**  
*Mohammed Seghir Mehaoua, Hanane Bedjaoui, Nadine Tahraoui, Brahim Merabti, Soumaia Fadlaoui*

10h30 – 11h30

Coffee Break + Group Photo

- 11h30 – 11h45 **Cowpea residue management effect on productivity of subsequent millet in a legume-cereal crop rotation**  
*Aliou Faye, Sidy Tine, Augustine K. Obour, Doudou Diouf, Junior Bruno Mbar Ndiaye, Mouhamadan Lo, Tobi Moriaque Akplo, Saliou Ndiaye, Yared Assefa*
- 11h45 – 12h00 **Effect of organic amendments on the chemical properties and carbon mineralization in the oasis soil of arid regions and date yield (Southern Tunisia)**  
*Fatma Mekki, Inès Rahma Zoghlmi, Nissaf Karbout, Ali Bennour, Mohamed Moussa, Xavier Morvan, Mohamed Ouessar*
- 12h00 - 12h15 **Effects of sole and combined addition of biochar and compost on improving soil quality and crop productivity**  
*Houda Oueriemmi, Rahma inès Zoghlami, Ali Bennour, Mohamed Moussa, Xavier Morvan, Mohamed Ouessar*

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12h15 – 12h30 **Uses of Date Palm Residues Derived Organic Amendments to Improve Crop Growth and Arid Soil Properties**  
*Khaled Alotaibi, Ibrahim Ahmad*

12h30 – 13h30

Lunch

### Session 3: Economical aspects of soil management and valorization of natural resources

Chairman: Ines Rahma Zoghلامي

13h30 – 14h00 **Analysis of the viability of the rainfed cereal intensification model in semi-arid regions in Algeria**  
*Keynote Speaker: Pr. Ali Daoudi*

14h00 – 14h15 **5 times cheaper, innovative method for restoration of non-productive soils by applying organic matter only locally**  
*Petras Steponavičius, Aušrius Juozapavičius*

14h15 – 14h30 **A design and evaluation of a climate-responsive fertilization for rainfed wheat: Integrating APSIM-Wheat model with a rule-based strategy.**  
*Achraf Mamassi, Hélène Marrou, Abdellah Hamma, Mohamed El-Gharous, Bernard Tychon*

14h30 – 15h30

Coffee Break

### Session 2 (continued): Optimizing crop productivity and ecosystem services in dryland agro-ecosystems

15h30 – 15h45 **Effect of biochar addition on soil properties and durum wheat production**  
*Zohra Bounouara, Sabah Larit, Rabia Negrach, Lecheheb Ouissem, Marwa Lamri, Abir Ahmed Seghir, Ibtissem Bouhdiba*

15h45 – 16h00 **Impact of biological and organic amendments on growth, physiology and yield of maize grown under Mediterranean conditions**  
*Redouane Ouhaddou, Lahoucine Ech-chatir, Ikan Chayma, Fatima Ezzahra Soussani, Farid Errouh, Abderrahim Boutasknit, Julio Cesar Rodrigez, Salah Erraki, Robin Duponnois, Abdelilah Meddich*

16h00 – 16h15 **Impact of cropping systems on selected soil properties within Oyo State College of Agriculture and Technology, Igboora, Nigeria**  
*Noah Olla, Wasiu Bello, Samson Ogunjinmi*

16h15 – 16h30 **Biofertilizers/Biostimulants with Potential Complementary and Synergistic Effects – The AMF-PGPR-Compost Nexus in Promoting Date Palm (*Phoenix dactylifera* L.)'s Tolerance under a Droughted Semi-Arid Field Environment**  
*Fatima-Zahra Akensous, Mohamed Anli, Abdelilah Meddich*

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- 16h30 – 16h45 **The use of endophytic bacteria of ancestral plants varieties as biostimulant to improve crops yield**  
*Bouchra Nasslahsen*
- 16h45 – 17h00 **Evaluation of parametric changes of water moisture curve in soil containing microplastics**  
*Charalampos Doulgeris, Soheila Ebrahimi, Roghayeh Karimpoor*
- 17h00 – 17h15 **The effect of microplastics on the variability of functional parameters of available water in loessial soils**  
*Soheila Ebrahimi, Charalampos Doulgeris, Roghayeh Karimpoor*

17h15 – 17h30

Cocktail dinner

## Day 3: Wednesday October 30, 2024

### Session 4: Soil hydrological processes and water management practices

Chairman: Mohamed El Mazlouzi

- 9h00 – 9h30 **Soil processes and water management practices**  
Keynote speaker: Pr. Yves Coquet
- 9h30 – 9h45 **The relationship of  $\delta D$  and  $\delta^{18}O$  in soil water and its implications for soil evaporation across distinct rainfall years from winter wheat field in the North China Plain**  
*Abdoul Kader Mounkaila Hamani, Junming Liu, Zhuanyun Si, Djifa Fidele Kpalari, Guangshuai Wang, Yang Gao, Xiaotang Ju*
- 9h45 – 10h00 **Water requirements of date palms between two periods (1975-2000 and 2001-2018) with software (Cropwat 8.0) in southern Algeria (Biskra)**  
*Naima Mebrek, Fatma Demnati, Fatima Hiouani, Nour el Houda Bennaceur*

10h00 – 11h00 Coffee Break + poster session

- 11h00 – 11h15 **Enhancing Soil Fertility in Arid Agriculture: Investigating Two Years of Combined Soil Amendments with Saline Irrigation**  
*Rahma inès Zoghlami, Houda Oueriemmi, Mohamed Moussa, Ali Bennour, Mohammed Ouessar*
- 11h15 – 11h30 **The Impact of Arbuscular Mycorrhizal Fungi and/or Compost on Enhancing Tomato Resistance to Water Stress**  
*Fadoua Mekkaoui, Amina Hamma Elidrissi, Nada Zaari Jabri, Ilham Amghar, Soukaina Essadssi, Abdelaziz Hmyene, Mohamed Ait-El-Mokhtar*
- 11h30 – 11h45 **Comparing the effect of various land use types on moisture dynamics in loamy soils using the Hydrus 1D model in Southwest Hungary**  
*Parisa Maleknia*

11h45 – 13h00 Lunch

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## Session 5: Linking soil biological processes and carbon/nutrient cycling to improve soil health

Chairman: Hugues Clivot

- 13h00 – 13h30 **Biochar-based fertilizers: trade-offs between soil C sequestration and gaseous N losses**  
*Keynote Speaker: Dr. Maria Luz Cayuela*
- 13h30 – 13h45 **Evaluation of the stability of date-palm based biochar and compost in soil by C mineralization kinetics and Rock-Eval analysis**  
*Elie Le guyader, Houda Oueriemmi, Hugues Clivot, Ines Rahma Zoghlami, Mohamed El Mazlouzi, Alexandra Guillaneuf, Maxime Gommeaux, Béatrice Marin, Marie-Liesse Aubertin, David Sebag, Xavier Morvan*
- 13h15 – 14h00 **Alternative Cover Crops and Soil Management Practices Modified the Macronutrients, Enzymes Activities, and Soil Microbial Diversity of Rainfed Olive Orchards (cv. Chetoui) under Mediterranean Conditions in Tunisia**  
*Elhadded Fadoua, Julio Antonio Calero González, Sofiane Abdelhamid, Roberto Garcia-Ruiz, Hechmi Chehab*
- 14h00 - 14h15 **Advanced Strategies for Nitrogen Fertilization Management of Durum Wheat in the Semi-arid Region of Algeria: Exploring Nitrogen Nutrition Indicators and Their Impact on Yields.**  
*Chadda Douniazed, Mahtali Sbih, Halitim Amor*

### 14h15 – 15h00 Coffee Break

- 15h00-15h15 **Conservation of Biodiversity in a Protected Area Enhances Nematode Diversity and Carbon storage**  
*Obidari Tayeb, Filali Alaoui Ilyas, Braimi Amina, Benjlil Hinde, Ait Hamza Mohamed, Mayad El Hassan, El Mousadik Abdelhamid*
- 15h15 – 15h30 **The application of solar-dried sludge as an organic amendment in a semi-arid environment: Assesment of agronomic advantages and risks associated to metals**  
*Amal An-nori, Khalil El Mejahed, Driss Touhami, Amine Ezzariai, Mohamed El Gharous, Mohammed Hafidi*
- 15h30 – 15h45 **Climate Change and Biogeochemical Cycles in Agricultural Soils: Impact on the speciation, transfer of heavy metals to plants and physiological, biochemical responses of alfalfa plants.**  
*Lina Chebbi, Iteb Boughattas, Sondes Helaoui, Mohamed Banni, Noureddine Bousserhine*

### Closing remarks



# ISADAE 2024 Sponsors:



# Poster presentation program

## Session 1: Soil degradation, conservation and mitigation strategies in dry areas

- 1-1 **Antidepressants persistence in a Mediterranean soil, and effect of cow manure amendment**  
*Rafael Boluda Hernández, Pablo Hernández, Eva Fernández-Gómez, Óscar Andreu-Sánchez, Carmen Orts, M<sup>a</sup> Desamparados Soriano, Miguel Gamón, Luis Roca-Pérez*
- 1-2 **Assessing the long-term impact of organic amendments on taxa and functions of restored quarry soil microbial communities through shotgun metagenomics**  
*Ana B. Villafuerte, Jorge López, Rocío Soria, André M. Comeau, Raul Ortega, Isabel Miralles*
- 1-3 **Characterization of the soils of Batha and West Wadi-Fira along the route of the Great Green Wall of the Chad.**  
*Abakar Guihini Mahamat, Minda Mahamat Saleh, Mbaikoubou Mekila, Aly Diallo, Aliou Guisse*
- 1-4 **Climate change, water balance and edaphic drought in the southern shore of the Mediterranean: case of the eastern region of Algeria.**  
*Amal Hassina Smaïhi*
- 1-5 **Dynamics of Soil Erosion Response to Land Use and Climate Variability in the Beas Valley, Kullu, Himachal Pradesh: A Study of the Western Himalayan Landscape (1993-2023)**  
*Suraj Kumar Maurya, Vartika Singh, Kesar Chand, Prabuddh Kumar Mishra*
- 1-6 **Functionality assessment of bacterial communities in short-term restored soils: A metagenomic sequencing study in semi-arid ecosystems.**  
*Raúl Ortega, Rocío Soria, André M. Comeau, Ana B. Villafuerte, Jorge López, Isabel Miralles*
- 1-7 **Mineralogical evolution in certain Saharan soils of Algeria (case of Ziban soils and the Oued Righ valley)**  
*Boumaraf Belkacem, Inesse Saadi, Alexandra Guillaneuf*
- 1-8 **Spatial evolution of crusts and encrustation in the Wadi Righ valley Northern Sahara Algeria**  
*Boumaraf Belkacem, Inès Saadi*
- 1-9 **Spatial evolution of morpho-pedological characters in Ziban soils**  
*Samiha Laouar, Belkacem Boumaraf, Guillaume Pierre*
- 1-10 **Strengthening soil health in West Africa: the crucial role of Sahelian bocages and hedgerows**  
*Yameogo Nanawendin, Kouakou Aymard, Edmond Hien, Alain Brauman*

- 1-11 **Sustainable soil restoration in mining areas: Long-term effects of organic amendments on microbiological activities and soil structural stability**  
*Isabel Miralles, Natalia Rodríguez-Berbel, Michael Schloter, Estefanie Schulz, Jorge López, Raul Ortega*
- 1-12 **The Soil Web Portal of Sardinia (Italy): a new soil quality monitoring tool and the automatic calculation of SEs at regional scale**  
*Stefania Fanni, Marco Cocco, Antonio Frongia, Rita Puddu, Vittorio Alessandro Marrone*
- 1-13 **Development of plants adapted to climate change in the province of Valencia. Case of *Moringa oleifera***  
*Jose Vicente Peris Torres, Maria Desamparados Soriano Soto, Laura Garcia-España Soriano, Francisco Garcia Mares*
- 1-14 **Effect of organic amendments on the CO<sub>2</sub> sourcing of restored soils: Simulating Global Warming by Long-Term Field Experiment with Open-Top-Chambers**  
*Rocío Soria, Ángel Fernández-Cortés, Raul Ortega, Jorge López, Ana I. Sánchez-Villanueva, Ana B. Villafuerte, Isabel Miralles*
- 1-15 **Evaluation of biochar amendments to retain organic compounds in soil**  
*Asma Hmaied, Aida Ben Hassen Trabelsi, Claude Hammecker*
- 1-16 **Exploring synergies and trade-offs across the agricultural management strategies associated with achieving food self-sufficiency objectives.**  
*Achraf Mamassi, Nicolas Guilpart, Lucile Muneret, Francesco Accatino*
- 1-17 **Impact of rainfall extremes and mulch application on maize productivity and nitrogen cycling in Zimbabwe**  
*Abderrahim Bouhenache, Hugues Clivot, Gwenaëlle Lashermes, Regis Chikowo, Armwell Shumba, Emmanuel Matimba, Hope Mazungunye, Sylvie Recous, Rémi Cardinael*
- 1-18 **Spatiotemporal Land Use Dynamics and Sustainable Resource Management in the Oued Righ Region (1990-2021)**  
*Karima Belaiche, Belkacem Boumaraf, Guimeur Kamel, Inesse Saadi*
- 1-19 **Identification of Rhinoceros Beetles (*Oryctes* spp.) on Date Palm Plantations in El Oued, Algeria**  
*Sana Rais, Inesse Saadi, Jenő Kontschán*
- 1-20 **Phytosanitary analysis of compost from date palm waste associated with manure (sheep, bovine, poultry).**  
*Inesse Saadi, Belkacem Boumaraf*

## Session 2: Optimizing crop productivity and ecosystem services in dryland agro-ecosystems

- 2-1 **Bioecology and mapping of cyst nematodes (*Globodera* sp) of potato (*Solanum tuberosum*) in the region of oued souf**  
*Abdenour Zaouagui, Inesse Saadi*

- 2-2 **Comparative effects of organic and mineral fertilization on soil physico-chemical characteristics, production and quality of F1 hybrid tomato (Mongol) overwintered at Faculty of Agronomy, Niamey, Niger**  
*Moustapha Maman Mounirou, Djibrila Issa Abdou Kadri, Lawali Mamane Nassourou, Tidjani Adamou Didier*
- 2-3 **Development of a Soil Health Monitoring System**  
*Folasayo Fayose, Justina Aregbesola, David Fayose*
- 2-4 **Development of an Embedded System for liquid Fertilizer Application Machine**  
*Emmanuel Kayode, Babatope Alabandan, Olorunwa Omofunmi, Folasayo Fayose*
- 2-5 **Effect of biochar on soil fertility**  
*Mahtali Sbih, Ferhat Chafia, Meziiane Souhila*
- 2-6 **Effect of compost and biochar based on date palm by-products on soil water retention capacity and barley yield.**  
*Mustapha Nader Riki, Guimeur Kamel, boutalbi houda, Merad Mira*
- 2-7 **Effect of date palm compost on the yield, growth and quality of melon (Cucumis melo L)**  
*Mira Merad, Kamel Guimeur, Hanane Bedjaoui, Houda Boutalbi*
- 2-8 **Effect of different organic amendment on the organic matter content of Saharan soil in Algeria**  
*Abid Abdelfettah, Tirichine Aissa, Arif Yaakoub, Saadi Ines, Boumaraf Belkacem, Hafouda Lamine*
- 2-9 **Effect of Empty Fruit Bunch Compost on Improving the Productivity of Two Vegetables Produced under Sandy Poor Soil in Organic Matter in the South-West of Côte d'Ivoire**  
*Jean Baptiste Djétchi Ettien, Gnimassoun Edwige Gwladys, Bouadou Bouadou Oi*
- 2-10 **Effect of some cropping systems on the microbiological properties of oasian soils of the Sahara desert of Algeria**  
*Mokhtar Karabi, Baelhadj Hamdi Aissa*
- 2-11 **Effects of composting household waste on okra production in the Niamey region**  
*Bachirou Seyni Bodo, Karadji Ayarga Binta, Mahaman Coulibaly, Sarr Oumar*
- 2-12 **Effects of the enriched agricultural waste application on the soil of a Mediterranean agro-ecosystem**  
*Rafael Boluda Hernández, Eva Fernández-Gómez, Giuliano Blancato, José Vicente Ros-Lis, Óscar Andreu-Sánchez, Luis Roca-Pérez*
- 2-13 **Impact Assessment of Nickel and Nitrogen Application on Nutrient Levels and Enzyme Activity in Soybean Grown in Low Nickel Soil**  
*Abhik Patra, Satish Kumar Singh*
- 2-14 **Impact of compost and biochar on date (Phoenix dactylifera) production at different phenological stages.**  
*Khawla Barkat, Kamel Guimeur, Hanane Bedjaoui*

- 2-15 **Impact of compost and biochar on the soil and growth of a barley crop**  
*Ali Masmoudi, Amira Salem*
- 2-16 **Impact of soil and water salinity on the quality of Deglet Nour dates cultivated in arid zones (Algeria)**  
*Hanane Bedjaoui, Mohamed seghir Mehaoua*
- 2-17 **Influence of plant density and fertilizer on maize yield (*Zea mays* L.) in Niger**  
*Idrissa Abarchi, Hadiza Ado Salifou, Hamani Abdou Bakary, Ibrahim Boubacar Kimba, Maman Nouri Kassoum*
- 2-18 **Plant Growth-Promoting Rhizobacteria inoculants to alleviate drought stress and analysis of rhizobacteria dynamics in soil farmlands**  
*Asmae Boumezgane, Samantha McLean, Diana Di Gioia, Mauro De Feudis, Marcello Di Bonito*
- 2-19 **Relationship between Phenolic Compounds and Antioxidant Activity of Some Moroccan Date Palm Fruit Varieties (*Phoenix dactylifera* L.): A Two-Year Study**  
*Abdoussadeq Ouamnina, Abderrahim Alahyane, Imane Elateri, Mohamed Abderrazik*
- 2-20 **Resilience of cowpea (*vigna unguiculata*) to water and salinity stresses**  
*Ravaka Andriatsitohaina, Radu Sumalan, Rado Rasolomampianina*
- 2-21 **Symbiotic Nitrogen Fixation in Alfalfa Cultivated Under Water Stress**  
*Mouffok Ahlem*
- 2-22 **The influence of three pollen origins on the fruit set of 'Aziza bouzid' date palm cultivar in the Figuig oasis, Eastern Morocco.**  
*Anass Alla, Qamar Mesbahi, Ibtissam Mzabri, Mourad Derouiche, Fadoua Chkird, Hajar Hamdaoui, Nouredine Kouddane, Abdelbasset Berrichi*
- 2-23 **The study of the effectiveness of soil solarization against The stem and bulb nematode *Ditylenchus dipsaci* on broad beans and its comparison with chemical control in arid region**  
*Inesse Saadi, Belkacem Boumaraf*
- 2-24 **Triple Super Phosphate Fertilizer as Compared to Diammonium Phosphate Increases Maize Drought Resilience under High Soil pH**  
*Nahid Jafarikouhini, Thomas R. Sinclair, Lauren Alexandra Turner, Ashlynn Amick, Luke Gatiboni, Amanda Avila Cardoso*
- 2-25 **Usage of AI, Earth Observation Data and Agricultural Robotics in pest management in dry climates**  
*Abd El Hamid Sherief, Salem Ghanam*
- 2-26 **Effect of organic amendments based on date palm residues on barley crop (*Hordeum vulgare* L.) in oasian environment: case of Oued Righ region, Algeria**  
*Tirichine Aissa, Abid Abdelfettah, Hafouda Lamine, Mahtali Sbih, Gommeaux Maxime, Boumaraf Belkacem, Moussa Mohamed, Morvan Xavier, Marin Béatrice, Le Guyader Elie, Kavvadias Victor*
- 2-27 **Composting trial on palm waste, study of some compost maturity parameters.**  
*boutalbi houda, Guimeur Kamel, Mahtali Sbih, Mustapha Nader Riki, Merad Mira*

- 2-28 **Effect of Date Palm (*Phoenix dactylifera*) By-product Compost on Some Chemical Parameters of Soil in a Semi-Arid Zone (Algeria)**  
*Messaouda Rebai, Kamel Guimeur, Nadia Boulelouah*

### Session 3: Economical aspects of soil management and valorization of natural resources

- 3-1 **Ethnobotanical study of *Acacia tortilis*, a soil-improving tree in the Sahara Desert**  
*Augusto Lança*
- 3-2 **Evaluation of the stability and maturity of composts based on date palm waste**  
*boutalbi houda, Guimeur Kamel, Mahtali Sbih, Mustapha Nader Riki, Merad Mira*
- 3-3 **Promotion of agroforestry systems for enhancing soil fertility and crop production in Niakhar, Senegal**  
*Hassna Founoune - Mboup, Moussa Ndienor, Abdoulaye Fall, Halima Maiguizo-Diagne, Bassirou Diallo, Aïssatou Diouf, Ndeye Maguette Hane, Harun Cicek*
- 3-4 **Sustainable Land Management to Ensure Food Security in the Dry Zones of India under a Changing Climate**  
*Shadananan Nair Krishnapillai*

### Session 4: Soil hydrological processes and water management practices

- 4-1 **Evaluation of the water productivity of cereal crops in arid environments: example in the El Outaya plain**  
*Mohamed Taki Eddine Hamed, Guillaume Pierre, Hassina Hafida Boukhalfa, Julien Berthe*
- 4-2 **Valorization of Vine Pruning Waste for Biohydrogel Formulation to Enhance Vine Drought Resilience**  
*Abderrazak Aitbihi, Khadija Beraouz, Abdelilah Meddich, Abdelhi Dihazi, Amine Guendouz, Zainab El Alaoui Talibi, Cherkaoui El Modafar*

### Session 5: Linking soil biological processes and carbon/nutrient cycling to improve soil health

- 5-1 **Automation of an ecotoxicological, multi-species experiment on soil microarthropods**  
*László Sipőcz, András Ittzés, Miklós Dombos*
- 5-2 **Canopy cover and bioclimatic patterns influence C:N stoichiometry and particle size distribution of various soils of *Ephedra L.* species across Tunisia**  
*Mustapha Gorai, Warda Souid*

- 5-3 **Changes in bacterial community structure and carbon metabolism in sandy soil under the long-term application of chitin-rich organic material and attapulgit**  
*He Zhang, Aurore Degré, Jianfeng Zhang*
- 5-4 **Evaluation of the Symbiotic Potential of Soils in the Constantine Region with Respect to Faba Bean**  
*Mouffok Ahlem*
- 5-5 **Impact of long-term amendments on bacterial, archaeal and fungal communities in a semiarid olive orchard**  
*María Sanchez-Garcia, Miguel Angel Sánchez-Monedero, Danilo Bustamante, Martha Calderón, Maria Luz Cayuela*
- 5-6 **Influence of Termites in Soil Amendments on Soil Structure and Nutrient Dynamics in the Western Ghats of Kerala, India: A Biodiversity Hotspot**  
*Ajay Harit, Naveen Babu, Eswara Vankatesapermul Ramasamy, Mahesh Mohan, Nalinakshan Vishnu*
- 5-7 **Microbiota associated with soils of cacao and coffee farms with potential promoter effect of plant growth in the Amazona region**  
*Jois V. Carrion, Maricela Chavez-Huigo,, Yadhira M. Olano, Martha S. Calderon, Danilo E. Bustamante*
- 5-8 **Nitrogen addition mediates soil microbial communities to promote organic carbon sequestration under long-term conservation tillage**  
*Zixuan Han, Aurore Degré, Xueping Wu*
- 5-9 **Organic matter transformation processes in citrus waste. Assessment of oxidisable carbon and soil respiration.**  
*Jose Vicente Peris Torres, Maria Desamparados Soriano Soto, Laura Garcia-España Soriano*
- 5-10 **Study of the antagonistic activity of *Trichoderma asperellum* against *F. oxysporum* and *F. solani* of Cucurbitaceae in arid regions of Algeria**  
*Mohammed Seghir Mehaoua, Soumaia Fadlaoui, Hanane Bedjaoui*
- 5-11 **Evaluation of nitrogen mineralization in the soil using different organic amendments from dry palm waste.**  
*Aya Masmoudi, Guimeur Kamel, Ali Masmoudi, Abdulaziz G. Alghamdi*