

“Soil Health: A Key to Food Security”

# 20<sup>th</sup> INTERNATIONAL CONGRESS OF SOIL SCIENCE

20-22 February 2024, Rawalpindi, Pakistan

## TECHNICAL PROGRAM



JOINTLY ORGANIZED BY:

**SOIL SCIENCE SOCIETY OF PAKISTAN**

**PMAS-ARID AGRICULTURE UNIVERSITY  
RAWALPINDI, PAKISTAN**





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**“Soil Health:  
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## ***Technical Programme***

**Day 01, 20<sup>th</sup> February 2024, Tuesday**

### **Inaugural Session**

<b>08:00</b>	Registration
<b>09:20</b>	Guests to be seated
<b>09:30</b>	Arrival of the Chief Guest
<b>09:35</b>	Recitation from the Holy Quran
<b>09:40</b>	Welcome words by Prof. Dr. Azeem Khalid, General Secretary Soil Science Society of Pakistan
<b>09:45</b>	Welcome Address by Prof. Dr. Zahir Ahmad Zahir President Soil Science Society of Pakistan
<b>09:50</b>	Keynote Address by Dr. Shabbir A. Shahid, Kuwait Institute for Scientific Research, Kuwait
<b>10:10</b>	Remarks by Prof. Dr. Muhammad Naeem, Vice Chancellor PMAS Arid Agri. University, Rawalpindi
<b>10:20</b>	Address by Chief Guest, His Excellency Dr. Kausar Abdullah Malik, Federal Minister for National Food Security & Research
<b>10:35</b>	Awards & Souvenir distribution
<b>10:45</b>	Vote of Thanks by Prof. Dr. Khalid Saifullah Khan, Director IS&ES / ORIC, PMAS Arid Agri. University
<b>10:50</b>	Group Photos
<b>11:00</b>	Refreshment



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**Day 01, 20<sup>th</sup> February 2024, Tuesday (11:30-13:30)**

	Session A: Venue: Auditorium, PMAS-AAUR	Session B: Venue: Seminar Room, PMAS-AAUR
	1A: Soil Fertility and Plant Nutrition <i>Chairpersons:</i> Dr. Shabir A. Shahid (R) (Kuwait Institute for Scientific Research, Kuwait) Prof Dr. Khalid Saifullah Khan (ISES, PMAS Arid Agriculture University Rawalpindi) <i>Rapporteur:</i> Prof. Dr. Arif Ali (Dept Environ. Sci., BZU, Multan)	1B: Soil Microbiology & Biochemistry <i>Chairpersons:</i> Prof. Dr. Zahir Ahmad Zahir (Prof. ISES, UAF) Dr. Nadeem Tariq (Biotech Fertilizers Pvt Ltd) <i>Rapporteur:</i> Dr. Abid Niaz, (PS, Bacteriology Sec, Biotechnol. Research Inst., AARI, Faisalabad)
1.	<b>Talk by Prof. Dr. Rattan Lal,</b> Former President IUSS, Director, CFAES Dr. Rattan Lal Carbon Management and Sequestration Center (C-MASC), Distinguished University Professor of Soil Science, The Ohio State University, USA ( <i>Recorded Invited Talk</i> )	
2.	<b>Importance of cold fallow season management to enhance soil organic carbon stock in temperate paddy soil</b> <i>Muhammad Israr Khan,</i> Gyeong sang National University, South Korea ( <i>Invited Talk</i> )	<b>Anaerobic biogeochemical processes to mitigate greenhouse gas emissions and reclaim oil sands mining wastes.</b> <i>Prof. Dr. Tariq Siddique,</i> University of Alberta, Canada <i>(Invited Talk)</i>



3.	<p><b>Impact of potash and micronutrients on sugarcane crop production and economic return</b></p> <p><i>Muhammad Zameer Khan</i>, Land Resources Research Institute, NARC, Islamabad</p>	<p><b>Isolation and characterization of bacteria from lentil to improve its yield</b></p> <p><i>Arshad Nawaz Chaudhry</i>, PMAS Arid Agriculture University, Rawalpindi</p>
4.	<p><b>Enhancing soil health through regenerative agriculture: principles and practices of Ra for sustainable soil health</b></p> <p><i>Abid Subhani</i>, Rural Business Development Center (RBDC Pvt Ltd.), G-9/4, Islamabad</p>	<p><b>Acidified manure and nitrogen-enriched biochar showed short-term agronomic benefits on cotton-wheat cropping systems under alkaline arid field conditions</b></p> <p><i>Muhammad Baqir Hussain</i>, Muhammad Nawaz Shareef University of Agriculture Multan</p>
5.	<p><b>Concurrent improvement in maize yield and nitrogen use efficiency through root zone targeted fertilization</b></p> <p><i>Muhammad Irfan</i>, State Key Laboratory of Soil and Sustainable Agriculture, Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China</p>	<p><b>Isolating, screening, and integrated impact of consortium of rhizobium and rhizobacteria on yield of mash bean under in vitro conditions</b></p> <p><i>Kashiuf Asif</i>, Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad</p>
6.	<p><b>Roadmap towards sustainable nitrogen management in Pakistan</b></p> <p><i>Tariq Aziz</i>, University of Agriculture Faisalabad, Okara</p>	<p><b>Exploring the potential of endophytic bacteria to manage the drought stress in chickpea by promoting rhizobia-chickpea symbioses</b></p>



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		<b>Muhammad Usman Jamshaid</b> , Muhammad Nawaz Shareef University of Agriculture Multan
7.	<b>Efficiency of Fe-solubilizing bio-inoculants for enhancing maize growth at early growth stages</b> <i>Tahseen</i> , The Islamia University of Bahawalpur, Bahawalpur	<b>Isolation and screening of rhizobium and PGPR for improvement in growth and nodulation of soybean</b> <i>Nabiha Asghar</i> , University of Agriculture, Faisalabad
8.	<b>Sustainable waste management through household-level composting: a pathway to environmental health and agricultural prosperity in pakistan</b> <i>Shahzadi Bibi</i> , MNS-Univ. of Agriculture, Multan	<b>Siderophore-Mediated iron uptake: A key to improved groundnut (<i>Arachis hypogaea</i> L.) Productivity and nutritional quality</b> <i>Sair Sarwar</i> , Land Resources Research Institute, NARC
9.	<b>Cultivating resilience: harnessing cover crops for robust soil sustainability</b> <i>Hina Nawaz</i> , PMAS-Arid Agriculture University, Rawalpindi	<b>Exploring <i>Enterococcus durans</i> S<sub>2</sub>C: production of antifungal gelatinase and its potential role in biological control</b> <i>Zafar Hayat</i> , COMSATS University Islamabad
10.	<b>Growth and quality index of tomato as influenced by poultry manure and compost under different textured soils</b> <i>Laiba Tahir</i> , University of Agriculture, Faisalabad	<b>Addressing challenges in microbial biofertilizers for sustainable agriculture to enhance soil health and food security</b> <i>Ghulam Rasool</i> , GR Agro Services, Faisalabad



11.	<p><b>Effect of B-fortified DAP fertilizer on growth and yield performance of major crops</b></p> <p><i>M. Abbas Aziz</i>, Fauji Fertilizer Company Limited, Lahore, Pakistan</p>	<p><b>Antagonistic potential of different rhizobacteria isolated from sorghum against different fungal pathogens</b></p> <p><i>Tauseef Tabassam</i>, Land Resources Research Institute, National Agricultural Research Centre, Islamabad</p>
12.	<p><b>Effect of farmers' management practices on aggregate stability, carbon storage and soil health in banana growing areas of sindh</b></p> <p><i>Azam Solangi</i>, Agriculture Research Center Tandojam.</p>	<p><b>Utilizing <i>Streptomyces</i> sp. as an eco-friendly catalyst for sludge bioconversion: an innovative approach in waste bio-refinery</b></p> <p><i>Muzammil Anjum</i>, Institute of Soil and Environmental Sciences, PMAS-AAUR</p>
13.	<p><b>Heat induced structural changes in palygorskite, sepiolite and smectite for aflatoxin B1 adsorption</b></p> <p><i>Saba Akbar</i>, PMAS-Arid Agriculture University Rawalpindi</p>	<p><b>Biodegradation of azo dye through microalgae and simultaneous biolipid production</b></p> <p><i>Aqsa Riaz</i>, Institute of Soil and Environmental Sciences, PMAS-AAUR</p>
14.	<p><b>Effect of different nitrogenous and phosphatic fertilizer sources on wheat yield and micronutrients accumulation</b></p> <p><i>Rija Fatima</i>, Sindh Agriculture University Tandojam</p>	<p><b>Efficacy of bio-activated iron coated urea for iron biofortification of maize under pot trial</b></p> <p><i>Sammia Ghazanfar</i>, The Islamia University of Bahawalpur</p>





14.	<p><b>Response of biochemically modified biochar to improve chickpea production on sandy soils</b>  <i>Tanveer Ul Haq</i>, MNS University of Agriculture Multan</p>	<p><b>Enhancing maize productivity in saline conditions through the use of halotolerant PGPR in conjunction with compost</b>  <i>Hafiz Tanvir Ahmad</i>, The Islamia University of Bahawalpur</p>
15	<p><b>Organic soil amendments providing organic sources of nitrogen, phosphorus, and potassium to soil and plants</b>  <i>Abid Kamal</i>, The University of Agriculture Peshawar</p>	<p><b>Comparative effects of bio-priming and osmo-priming to modulate drought stress in wheat (<i>Triticum aestivum</i> L.)</b>  <i>Sanaullah Yasin</i>, Ghazi University, Dera Ghazi Khan</p>
16	<p><b>Effect of value-added compost on maize under salt effected soil (<i>Zea mays</i> L.)</b>  <i>Asbah Fatima</i>, The Islamia University of Bahawalpur, Bahawalpur</p>	<p><b>Modified smectite as adsorbent of aflatoxin B1</b>  <i>Ahmad Khan</i>, PMAS-Arid Agriculture University, Rawalpindi</p>
17	<p><b>Potential of biochar and mineral nutrients on plant resistance to stresses and disease management</b>  <i>Abdul Basit</i>, University of Layyah, Layyah</p>	<p><b>Effect of bone meal compost on growth and nutrient content of banana crop</b>  <i>Muhammad Siddique Lashari</i>, Sindh Agriculture University Tandojam</p>



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18	<p><b>Improving water use efficiency in wheat through reduce irrigation and subsurface application of Farm yard manure</b></p> <p><i>Muhamad Imran</i>, , MNS University of Agriculture, Multan, Pakistan</p>	<p><b>Vermicompost; Inevitable carrier for next generation biofertilizer biotechnology</b></p> <p><i>Aftab Tabasum</i>, <i>Institute</i> of Soil &amp; Environmental Sciences, PMAS-AAUR</p>
<b>13:30-14:30 Lunch &amp; Prayer</b>		
<b>Day 01, 20<sup>th</sup> February 2024, Tuesday (14:30-16:00)</b>		
<p><b>Technical Session 2: 14:30-16:00</b></p>	<p><b>2A: Soil Fertility and Plant Nutrition</b> <b>Venue: Auditorium, PMAS-AAUR</b> <b>Chairpersons:</b> Dr. Muhammad Akram Qazi (Director Soil Fertility Research Institute, Lahore) Dr. M. Saeed Ikbal (Farm Advisory Services Manager, Fatima Fertl. Company, Lahore). <b>Rapporteur</b> Dr. Dost Muhammad (Dept. SES, The University of Agriculture Peshawar)</p>	<p><b>2B: Soil Microbiology &amp; Biochemistry</b> <b>Venue: Seminar Room, PMAS-AAUR</b> <b>Chairpersons:</b> Prof. Dr. Fauzia Yusuf Hafeez, CUI Prof. Hafiz Naeem Asghar (Prof. ISES, UAF) <b>Rapporteur:</b> Dr. Rifat Hayat (ISES, PMAS-AAUR)</p>
1.	<p><b>Washed rice water as a fertilizer resource for sustainable agriculture: experimental findings and future prospects</b></p>	<p><b>In-Situ Farm Waste Management for Soil Health: Is it Soil Biology, and/or Soil Microbiology only?</b></p>



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	<p><b>Christopher Teh Boon Sung,</b> University of Putra Malaysia, Serdang, Selangor, Malaysia (Invited Talk)</p>	<p><b>Muhammad Tahir Rashid,</b> Enviro Lead, Calgary, Canada (Invited Talk)</p>
2.	<p><b>Maize crop resilience and nutritional enhancement through Zn-chitosan nanoparticles and zinc solubilizing bacteria</b> <b>Muhammad Aftab Akram,</b> University of Agriculture Faisalabad, Faisalabad</p>	<p><b>Harnessing PGPR: a contemporary approach to managing chilli growth and nutrients in semi-arid climate of Sindh</b> <b>Qurban Ali Panhwar,</b> Soil &amp; Environmental Sciences Division, Nuclear Institute of Agriculture (NIA), Tandojam 70060, Sindh, Pakistan (Invited Talk)</p>
3.	<p><b>Lower NH<sub>3</sub> emission from boron coated urea improves productivity of wheat grown on alkaline soils</b> <b>Sajid Mahmood,</b> Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad, Pakistan</p>	<p><b>Synergistic efficacy of ascorbic acid and rhizobacteria: a flourishing alliance for enhancing spinach growth in saline soils</b> <b>Muhammad Zafar-ul-Hye,</b> Bahauddin Zakariya University Multan</p>
4.	<p><b>Effect of compost and biochar in phosphorus management for wheat</b> <b>Muqarrab Ali,</b> MNS University of Agriculture, Multan</p>	<p><b>Advancing microalgae based bio-refinery and bioprocess evaluation</b> <b>Tajwar Alam,</b> PMAS- Arid Agriculture University Rawalpindi</p>



5.	<p><b>Impact of zinc soaking on the germination of wheat seeds</b></p> <p><i>Saibrina Sethar</i>, Soil Fertility Research Institute Sindh Agriculture Research Center, Tando Jam, Pakistan</p>	<p><b>Development of low-cost microbial inoculants for sustainable agriculture with increased shelf life</b></p> <p><i>Humera Aslam Awan</i>, Dehqan Biosciences SMS Ltd. Lahore, Pakistan</p>
6.	<p><b>Performance of preferred wheat varieties for yield and zinc bioavailability as a function of soil zinc applications in Sindh</b></p> <p><i>Muhammad Asif Siddiqui</i>, Sindh Agriculture University TandoJam</p>	<p><b>Characterization and coating of Zn solubilizing isolates on urea to improve the efficiency of zinc</b></p> <p><i>Muhammad Fasih Ullah</i>, The Islamia University of Bahawalpur</p>
7.	<p><b>Integrated nutrient management for improving agro-botanical growth and stigma yield of saffron (<i>Crocus sativus</i> L.)</b></p> <p><i>Abdul Khaliq</i>, University of Poonch, Rawalakot</p>	<p><b>Broad spectrum plant growth promotion potential exhibited by <i>Enterobacter</i> sp. AF-31 native to chammankot, district dhirkot, AJK</b></p> <p><i>Afshan Majeed</i>, University of the Poonch, Rawalakot</p>
8.	<p><b>Optimizing soil moisture reduction for root and shoot growth of maize varieties</b></p> <p><i>Manzoor Ahmad</i>, Bacha Khan University Charsadda, Pakistan</p>	<p><b>Effect of plant growth promoting rhizobacteria (PGPR) and biostimulant (L-tryptophan) on the growth and yield of onion (<i>Allium cepa</i>)</b></p> <p><i>Iqra Akram</i>, University of Agriculture, Faisalabad</p>



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9.	<p><b>Acidic phosphate fertilizers sustain higher nutrient availability for better crop yield on alkaline calcareous soils</b></p> <p><i>Muhammad Akhtar</i>, Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad</p>	<p><b>Efficacy of PGPR in combination with compost improving productivity of cucumber (<i>Cucumis sativus</i> L.) crop</b></p> <p><i>Usma Irshad</i>, The Islamia University of Bahawalpur</p>
10.	<p><b>Modified nitrogen recommendations of fine rice for Punjab: insights of agronomic and economic efficiency</b></p> <p><i>Muhammad Nadeem Iqbal</i>, Soil Fertility Research Institute, Lahore, Pakistan.</p>	<p><b>Alleviate drought effects in field crops of pothwar by inoculation of rhizobium and PGPR's; in future-prospects</b></p> <p><i>Azhar Mahmood Aulakh</i>, Soil and Water Conservation Research Institute, SAWCRI, Chakwal, Pakistan</p>
11.	<p><b>Evaluating wheat yield and nitrogen-uptake in relation to varying levels of soil and foliar applied urea</b></p> <p><i>Khalid Hussain Talpur</i>, Sindh Agriculture University Tandojam</p>	<p><b>Enhancing aerobic bioreactor for optimal waste to biolipid conversion with oleaginous bacteria</b></p> <p><i>Rida Abbasi</i>, Institute of Soil and Environmental Sciences, PMAS-AAUR</p>
12.	<p><b>Nitrogen mineralization in soil in response to different organic amendments: an incubation trial and pot experiment</b></p> <p><i>Memoona Ijaz</i>, ISES, PMAS-AAUR</p>	<p><b>Combined application of PGPR and bio-stimulants for growth promotion of rice (<i>Oryza sativa</i> L.)</b></p> <p><i>Hafiz Naeem Asghar</i>, University of Agriculture, Faisalabad, Pakistan</p>





13.	<p><b>Effect of sulphur application on growth, yield, and nutrient uptake of cotton</b></p> <p><i>Riaz Hussain Soomro</i>, Department of Soil Science, Faculty of Crop Production, SAU</p>	<p><b>Identification of antifungal activity and GC-MS detection of <i>Amaranthus viridis</i> against phytopathogenic fungi</b></p> <p><i>Iram Naz Sherazi</i>, University of Gujra</p>
14.	<p><b>Pedometric mapping and satellite remote sensing based prediction of potassium content in apple producing region of district swat</b></p> <p><i>Maria Niaz</i>, PMAS Aid Agriculture University Rawalpindi</p>	<p><b>Simultaneous degradation of citrus and olive waste and lipid accumulation by oleaginous bacteria</b></p> <p><i>Javeeria Iqbal</i>, The Islamia University of Bahawalpur</p>
15.	<p><b>Nanobiochar-coated dap fertilizer enhances nutrient dynamics in the soil and maize crop productivity</b></p> <p><i>Ghulam Abbas Shah</i>, PMAS, Arid Agriculture University, Rawalpindi</p>	<p><b>Improving phytoremediation potential of water hyacinth using chromate resistant bacteria</b></p> <p><i>Rabia Afzal</i>, The Islamia University of Bahawalpur</p>
16.	<p><b>Fostering mango (<i>Mangifera indica</i>) yield and quality: assessing micronutrient (Zn, B, &amp; Cu) application techniques</b></p> <p><i>Niaz Ahmed</i>, Bahauddin Zakariya University, Multan</p>	<p><b>Bioremediation of contaminated soil through chromium resistant bacteria</b></p> <p><i>Natasha Malik</i>, The Islamia University of Bahawalpur</p>



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17.	<p><b>Effect of phosphorus from different sources on the composting process, Phosphorus Fractionation, and crop yield in calcareous soils</b></p> <p><i>Dost Muhammad</i>, University of Agriculture, Peshawar</p>	<p><b>Role of bacterial cell wall in the reduction of hexavalent chromium in aqueous medium</b></p> <p><i>Muhammad Waseem</i>, Government College University Faisalabad</p>
18.	<p><b>Iron biofortification through integrated agronomic approaches for cereal crop</b></p> <p><i>Ifra Saleem</i>, Ayub Agricultural Research Institute, Faisalabad</p>	<p><b>Improving phosphorous uptake in wheat (<i>Triticum aestivum</i> L.) by the application of phosphate solubilizing bacteria and banana peel under climate change conditions</b></p> <p><i>Tayyaba Samreen</i>, University of Agri. Faisalabad</p>
<b>16:00-16:15 Tea Break</b>		
<b>Day 01, 20<sup>th</sup> February 2024, Tuesday (16:30-17:30)</b>		
<p><b>Technical Session 3: 16:30-17:30</b></p>	<p><b>3A: Soil Fertility and Plant Nutrition</b> <b>Venue: Auditorium, PMAS-AAUR</b> <b>Chairpersons:</b> Dr. Shahid Mahmood (Ex-President SSSP) Dr. Muhammad Tahir Rashid (EnviroLead, Calgary, Canada) <b>Rapporteur:</b> Muhammad Rashid, Business Unit Head, Manuchar Pakistan Pvt. Ltd.)</p>	<p><b>3B: Soil Salinity &amp; Biosaline Agriculture</b> <b>Venue: Seminar Room, PMAS-AAUR</b> <b>Chairpersons:</b> Prof. Dr. Tanvir ul Haq (Chairman Deptt. SES, MNS-University of Agriculture, Multan) Dr. Muhammad Ashfaq Anjum (CS, SSRI) <b>Rapporteur</b> Dr. Ghulam Mustafa (Azeem's Pvt. Ltd.)</p>



1.	<p><b>Plant phenotyping: analysis of plant physiological status</b>  <b>Prof. Dr. Mauro Centritto,</b>          Institute for Sustainable Plant Protection,          National Research Council of Italy, Florence,          Italy  <i>(Invited Talk)</i></p>	<p><b>Analysis of biochar in the nemoral climatic zone: applications of mineral nitrogen fertilizers for improving soil sustainability and crop production</b>  <b>Muhammad Ayaz,</b> Bio-Economy Research Centre of Excellence (BIOTEC), Vytautas Magnus University, Agriculture Academy, Lithuania  <i>(Invited Talk)</i></p>
2.	<p><b>Wheat (<i>Triticum aestivum</i> L.) growth in response to activated carbon-to-nitrogen ratios under calcareous soil conditions</b>  <b>Sajid Masood,</b> Bahauddin Zakariya University, Multan</p>	<p><b>Amelioration of salinity stress in maize plants using acidified biochar: a potential strategy for enhancing crop resilience and productivity</b>  <b>Tahira Akram,</b> University of Agriculture, Faisalabad</p>
3.	<p><b>Enhancing garlic growth and yield via PGPR-enriched vermicompost</b>  <b>Muhammad Rizwan Khan,</b> The University of Agriculture Peshawar</p>	<p><b>Identification of salt tolerant wheat genotypes through agronomical and physio-biochemical traits</b>  <b>Sajida Bibi,</b> NIAB, Faisalabad</p>
4.	<p><b>Iodine solubility in soil and its uptake by maize as influenced by iodine sources, soil liming and humic acid application</b></p>	<p><b>Isolation and characterization of halotolerant bacteria for the growth of tomato (<i>Solanum Lycopersicum</i>)</b></p>



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	<i>Asif Naeem</i> , Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad, Pakistan	<b>Ahsan Raza Khan</b> , The University of Haripur, KPK
5.	<p><b>Evaluating the effect of dual supplementation of boron and silicon on shedding of fruiting structures and quality cotton production under changing environment</b></p> <p><i>Abdullah Keerio</i>, Sindh Agriculture University Tandojam,</p>	<p><b>Assessing the impact of conventional and modified organic amendments in reclaiming salt-affected soils.</b></p> <p><i>Saifullah</i>, University of Agriculture, Faisalabad</p>
6.	<p><b>Preparation and evaluation of organic waste compost for maize production</b></p> <p><i>Muhammad Noman Rafiq</i>, PMAS Arid Agriculture University. Rawalpindi</p>	<p><b>Co-application of plant growth promoting rhizobacteria and farmyard manure for improving growth and yield of onion under saline conditions</b></p> <p><i>Mohammad Awais</i>, The Islamia University of Bahawalpur</p>
7.	<p><b>Modifying effect of mineral nitrogen, phosphorus, and cellulose on biochar induced changes in soil health indicators</b></p> <p><i>Tanvir Shahzad</i>, Government College University Faisalabad</p>	<p><b>Effect of zinc amino acid chelates on growth of wheat in salt affected soils</b></p> <p><i>Ayesha Mustafa</i>, University of Agriculture Faisalabad</p>



8.	<p><b>Decomposition dynamics of surface applied individual and mixed <i>trifolium</i> and <i>populus</i> leaf residues</b></p> <p><i>Majid Mahmood Tahir</i>, University of Poonch, Rawalakot</p>	<p><b>Enhancing wheat growth under salinity stress, the impact of biochar application on soil characteristics and crop yield</b></p> <p><i>Shahzad Ahmad</i>, The Islamia University of Bahawalpur, Pakistan</p>
9.	<p><b>Partial substitution of exogenously applied phosphatic fertilizers by phosphate solubilizing bacteria in maize under calcareous soil</b></p> <p><i>Muhammad Adnan</i>, The University of Swabi, Khyber Pakhtunkhwa Pakistan</p>	<p><b>Comparative evaluation of sorghum (<i>Sorghum bicolor</i> L.) genotypes against NaCl stress</b></p> <p><i>Rehman Ali</i>, University of Agriculture, Faisalabad</p>
10.	<p><b>Effect of long-term applications of organic and inorganic fertilizers on organic matter, amino sugars and amino acids in a sandy loamy soil</b></p> <p><i>Zarina Bibi</i>, University of Agriculture, Dera Ismail Khan</p>	<p><b>Evaluating nutritional quality of sorghum exposed to salinity and drought stress</b></p> <p><i>Fatima Aamir</i>, University of Agriculture Faisalabad</p>
11.	<p><b>Effect of different phosphatic fertilizers on growth and yield of late-sown wheat varieties</b></p> <p><i>Khalid Hussain Khokhar</i>, Soil Fertility Research Institute, Agriculture Research Centre Tandojam</p>	<p><b>Effect of calcium chloride seed priming on wheat seedlings development and emergence under salt stress</b></p> <p><i>Asif Muhammad</i>, University of Agriculture Faisalabad</p>





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12.	<p><b>Soil incorporation of chilla (<i>Casearia tomentosa</i>) plant residues inhibit nitrification and improve nitrogen use efficiency of maize (<i>Zea mays</i> L.)</b></p> <p><b><i>Khalid Mehmood</i></b>, University of Poonch Rawalakot</p>	<p><b>Differential response of rice varieties to salinity stress</b></p> <p><b><i>Muhammad Haider Jamal</i></b>, MNS – University of Agriculture, Multan</p>
13.	<p><b>Nutrient management of salt tolerant forage grasses for enhancing forage production and nutritional quality in salt affected soils</b></p> <p><b><i>Muhammad Rizwan</i></b>, Soil and Environmental Science Division (SESD), NIAB, Faisalabad</p>	<p><b>Yield formation in maize as affected by abiotic stresses</b></p> <p><b><i>Muhammad Saqib</i></b>, University of Agriculture, Faisalabad</p>
14.	<p><b>Evaluation of different organic sources of nitrogen for enhancing fertilizer use efficiency in wheat (<i>Triticum aestivum</i> L.)</b></p> <p><b><i>Shazia Pathan</i></b>, Nuclear Institute of Agriculture, Tandojam</p>	<p><b>Chilies response to salinity in hydroponic culture</b></p> <p><b><i>Jameela Naz Jamro</i></b>, Agriculture Research Center, Tandojam, Pakistan</p>
<p><b>Day 02, 21<sup>st</sup> February 2024, Wednesday (09:00-11:00)</b></p>		
<p><b>Technical Session 4: 09:00-11:00</b></p>	<p><b>4A: Soil Fertility and Plant Nutrition</b>  <b>Venue: Auditorium, PMAS-AAUR</b>  <b>Chairpersons:</b>            Mr. Aftab Naseem (Head Agri Service FFC)            Dr. Hafeezullah Babar, (SFRI, ARC, Tandojam)</p>	<p><b>4B: Soil Physics</b>  <b>Venue: Seminar Room, PMAS-AAUR</b>  <b>Chairpersons:</b>            Prof. Dr. Nasir Rahim (Dean F/O Agriculture, University of Poonch, Rawalakot)            Dr. Muhammad Iqbal (ISES, UAF)</p>



	<b>Rapporteur:</b> Dr. Sajid Masood (Dept. Soil Sci. BZU, Multan)	<b>Rapporteur:</b> Ijaz Ahmad, (Deputy General Manager, Engro Fertilizers Ltd.)
1.	<b>Seed film cultivation technology for conserving water and fertilizer in harsh agricultural environment of united arab emirates</b>  <b><i>Khalil Ur Rahman Butt</i></b> , Agronomist Agriculture, Al Nakhli HHPO Dubai, UAE ( <i>Invited Talk</i> )	<b>Evaluating Probability of Erosion and Forecasting Soil Erosion Rates in Somalia”</b>  <b><i>Abdunnasir Abdullahi Mohamed</i></b> , Benadir University, Mogadishu, Somalia  <i>(Invited Talk)</i>
2.	<b>Integrated nutrient management effects on nutrient availability, labile carbon fractions, and yield of hybrid maize (<i>Zea mays</i> L.)</b>  <b><i>Nazia Rais</i></b> , Sindh Agriculture University Tandojam	<b>Edapho-vegetation relationships in Tharparkar, pakistan</b>  <b><i>Irfan Ahmed Sahito</i></b> , Shah Abdul Latif University, Khairpur
3.	<b>Boron-coated urea as slow-release nitrogenous fertilizer for improving yield and quality parameters of canola crop</b>  <b><i>Qudsia Nazir</i></b> , Soil Chemistry Section, ISCES, AARI, Faisalabad, Pakistan	<b>A soil health initiative for agricultural and environmental sustainability in Pakistan</b>  <b><i>Muhammad Iqbal</i></b> , University of Agriculture, Faisalabad



4.	<p><b>Impact of potassium fertilizer on potassium uptake and use efficiency in onions (<i>allium cepa</i> L.)</b>  <i>Nizamuddin Depar</i>, Nuclear Institute of Agriculture, Tando Jam, Sindh</p>	<p><b>Effects of different land use practices on soil fertility and physicochemical properties in semi-arid dryland region</b>  <i>Kashif Ali Kubar</i>, Huazhong Agricultural University, Wuhan, China</p>
5.	<p><b>Effects of nano-biochar-amended biogas slurry on soil characteristics, sorghum yield, and ammonia emissions in rainfed agriculture</b>  <i>Muhammad Ramzan</i>, PMAS, Arid Agriculture University Rawalpindi</p>	<p><b>Effect of compost and organic mulching on water use efficiency, SOC and yield of okra in arid and semi-arid regions</b>  <i>Hadia Muhammad</i>, University of Agriculture, Faisalabad</p>
6.	<p><b>Status and soil properties with biochar, compost and co-composted biochar derived from fruit vegetable market waste</b>  <i>Ghulam Mujtaba</i>, PMAS, Arid Agriculture University, Rawalpindi</p>	<p><b>Assessment of soil erosion using RUSLE modeling under conventional and conservation agriculture</b>  <i>Mah-Noor Azad</i>, Institute of Soil and Environmental Sciences, PMAS-AAUR</p>
7.	<p><b>Response of maize variety <i>dadu-1</i> to variable rates and interaction of phosphorus and potassium</b>  <i>Zeeshan Mashori</i>, Sindh Agriculture University Tandojam</p>	<p><b>Enhancing peach production in rainfed areas of Punjab through mulching techniques</b>  <i>Muhammad Yunas</i>, Soil and Water Conservation Research Institute, Chakwal, Pakistan</p>



8.	<p><b>Morpho-physiological characteristics of historical bread wheat panel of Pakistan at different levels of salinity at seedling stage</b></p> <p><i>Zarlish Fayyaz</i>, Allama Iqbal Open University, Islamabad</p>	<p><b>Impact of farmyard manure on soil physical properties and maize growth</b></p> <p><i>Mussawar Abbas</i>, University of Agriculture, Faisalabad</p>
9.	<p><b>Crop residues management under rice-wheat cropping system for improving soil properties and crop yield</b></p> <p><i>Muhammad Arfan ul Haq</i>, Soil Chemistry Section, AARI, Faisalabad</p>	<p><b>Enhancing soil moisture and crop yield in rainfed areas through super absorbent polymers</b></p> <p><i>Waqas Naseem</i>, Soil &amp; Water Conservation Research Institute, Chakwal</p>
10.	<p><b>Screening of bengal and assam aus panel (baap) of rice in Pakistan: characterization based on phenotypic data</b></p> <p><i>Hassan Sajjad</i>, University of Agriculture, Faisalabad</p>	<p><b>Tillage practices contribute to the water conservation benefits of rainwater harvesting in semi-arid conditions</b></p> <p><i>Sultan Ahmad Rizvi</i>, Soil &amp; Water Conservation Research Institute, Chakwal</p>
11.	<p><b>Fertilization and salicylic acid application for growth enhancement and rust disease management of wheat</b></p> <p><i>Ambrin Rajput</i>, Agriculture Research Centre Tandojam</p>	<p><b>Nitrate accumulation and human health risk assessment in spinach irrigated with raw domestic wastewater by applying different N-sources</b></p> <p><i>Sadia Bibi</i>, University of Agriculture, Faisalabad</p>



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12.	<b>Organo-mineral fertilization regimes trigger growth and stigma yield of temperate saffron (<i>Crocus sativus</i> L.)</b> <i>Muhammad Sarfraz</i> , University of Poonch, Rawalakot	<b>Anti-transpirants: a potential strategy to mitigate the effects of drought on spinach</b> <i>Komal Panhwar</i> , Sindh Agriculture University, Tandojam, Pakistan
13.	<b>Pedometric mapping and satellite remote sensing-based prediction of nitrogen content in kinnow orchards of district sargodha</b> <i>Humair Ahmed</i> , Land Resources Research Institute, NARC, Islamabad, Pakistan	<b>Evaluating physiological and biochemical responses of wheat (<i>Triticum astivum</i> L.) against water stress by using organic amendments</b> <i>Muhammad Usama Mustafa</i> , University of Agriculture Faisalabad
11:00-11:20	Tea Break	
Day 02, 21 <sup>st</sup> February 2024, Wednesday ( 11:20-13:30)		
<b>Technical Session 5: 11:20-13:30</b>	<b>5A: Soil Fertility and Plant Nutrition &amp; Soil Pollution and remediation</b> <b>Venue: Auditorium, PMAS-AAUR</b> <b>Chairpersons:</b> Dr. Obaid Ur Rehman (Chief Scientist, SWACRI) Dr. Ali Raza Gurmani (Dept. Soil & Climate Science, Uni of Haripur)	<b>5B: Others</b> <b>Venue: Seminar Room, PMAS-AAUR</b> <b>Chairpersons:</b> Prof. Dr. M. Ashraf, (Chairman Dept. Soil & Environ. Sci., Univ. of Sargodha) Dr. Farrukh Hussain (Biotech Fertilizers Pvt Ltd)





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	<b>Rapporteur: Muhammad Nadeem Iqbal</b> , Soil Fertility Research Institute, Lahore, Pakistan.	<b>Rapporteur:</b> Dr. Munazza Yousra, (SSO, LRRI, NARC, Islamabad)
1.	<b>Micro-plastic Uptake by Freshwater Fishes from Sediment and Water of Rivers in Malaysia</b> <i>Siti Suhaila Binti Harith</i> , Universiti Teknologi MARA Cawangan Pahang, 26400 Bandar Tun Abdul Razak Jengka, Pahang, Malaysia ( <i>Invited Talk</i> )	<b>Potential and challenges in achieving edible oil self-sufficiency through oil palm cultivation in coastal areas of Sindh Pakistan</b> <i>Prof. Dr. Allah Wadhayo Gandahi</i> , Department of Soil Science, SAU, Tandojam ( <i>Invited Talk</i> )
2.	<b>Biomarkers analysis in the soil impregnated with oil seeps of potwar plateau</b> <i>Samina Siddiqui</i> , National Centre of Excellence in Geology-University of Peshawar	<b>Recent floods: impacts on agriculture in a changing climate scenario and adaptation</b> <i>Sammia Khurshid</i> , MAS, Arid Agriculture University Rawalpindi
3.	<b>Maize growth and phosphorus uptake modulation by organic amendments in the face of salinity variability</b> <i>Tayyaba Naz</i> , University of Agriculture Faisalabad	<b>Advancing soil health management through GIS and remote sensing: a sustainable approach</b> <i>Najma Majeed</i> , MNS-University of Agriculture Multan
4.	<b>Allelopathic impact of selected fertile soils loving weeds on growth and yield parameters of wheat crop grown in district bhimber, azad kashmir</b> <i>Tanveer Hussain</i> , University of Bhimber	<b>Biodegradation of an emerging micropollutant, diclofenac from wastewater</b> <i>Irrum Shahzadi</i> , Institute of Soil and Environmental Science PMAS AAUR



5	<p><b>Cadmium accumulation in fodder maize is partially mitigated through green manuring and soil zinc application</b></p> <p><i>Raza Abbas</i>, Bahauddin Zakariya University, Multan</p>	<p><b>Assessment of heavy metals in common pollinators in urban &amp; peri-urban areas</b></p> <p><i>Syeda Aliza Naqvi</i>, Institute of Soil and Environmental Sciences, PMAS-AAUR.</p>
7	<p><b>Alleviation of food security under changing climate by improving the efficiency of maize crop leads to green governance</b></p> <p><i>Sadia Afzal</i>, University of Layyah, Layyah</p>	<p><b>Bioelectricity generation by bacterial degradation of fruit peel wastes in dual chamber microbial fuel cell</b></p> <p><i>Wajiha Naz</i>, Institute of Soil and Environmental Sciences, PMAS-AAUR.</p>
8	<p><b>Heavy metal accumulation in spinach under different irrigation waters and soil zinc application</b></p> <p><i>Waleed Ramzan</i>, Bahauddin Zakariya University, Multan</p>	<p><b>Prospects of biochar use in agriculture for food security and environmental sustainability</b></p> <p><i>Tanveer Ul haq</i>, MNS-University of Agriculture, Multan</p>
9	<p><b>Physiological effects of different growth promoting hormones on wheat crop and their effects on productivity and yield</b></p> <p><i>Sajid Hussain</i>, University of Layyah, Layyah</p>	<p><b>Effect of electron beam irradiation on the physiochemical properties, bioactive elements and microbiological characteristics of radix ophiopogonis</b></p> <p><i>Mahendar Kumar Sootahar</i>, Soil Fertility Research Institute Sindh Agriculture Research Center Tando Jam</p>



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10	<p><b>Effect of chromium stress on growth parameters of two tomato cultivars</b></p> <p><i>Muhammad Aslam Panhwar</i>, Soil Fertility Research Institute, Sindh Agriculture Research Centre</p>	<p><b>Advancements in sustainable soil management practices: a comprehensive review for ensuring global food security</b></p> <p><i>Muhammad Islam</i>, PMAS, Arid Agriculture University Rawalpindi</p>
11	<p><b>Soil zinc application decreases arsenic and increases zinc concentration in grains of zinc-biofortified wheat cultivars</b></p> <p><i>Ammara Basit</i>, Bahauddin Zakariya University, Multan</p>	<p><b>Organic fertilizers: a potential source of microplastics entry into food chain</b></p> <p><i>Muhammad Ansar Farooq</i>, National University of Sciences and Technology (NUST), Islamabad</p>
12	<p><b>Evaluation of sunflower genotypes for k-use efficiency at early growth stage</b></p> <p><i>Hajra Khan, Zia-ul-hassan</i>, Sindh Agriculture University Tandojam</p>	<p><b>Assessment of variation in agro-climatic zone for sustainable agriculture in the northern areas of pakistan</b></p> <p><i>Riaz Khan</i>, University of Haripur, KPK</p>
13	<p><b>Influence of ionic cerium and cerium oxide nanoparticles on maize (<i>Zea mays</i>) seedlings grown with and without cadmium</b></p> <p><i>Muhammad Ashar Ayub</i>, University of Agriculture, Faisalabad</p>	<p><b>Growth and yield performance of wheat crop affected by different cutting methods</b></p> <p><i>Mukhtiar Khatoon Solangi</i>, Soil Fertility Research Institute, Tandojam, Pakistan</p>
14	<p><b>Sediments bound phosphorus fractions and algal availability from connecting sources of river Jhelum Pakistan</b></p> <p><i>Mohsin Zafar</i>, Mirpur University of Science and</p>	<p><b>Glucose addition patterns influence soil microbial biomass carbon, carbon dioxide accumulation and properties of black soil in china</b></p>



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	Technology (MUST), Mirpur	<b>Muhammad Suleman Memon</b> , Soil Fertility Research Institute, Agriculture Research Centre Tandojam
15	<b>Antibiotic resistance genes and genetic elements in livestock manure: a threat to soil health</b> <b><i>Luqman Riaz</i></b> , Kohsar University Murree, Punjab	<b>Air quality impact assessment of CO and CH<sub>4</sub> emissions from hattar industrial estate using spatio-statistical analysis</b> <b><i>Sumbal Zaheer</i></b> , Institute of Soil and Environmental Sciences, PMAS-AAUR
16	<b>Integrated strategies for effective carbon sequestration: a holistic approach to mitigate global climate change</b> <b><i>Hasham Fatima</i></b> MNS-University of Agriculture, Multan	<b>Interactive effect of caffeic acid and salinity on morpho- physiological, ionic and biochemical attributes of wheat (<i>Triticum aestivum</i> L.)</b> <b><i>Hassan Mehmood</i></b> , The Islamia University of Bahawalpur
17	<b>Preliminary assessment of heavy metal contamination in crops grown with wastewater in Punjab, Pakistan</b> <b><i>Ana Aslam</i></b> , Ayub Agricultural Research Institute, Faisalabad	<b>Impact of Tryptophan application on growth and yield of (<i>Lycopersicum esculentum</i> L.)</b> <b><i>Noor ul Ain</i></b> , Soil and Water Testing Laboratory for Research, Lahore, Pakistan
18		<b>Environmental monitoring of self-sustaining artificial micro ecosystem</b> <b><i>Anum Fatimah</i></b> , Allama Iqbal Open University



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13:30-14:30	Lunch/ Prayer Break	
Day 02, 21 <sup>st</sup> February 2024, Wednesday ( 14:30-16:00)		
Technical Session 6: 14:30-16:00	<b>6A: Soil Pollution and remediation</b> <b>Venue: Auditorium, PMAS-AAUR</b> <b>Chairpersons:</b> Dr. M. Mahmood-ul-Hassan, (EX-GS/ Ex-CSO, LLRI, NARC, Islamabad) Dr. Maqshoof Ahmad (Chairman Department of Soil Science, The Islamia University of Bahawalpur) <b>Rapporteur:</b> Dr. Abdul Aleem Memon (Councilor SSSP, Sindh/SFRI, ARC, Tandojam)	<b>6B: Others</b> <b>Venue: Seminar Room, PMAS-AAUR</b> <b>Chairpersons:</b> Prof. Dr. Riaz Ahmad (Former Director QEC, PMAS- UAAR) Dr. Sarfraz Hussain, (Chief Scientist, Inst. of Soil Chem. & Environ. Sci., Kala Shah Kaku) <b>Rapporteur:</b> Ms. Sara, (Agriculture Research System, KP)
1.	<b>Cleaner production leading to minimization of pollution</b> <b>Mr. M. Irshad Ramay</b> , National Cleaner Production Center Foundation, Rawalpindi <i>(Invited Talk)</i>	<b>Influence of monsoon on micro-plastic pollution in mangrove sediments: a malaysian case study</b> <b>Ms. Priya Mohan</b> , University of Malaya, Malaysia <i>(Invited Talk)</i>
2.	<b>Assessment and characterization of metal-enriched dust particulate matter along Jaranwala roadside soils, Faisalabad: spatial distribution patterns and environmental implications</b>	<b>Green buildings as a solution to changing climate; a perspective for Pakistan</b> <b>Haseeba Bibi</b> , MNS-University of Agriculture, Multan



	<b>Hamaad Raza Ahmad</b> , University of Agriculture, Faisalabad	
3.	<b>Effect of applied boundary conditions and treatment time on the electro-reclamation of salt-affected soils</b> <b>Kashif Kamran</b> , University of Agriculture Faisalabad	<b>Assessment of quality of irrigation water and soils of tehsil Gandakha district Jaffarabad Balochistan</b> <b>S. M. Bhatti</b> , Sindh Agriculture University Tandojam
4.	<b>Impact assessment of industrial effluents on food quality of <i>Brassica oleracea</i> species</b> <b>Alisha</b> , University of Agriculture Faisalabad	<b>Biostimulant the key to agro environmental safety: a comprehensive review</b> <b>Faiz Ul Hassan</b> , University of Layyah, Layyah
5.	<b>Effect of phytosynthesized iron nanoparticles on growth and lead uptake in maize (<i>Zea mays</i> L.) Plants</b> <b>Muhammad Rizwan</b> , Government College University Faisalabad	<b>Biostimulant applications for improving crop water use efficiency and agro-environment sustainability: a comprehensive review</b> <b>Muhammad Amjad Bashir</b> , University of Layyah, Layyah
6.	<b>Sorption of cadmium, chromium, and lead on green-waste and popular-twig biochars in wastewater and wastewater-irrigated soil</b> <b>Muhammad Aon</b> , University of Agriculture Faisalabad	<b>Compensatory response of maize seedlings to short-term ozone exposure: a comparative analysis of 2h, 4h, and 6h pre-germination seedlings of one-time exposure to O<sub>3</sub></b> <b>Sabeen Afzaal</b> , AIOU, Islamabad, Pakistan





7.	<p><b>Exogenous application of cadmium and zinc differently affects the rice morphological traits and paddy yield under simulated wastewater</b></p> <p><i>Sadia Talpur</i>, University of Sindh, Jamshoro, Pakistan</p>	<p><b>The competitive adsorption behavior of metals (Cd, Fe, Ni, Pb, and Zn) on biochars prepared using different feedstock</b></p> <p><i>Muhammad Farooq Qayyum</i>, Bahauddin Zakariya University Multan</p>
8.	<p><b>Alone and combine application of CuNPs and nHAP improve the growth and physiology of wheat plant under cadmium stress</b></p> <p><i>Saleha Mushtaq</i>, University of Agriculture Faisalabad</p>	<p><b>Nanoparticles: a novel tool for sustainable crop production and protection</b></p> <p><i>Muhammad Hamza Khalil</i>, University of Agriculture Faisalabad</p>
9.	<p><b>Evaluating cadmium (ii) removal enhancement in aqueous solutions through potassium permanganate-modified eucalyptus biochar: adsorption performance and mechanistic insights</b></p> <p><i>Audil Rashid</i>, University of Gujrat, Pakistan</p>	<p><b>Using microbial inoculants for enhancing decomposition of city waste and biogas production</b></p> <p><i>Tanveer Iqbal</i>, PMAS-Arid Agriculture University Rawalpindi</p>
10.	<p><b>Assessing the integrated effect of cadmium and copper concentration in maize</b></p> <p><i>Muhammad Asad Farooq</i>, University of Agriculture Faisalabad</p>	<p><b>Phenotypic evaluation of tomato F2 population in arid climate of Layyah Pakistan</b></p> <p><i>Humera Ashraf</i>, College of Agriculture south China University, Guangzhou, China</p>



11.	<p><b>Impact of insecticide choice on thiophenate methyl metabolism and assessing carbendazim residues in vegetables</b>  <i>Rehman Gul</i>, Pesticide Residue Laboratory, Institute of Soil Chemistry and Environmental Sciences, Kala Shah Kaku</p>	<p><b>Nutrient management strategies for sustainable cotton production: a field research initiative in Layyah district, Pakistan</b>  <i>Ahsan Amin</i>, University of Layyah, Layyah</p>
12.	<p><b>Cadmium and zinc inflows through irrigation water govern their balances in soils under wheat-sorghum rotation</b>  <i>Shahid Hussain</i>,            Bahauddin Zakariya University, Multan</p>	<p><b>Modeling impact of climate change on water use efficiency, carbon footprint, productivity and nutritional quality of wheat-groundnut cropping system</b>  <i>Alvina Faraz</i>, PMAS Arid Agriculture University Rawalpindi</p>
13.	<p><b>Urban tree response to heavy metal enrichment from dust deposition in metropolitan area of lahore</b>  <i>Usama Ahmad Khan</i>, University of Agriculture Faisalabad</p>	<p><b>Phenotypic evaluation of 26 tomato F1 developed from exotic germplasms for its adaptation in arid climate of layyah</b>  <i>Susan Muhammad</i>, College of Agriculture south China University, Guangzhou, China</p>
14.	<p><b>Regression modeling and predictive analysis for DTPA induced metal sorption and phytoaccumulation in lettuce (<i>Lactuca sativa</i>)</b>  <i>Faiza Naseem</i>, University of Gujrat, Pakistan</p>	<p><b>Investigating the causes and consequences of over-exploitation of natural resources in Swat valley of Khyber Pakhtunkhwa, Pakistan</b>  <i>Sana Ullah</i>, Allama Iqbal Open University, Islamabad</p>



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15.	<p><b>MCPA sorption and desorption as a function of biochar properties and pyrolysis temperature</b></p> <p><i>Kurt A. Spokas</i>, University of Cordoba, Cordoba, Spain</p>	<p><b>Evaluating different wheat (<i>Triticum aestivum</i> L.) varieties under drought stress</b></p> <p><i>Sawaira Ashraf</i>, Bahauddin Zakariya University Multan</p>
16.	<p><b>Anaerobic co-digestion of cow manure with vegetable residues using bentonite and biochar as composite accelerant</b></p> <p><i>Ayaz Mehmood</i>, University of Haripur Pakistan</p>	<p><b>Prospects for making bioorganic fertilizer for sustainable agriculture in Pakistan amidst climate change</b></p> <p><i>Noshin Ilyas</i>, Department of Botany, PMAS Arid Agriculture University, Rawalpindi</p>
17.	<p><b>Combined use of (<i>Bacillus safensis</i>) and compost to improve growth and productivity of spinach under lead (Pb) stress</b></p> <p><i>Asma Mukhtar</i>, The Islamia University of Bahawalpur</p>	<p><b>Sunflower response to potassium application in artificially developed calcareousness</b></p> <p><i>Abdul Aleem Memon</i>, Soil Fertility Research Institute, Agriculture Research Center, Tandojam, Pakistan</p>
18.	<p><b>Detection of Micro-fungi from Different Types of Soil Originated Water Samples of District Bhimber Azad Kashmir, Pakistan</b></p> <p><i>Tanveer Hussain</i>, Azad Jammu and Kashmir University of Bhimber</p>	<p><b>Mustard root architecture and yield in response to phosphorus application and ACC-deaminase rhizobacterial seed inoculation</b></p> <p><i>Hajra Khan</i>, Oil Seed Research Institute, Agriculture Research Centre, Tandojam</p>
16:00-16:20	Tea Break	



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**Day 02, 21<sup>st</sup> February 2024, Wednesday (16:20-17:30)**

<p><b>Technical Session 7: 16:20-17:30</b></p>	<p><b>7A: Soil Pollution and remediation</b>  <b>Venue: Auditorium, PMAS-AAUR</b>  <b>Chairpersons:</b>  Prof. Dr. Prof. Dr. Mehrunisa Memon (Chairperson,  Deptt. Soil Sci., SAU Tandojam))  Ms. Amber Asif, (PSF, Islamabad)  <b>Rapporteur:</b> Dr. Saif Ullah (ISES, UAF)</p>	<p><b>7B: Soil Chemistry</b>  <b>Venue: Seminar Room, PMAS-AAUR</b>  <b>Chairpersons:</b>  Prof. Dr. Ghulam Murtaza (ISES, UAF)  Dr. Nizmanuddin Depar (Head SES Division, NIA,  Tandojam  <b>Rapporteur :</b> Dr. Shahzada Sohail Ijaz, PMAS-AAUR)</p>
<p>1.</p>	<p><b>Nanotechnology based approaches to tackle emerging pollutants for food safety and security</b>  <b>Muhammad Arshad</b>, National University of Science and Technology, Islamabad  <i>(Invited Talk)</i></p>	<p><b>Environmental degradation and livelihood security in Somalia” a case study of Afgoye District</b>  <b>Hassan Warsame Nor</b>, Benadir University, Mogadishu, Somalia <i>(Invited Talk)</i></p>
<p>2.</p>	<p><b>Biosurfactant-assisted biotreatment of tannery effluents contaminated with dye and chromium</b>  <b>Hira Saleem</b>, Institute of Soil and Environmental Sciences, PMAS-AAUR</p>	<p><b>Pressmud and farmyard manure improve wheat productivity irrigated with textile wastewater through increasing nutrient uptake and dye degradation</b>  <b>Muhammad Imran</b>, Nuclear Institute for Agriculture and Biology, Faisalabad</p>



3.	<p><b>CAN phosphorus and farmyard manure change arsenic behavior in soil and its toxicity to plants?</b></p> <p><i>Muhammad Ashraf</i>, University of Sargodha, Sargodha</p>	<p><b>Synthesis and characterization of metal organic frameworks for removal of particulate matter</b></p> <p><i>Anum Shafique</i>, PMAS Arid Agricultural University Rawalpindi</p>
4.	<p><b>Use of rice straw as bio-sorbent for removal of chromium from contaminated water</b></p> <p><i>Muhammad Ahmed Akram</i>, Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad</p>	<p><b>Spatial variation of salt distribution across depths in diverse soil series near Tandojam</b></p> <p><i>Nasir khan Katiyar</i>, Soil &amp; Environment Research Institute, Tandojam</p>
5.	<p><b>Response of <i>Acacia ampliceps</i> under water and chromium stressed soils</b></p> <p><i>Muhammad Saad Bin Zafar</i>, University of Agriculture, Faisalabad</p>	<p><b>Reclamation of dense saline-sodic soils by breaking subsoil with auger in a rice-wheat rotation using gypsum, sand and rice husk</b></p> <p><i>Muhammad Abdullah</i>, Institute of Soil and Environmental Sciences UAF.</p>
6.	<p><b>Assessment of heavy metal contamination in leafy vegetables: implications for public health and regulatory measures</b></p> <p><i>Nasir Rahim</i>, University of Poonch, Rawalakot</p>	<p><b>Phosphorus leaching in saline-sodic soils fertilized with phosphatic fertilizer at different levels</b></p> <p><i>M. Sabir</i>, University of Agriculture, Faisalabad</p>
7.	<p><b>Effect of various sowing methods and zinc application on growth and quality traits of maize</b></p>	<p><b>Effect of micron sized amendments for enhancing cd immobilization and reducing its uptake in different tissues of maize crop grown</b></p>



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	<b>Mahmooda Buriro</b> , Sindh Agriculture University Tando Jam	<b>on contaminated soils</b> <b>Mujahid Ali</b> , University of Agriculture, Faisalabad
8.	<b>In-situ stabilization of heavy metals and yield of spinach through various organic amendments irrigated with wastewater</b> <b>Maria Mussarat</b> , University of Agriculture, Peshawar	<b>Impact of various ameliorants on geochemical chromium distribution and CO<sub>2</sub>-carbon efflux under paddy soil conditions</b> <b>Muhammad Ashir Hameed</b> , University of Agriculture Faisalabad
<b>17:30-19:30</b>	<b>City Tour (On Payment Basis)</b>	
<b>19:30-22:00</b>	<b>Gala Night</b>	
<b>Day 03, 22<sup>nd</sup> February 2024, Thursday (08:30-10:30)</b>		
<b>Technical Session 8: 08:30-10:30</b>	<b>8A: Soil Physics</b>  <b>Venue: Auditorium, PMAS-AAUR</b> <b>Chairpersons:</b> Prof. Dr. Sher Muhammad (AIU, Islamabad) Dr. Dr. Iftikhar Ahmad, PSO, LRRI, NARC	<b>8B: Soil Chemistry</b> <b>Venue: Seminar Room, PMAS-AAUR</b> <b>Chairpersons:</b> Dr. Mi Yan (College of Mechanical Engineering, Zhejiang University of Technology, Hangzhou, China) Dr. Jam Niaz Ahmad (VP, SSSP Punjab/ BZU, Multran)





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	<b>Rapporteur:</b> Dr. Kashif Ali Kubar (Councilor SSSP Balochistan/ LUAWMS, Uthal, Balochistan)	<b>Rapporteur:</b> Dr. Abdullah Niaz, Pesticide Residue Laboratory, ISCES, Kala Shah Kaku)
1.	<b>Micro-plastics contamination in mangrove sediment: a case study of pollution uptake by selected animals</b> <i>Fauziah binti Shahul Hamid</i> , University of Malaya, Kuala Lumpur, Malaysia ( <i>Invited Talk</i> )	<b>Hydrothermal treatment of food waste digestate solid</b> <i>Mi Yan</i> , College of Mechanical Engineering, Zhejiang University of Technology, Hangzhou, 310014, China ( <i>Invited Talk</i> )
2.	<b>Assessing the influence of plant residues on runoff and soil losses in wheat-common bean cropping systems in the mountainous region of Rawalakot, Azad Jammu and Kashmir</b> <i>Aqila Shaheen</i> , University of Poonch, Rawalakot,	<b>Sediment colour and geochemical characterization of underground sediments for assessing arsenic-contamination potential of groundwater wells.</b> <i>M. Mahroz Hussain</i> , Uni. of Agriculture Faisalabad
3.	<b>Potential of modified reduced tillage with cover/green manure crop for climate change mitigation in smallholder rainfed farming system</b> <i>Shahzada Sohail Ijaz</i> , Institute of Soil & Environmental Sciences, PMAS-AAUR, Pakistan	<b>Comparison of various kinetic models for potassium release modelling of alkaline soils of dera ghazi khan, punjab, pakistan</b> <i>Muhammad Imran</i> , The Islamia University of Bahawalpur



4.	<p><b>Impact of in-situ moisture conservation techniques on water conservation and yield in a pomegranate orchard</b></p> <p><i>Riffat Bibi,</i> Soil and Water Conservation Research Institute, Chakwal</p>	<p><b>Comparative response of coated and commercial urea on lettuce production and nitrogen content</b></p> <p><i>Mahnoor Baloch,</i> Sindh Agriculture University Tandojam</p>
5.	<p><b>Comparative role of melatonin in mitigating abiotic and biotic stresses in groundnut under climate change scenario</b></p> <p><i>Ghulam Muhammad,</i> Soil and water Conservation Research Instituter, Chakwal</p>	<p><b>Phytoremediation potential of cut-flower plants for selected heavy metals</b></p> <p><i>Muhammad Mohsin Raza,</i> Land Resources Research Institute, NARC, Islamabad</p>
6.	<p><b>Impact of organic and inorganic mulches on soil properties and growth parameters of garlic</b></p> <p><i>Safia Naureen Malik,</i> Soil and Water Conservation Research Institute, Chakwal</p>	<p><b>Estimation of leaching losses of phosphorus in texturally different saline-sodic soils</b></p> <p><i>Sadia Sultana,</i> Institute of Soil and Environmental Sciences, UAF</p>
7.	<p><b>Carbon management for improving soil health and crop production</b></p> <p><i>Sara,</i> University of Agriculture, Peshawar-Pakistan</p>	<p><b>Organic amendment assisted leaching and reclamation of salt-affected soils.</b></p> <p><i>Zareen Batool,</i> University of Agriculture Faisalabad</p>



8.	<p><b>Technological approach: implementing root zone trenches for the management of dieback disease in mango trees</b></p> <p><i>Fatima Bibi</i>, Mango Research Institute Multan, Pakistan</p>	<p><b>Modeling impact of N on Mustard Crop using DSSAT</b></p> <p><i>Nadir Ali</i>, PMAS Arid Agriculture University Rawalpindi</p>
9.	<p><b>Exploring impact of hydrogel application on growth and yield of wheat under rainfed scenario</b></p> <p><i>Majid Rahim</i>, Soil and Water Conservation Research Institute, Chakwal, Pakistan</p>	<p><b>Optimizing di-ammonium phosphate (DAP) coatings in alkaline soil for enhanced soil fertility and plant growth: a comprehensive evaluation</b></p> <p><i>Umair Riaz</i>, MNS-University of Agriculture, Multan</p>
10.	<p><b>Application of release nitrogen fertilizers and biochar for sunflower (<i>Helianthus anus</i> L.) productivity and to alleviate the drought stress</b></p> <p><i>Shabir Hussain</i>, Bahauddin Zakariya University, Multan</p>	
<b>10:30-10:45</b>	<b>Tea Break</b>	



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**Day 03, 22<sup>nd</sup> February 2024, Thursday (10:45-11:45)**

<b>10:45-11:45</b>	<p><b>Consultative Session: Role of Soil Science Society of Pakistan in Improving Academia, Industry, Research &amp; Farmers’ linkages</b></p> <p><i>Chairpersons</i> Dr. Abdul Rashid (Former President SSSP/Former DG, NARC Islamabad) Prof. Dr. Zahir Shah, Vice Chancellor, University of Chitral, Chitral, KP</p> <p><i>Moderators:</i> Prof. (Retd.) Dr. Muhammad Yaseen (Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad) Prof. Dr. Zia-ul-Hassan Shah (Department of Soil Science, Sindh Agriculture University, Tando jam)</p> <p><i>Panelists:</i> Representatives from Industry, Academia, Research and Farming Community.</p>
<b>1145-14:30</b>	<b>Concluding Session</b>
<b>14:30</b>	<b>Lunch</b>



### Schedule of Poster Display

<b>Day 01, 20<sup>th</sup> February 2024, Tuesday</b>	<b>Session 01 11:30-13:30</b>	Poster No. 01-30
	<b>Session 02 14:30-16:00</b>	Poster No. 31-55
<b>Day 02, 21<sup>st</sup> February 2024, Wednesday</b>	<b>Session 03 09:00-11:00</b>	Poster No. 56-85
	<b>Session 04 11:20-13:30</b>	Poster No. 86-130
	<b>Session 05 14:30-16:00</b>	Poster No. 131-149



Poster No.	Details
<b>Soil Fertility &amp; Plant Nutrition</b>	
Poster No. 01	Strategic mapping of soybean cultivation zones in subtropical desert climates through geospatial techniques <b>Hamaad Raza Ahmad</b> University of Agriculture, Faisalabad
Poster No. 02	Cultivating resilience: harnessing cover crops for robust soil sustainability <b>Hina Nawaz</b> PMAS-arid agriculture university, Rawalpindi
Poster No. 03	Potential of silicon in enhancing yield and grain quality of rice under water stress <b>Amina Kalsom</b> Soil Chemistry Section, ISCES, AARI, Faisalabad,
Poster No. 04	Impact of band placement of phosphate fertilizer on phosphorus acquisition and yield of wheat in calcareous soil <b>Ana Aslam</b> Pakistan Soil Chemistry Section, Ayyub Agricultural Research Institute, Faisalabad, Pakistan
Poster No. 05	Appraisal of pecan nut composition using various physico-chemical and nutritional functions <b>Muhammad Qasim</b> Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad.





Poster No. 06	Extraction and characterization of humic and fluvic acids from organic sources: an innovative waste management strategy <b>Siraj Ahmed Baloch</b> Department of Soil Science, Soil Environment Institute Tandojam
Poster No. 07	Evaluating nutrients use efficiency, growth, and yield of wheat through the application of commercial value-added fertilizer <b>Mansoor Ali Shah</b> Soil Science Sindh Agriculture University Tandojam
Poster No. 08	Selection of potential rice (oryza sativa l.) Genotypes for zinc-bio-fortification using different agronomic strategies <b>Ghulam Murtaza Kaleri</b> Institute of Plant Sciences, University of Sindh, Jamshoro
Poster No. 09	Evaluating the effect of silicon and biochar on the growth, physiological and biochemical attributes and cd accumulation in brassica under water deficit stress <b>Iqra Ghaffoor</b> University of Agriculture Faisalabad
Poster No. 10	Residual effect of green manuring and soil zinc application on grain accumulation of cadmium and zinc in wheat grown on cadmium-contaminated soil <b>Raza Abbas</b> Bahauddin Zakariya University, Multan
Poster No. 11	Nitrate uptake in mustard, spinach, and carrot irrigated with wastewater <b>Tayyaba Akhtar</b> University of Agriculture Faisalabad



Poster No. 12	Maize yield and food security enhancement by dairy manure-amendments <b><i>Nagshe Zuhra</i></b> University of Agriculture Faisalabad
Poster No. 13	Uptake, partitioning, and remobilization of cadmium and zinc in standard and zn-biofortified wheat cultivars grown in cd-contaminated soil <b><i>Ayta Umar</i></b> Bahauddin Zakariya University, Multan
Poster No. 14	Evaluating the role of nutrients in grain biofortification of wheat to mitigate the nutritional deficiency and food security under changing climate <b><i>Muhammad Ramzan</i></b> University of Layyah, Layyah, Pakistan
Poster No. 15	Self-sufficiency of oil production through canola productivity with augmented supply of inorganic fertilizer under semi-arid conditions <b><i>Kashif Raza</i></b> University of Layyah, Layyah, Pakistan
Poster No. 16	Converting destroyed depleted soils to sustainable healthy soils through management practices: history, facts & solutions. <b><i>Muhammad Atta ul Mustafa Awan</i></b> Lok Sanjh Foundation, Islamabad
Poster No. 17	Impact of untreated textile effluent on growth of rice ( <i>Oryza sativa</i> L.) <b><i>Tajwar Alam,</i></b> PMAS-Arid Agriculture University



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Poster No. 18	Growth, nodulation and yield of pea ( <i>Pisum sativum</i> L.) in response to phosphorus and molybdenum applications under greenhouse conditions <b>Muhammad Sarfraz,</b> University of Poonch Rawalakot
Poster No. 19	Balanced use of micro and macronutrients improves crop yield and sucrose contents of sugarcane <b>Abdul Majeed</b> Sugarcane Research Institute, Ayub Agricultural Research Institute, Faisalabad, Pakistan
Poster No. 20	Impact of plant growth promoting rhizobacteria on microbial activities in rhizosphere and bulk soils <b>Anam Naz</b> University of Agriculture Faisalabad, Pakistan
Poster No. 21	Impact of farmyard manure on soil physical properties and maize growth <b>Osama Tanveer</b> University of Agriculture, Faisalabad
Poster No. 22	Nutrient indexing of mango orchards of rahim yar khan district of the punjab province <b>Niaz Ahmad</b> Bahauddin Zakariya University, Multan
Poster No. 23	Growth and yield response of cotton crop to foliar application of nitrogen and salicylic acid <b>Shahabudin</b> Faculty of Crop Production, Sindh Agricultural University, Tanandojam
Poster No. 24	Use of PGPR to enhance wheat productivity at different sowing dates under climate-induced heat stress <b>Nawal Chaudary</b> University of Agriculture Faisalabad



Poster No. 25	Nutrient status of citrus and guava fruits grown in alkaline calcareous soils of punjab <b>Nisa Mukhtar</b> Soil Chemistry Section, Institute of Soil Chemistry and Environmental Sciences
Poster No. 26	Optimizing boron-tolerant bacteria and press mud synergies for sustainable canola seed production and increased crop yields <b>Ghulam Fareed</b> University of Agriculture Faisalabad
Poster No. 27	Vertical farming-smart urban agriculture for enhancing resilience and sustainability in food security <b>Tayyaba Tanveer</b> PMAS- Arid Agriculture University, Rawalpindi, Pakistan
Poster No. 28	Sustainable practices: nurturing soil health for enhanced food security in horticulture <b>Aleena Khalid</b> Mehwish Liaquat, PMAS-Arid Agriculture University, Rawalpini
Poster No. 29	Promoting sustainable agriculture through biofertilizer implementation <b>Mehwish Liaquat</b> Arid Agriculture University, Rawalpindi
Poster No. 30	Responses of Fungal Stresses and Climatic Impact on Growth and Yield of <i>Cicer arietinum</i> in District Bhimber, Azad Kashmir <b>Tanveer Hussain</b> , Azad Jammu and Kashmir, University of Bhimber
Poster No. 31	Agronomic fortification of wheat with zinc nano-particles to improve growth, yield and physiological characteristics under alkaline calcareous conditions <b>Muhammad Ashraf</b> , Bahauddin Zakariya University, Multan, Pakistan.



Poster No. 32	Enhancing phosphorus use efficiency and profitability from wheat through humic acid application in combination with rock phosphate and single super phosphate <b>Dost Muhammad</b> University of Agriculture, Peshawar-Pakistan.
Poster No. 33	Nurturing soil health through sustainable agriculture <b>Farhat Ullah</b> MNS-University of Agriculture, Multan.
Poster No. 34	Soil solution-P and its concentration in plants from selected wheat fields for yield and traits <b>Tehleem</b> University of Agriculture Peshawar, Khyber Pakhtunkhwa
<b>Soil, Water &amp; Environmental Chemistry</b>	
Poster No. 35	Stoichiometric characteristics of C, N, P and S in benchmark soil series under different cropping systems of Punjab, Pakistan <b>Munazza Yousra</b> Land Resources Research Institute, NARC, Islamabad, Pakistan
Poster No. 36	Exploring the effect of nanoparticulate iron oxide minerals on chromium immobilization under varying environmental conditions <b>Hamna Bashir</b> Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad, Faisalabad, Pakistan



Poster No. 37	Impact of various ameliorants on geochemical chromium distribution and co <sub>2</sub> -carbon efflux under paddy soil conditions <b>Muhammad Ashir Hameed</b> Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad, Faisalabad, Pakistan
Poster No. 38	Environmental assessment of groundwater contamination with toxic metals and microplastics due to leachates around waste disposal site in Faisalabad <b>Muhammad Abdullah</b> University of Agriculture Faisalabad, Faisalabad, Pakistan
Poster No. 39	Examining the Impact of Industrial Sewage Sludge and Municipal Compost Application on Soil Health in the Rice-Wheat Cropping System of Punjab, Pakistan <b>Umair Riaz</b> Department of Soil and Environmental Sciences, Muhammad Nawaz Shareef University of Agriculture, Multan
Poster No. 40	Wheat yield as influenced by various application methods and doses of phosphorus fertilizer under arid conditions <b>Hafiz Imran Iqbal</b> Land Resources Research Institute, National Agricultural Research Center, Islamabad, Pakistan.
Poster No. 41	Zinc availability to wheat as evaluated by different fractions of zinc in saline-sodic soil <b>Sadia Sultana</b> ISES, UAF





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Poster No. 42	<p>Role of alternate wetting and drying on arsenic bioaccumulation by rice and associated health risk <b><i>Muhammad Mahroz Hussain</i></b> Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad, Faisalabad, Pakistan</p>
Poster No. 43	<p>Influence of sulphur (bentonite) on the growth and yield of cotton crop <b><i>Naseer Ahmed Deho</i></b> Soil &amp; Environment Research Institute, Agriculture Research Center Tandojam, Pakistan</p>
Poster No. 44	<p>Pesticide residues analysis of maize (zea mays l.) Samples from sahiwal district using mass spectrometry techniques. <b><i>Haseeb-Ur-Rehman</i></b> Department of Soil &amp; Environmental Sciences, MNS- University of Agriculture, Multan, Pakistan.</p>
Poster No. 45	<p>Comparative effectiveness of micron sized organic and inorganic amendments to immobilize the cd and its phytoavailability to maize crop grown on contaminated soils <b><i>Mujahid Ali</i></b> Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad, 38040, Pakistan</p>
Poster No. 46	<p>Adsorption potential of cassia fistula seed activated carbon for the treatment of laundry wastewater <b><i>Hadia Tassadaq</i></b> Institute of Soil and Environment Science, PMAS-AAUR</p>
Poster No. 47	<p>Mitigating drought stress through biochar and gibberellic acid in rice (Oryza sativa l.) <b><i>Imran Ullah</i></b> Department of Soil and Environmental Sciences, MNS-University of Agriculture, Multan.</p>



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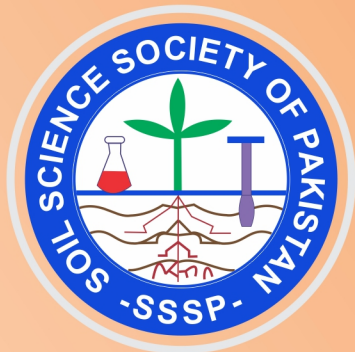
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