

# Soil Science News

*Quarterly Newsletter of Soil Science Society of Pakistan*

سوائل سائنس سوسائٹی آف پاکستان

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Head Office: Land Resources Research Institute, National Agricultural Research Centre, Islamabad, Pakistan



*Inaugural Session: from left to right - Dr. Ghulam Murtaza Jamro, Secretary, SSSP; Prof. Dr. Zaheer A. Zaheer, President, SSSP; Prof. Dr. Iqbal Ahmad Khan, Vice Chancellor, UAF; and Dr. Shahid Mahmood, Former President, SSSP.*

## From the Editor's Desk

### Commendation!

On behalf of the soil and environmental sciences community of Pakistan, we commend the Executive Council, Soil Science Society of Pakistan as well as Organizing Committee, Technical Committee and other committees (Registration, Technical, Food, Transport and Accommodation) for organizing the 19<sup>th</sup> International Congress of Soil Science at the University of Agriculture, Faisalabad, 09-11 Feb., 2022 in a befitting manner. We also understand that this mega professional event was not possible without the generous support of Vice Chancellor, UAF – in terms of hosting the Congress and extending the requisite logistic facilities. Nevertheless, cooperation and support extended by the university management, faculty members and students as well as supporting staff was also commendable. Role of other institutes like AARI, NIAB, NIBGI, GC

Univ. was crucial and helpful in making the event a success. We also acknowledge the generous contributions of sponsors from public sector, particularly PSF and from private sectors - Engro Fertilizers, Fatima Group, FBT, Auriga Group, FFC, BOP, Crop Life, AgriTech, Jaffer Group, FMC, Millat Tractors, Patron Group, Azeems, Sarsabz, ICI, Pakistan, Syngenta, Guard, SAC and Next Page Solution.

## Events

### 19<sup>th</sup> International Congress of Soil Science

The Soil Science Society of Pakistan organized its 19<sup>th</sup> International Congress of Soil Science, 09-11 February, 2022, at University Agriculture, Faisalabad. Theme of the Congress "Soil Health and Sustainable Development Goals" was well tuned with the prevailing agricultural and environmental situation nationally and internationally.



Group Photo after inaugural Session







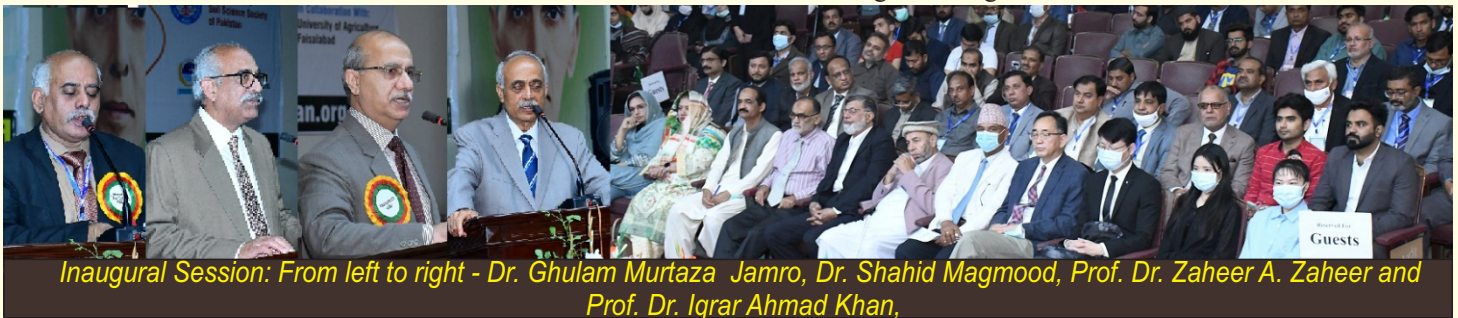
*President, General Secretary and Joint Secretary, SSSP, receiving the Chief Guest and Guest of Honor.*

The Congress was attended by a galaxy of national and international agricultural and environmental scientists. Registered participants of the Congress were more than 600. Scientists from Germany, USA, UAE, Denmark, China, Nepal, Canada and Pakistan share their research findings.

ICSS agenda included inaugural session, keynote address

Ahmad Khan, Vice Chancellor, University of Agriculture, Faisalabad and Dr. Shahid Mahmood, former President, SSSP was Guest of Honor.

In the 19<sup>th</sup> Congress, Soil Science Society of Pakistan recognized the services of their outstanding members for the promotion of Soil and Environmental Sciences profession by conferring following awards:



*Inaugural Session: From left to right - Dr. Ghulam Murtaza Jamro, Dr. Shahid Magmood, Prof. Dr. Zaheer A. Zaheer and Prof. Dr. Iqar Ahmad Khan,*

(by Prof. Dr. Rattan Lal, Ohio State University, USA), 16 technical, one consultative and a concluding session. There were 340 presentations including 180 oral and 160 poster presentations, there were 17 invited papers, out of those 8 were international. The presentations covered almost all the disciplines related to soil and environmental sciences.

### Bestowal of Society's Awards

The Inaugural Session was chaired by Professor Dr. Iqar



*Chief Guest, presenting Society's Award - Fellowship to Prof. Dr. I. Rajpar, Dr. S. Javid, and Services to Society to Prof. Dr. A. Khaliq and Dr. Sabar G. Khattak*

### A) Fellowships

1. **Prof. Dr. Inayatullah Rajpar**, Chairman, Department of Soil Science, Sindh Agriculture University, Tandojam.
2. **Dr. Shahid Javid**, Director (Rtd.), Soil and Water Conservation Research Institute, Chakwal.

### B) Services to the Society

1. **Prof. Dr. Abdul Khaliq**, Soil & Environmental Sciences, University of Poonch, Rawalakot, AJK.
2. **Dr. Sabir Gul Khattak**, Director (Rtd.), Agricultural Research Station, Baffa, KPK.

### C) SSSP Gold Medals

Fourteen SSSP Gold Medals (seven for the year 2020 and seven for the year 2021) were conferred to the students graduated in Soil/Environmental Sciences from Agriculture Universities of Pakistan during 2020 and 2021.

### Gold Medals Awardees - 2020

1. **Miss Sammar Aftab**, University of Agriculture, Faisalabad.
2. **Miss Sara Khan**, PMAS Arid Agriculture University, Rawalpindi.





*Dr. Professor Iqrar Ahmad Khan (Chief Guest) presenting Society's Gold Medals among the winners*

3. **Miss Rabia Khan**, Islamia University of Bahawalpur.
4. **Sobia Bibi**, The University of Agriculture, Peshawar.
5. **Mr. Abdul Hameed Khan**, Balochistan Agriculture College, Quetta.
6. **Mr. Asif Ali Mastoi**, Shaheed Zulifqar Ali Bhutto Agriculture College, Dokri, Larkana.
7. **Miss Juveria Mushtaq**, University of Poonch, Rawalakot.
7. **Miss Sania Latif**, The University of Poonch, Rawalakot.

#### **Gold Medals Awardees - 2021**

1. **Mr. Misbah Abbas**, University of Agriculture, Faisalabad.
2. **Mr. M. Shah Meer**, PMAS Arid Agriculture University, Rawalpindi.
3. **Miss Umme-Habiba**, The Islamia University of Bahawalpur.
4. **Mr. Tariq Hussain**, The University of Agriculture, Dera Ismail Khan
5. **Miss Sabrin**, Lasbela University of Agriculture, Water & Marine Sciences, Uthal.
6. **Mr. Mushahid Hussain**, Sindh Agriculture University, Tandojam.



*Reception of Prof. Dr. Fateh Muhammad Marri, Vice Chancellor, SAU, Guest of Honor (Closing Session)*

The concluding session was chaired by Federal Minister for Agriculture Research and Food Security, Mr. Fakhar Imam and Co-chaired by Prof. Dr. Fateh Muhammad Marri, Vice Chancellor, Sindh Agriculture



*Concluding Session: left to right - Dr. Ghulam Murtaza Jamro, Secretary, SSSP; Prof. Dr. Fateh Muhammad Marri, Vice Chancellor, SAU; Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor, UAF; and Prof. Dr. Zaheer A. Zaheer, President, SSSP*





Concluding Session: left to right - Prof. Dr. Fateh Muhammad Marri, Vice Chancellor, SAU; Prof. Dr. Iqar Ahmad Khan, Vice Chancellor, UAF; Prof. Dr. Zaheer A. Zaheer, President, SSSP and Dr. Ghulam Murtaza Jamro, Secretary, SSSP;

University, Tandojam and Professor Dr. Iqar Ahmad Khan, Vice Chancellor, University of Agriculture, Faisalabad was guest of honor. The Chief Guest, Mr. Fakhar Imam virtually addressed the Congress participants. He appreciated the organizers of the congress and highlighted significance of soil health for achieving the SDGs.

During the session, the authors of the first three best poster presentations were conferred cash prizes and certificates.

### Best Poster Presentation Awards

A Committee, comprising of senior scientists, was constituted for evaluation of best poster presentation. Prof. Dr. Fateh Muhammad Marri, Vice Chancellor, Sindh Agriculture University Tandojam, Sindh, distributed the cash prize (First prize Rs. 15,000/-, Second prize Rs. 10,000/- and Third prize Rs. 7,500/-) and certificated among the winners. The winners were:

#### 1<sup>st</sup> Position – shared by two authors as:

- **Mr. Murad Ali**, Department of Soil and Environmental Sciences, The University of Agriculture, Peshawar.
- **Mr. Saif Ali**, Institute of Soil and Environmental Sciences, University of Agriculture, Faisalabad.

#### 2<sup>nd</sup> Position – shared by three authors as:

- **Miss Mobeena Anees**, Environmental Sciences, Institute of Soil and Environmental Sciences, PMAS Arid Agriculture University, Rawalpindi.
- **Mr. M. S. Ali Khan**, Agriculture Department, Government of the Punjab, Lahore.
- **Dr. Rizwan Ahmad**, Land Resources Research Institute, NARC, Islamabad.

#### 3<sup>rd</sup> Position – shared by four authors as:

- **Mr. Abdullah Keerio**, Department of Soil Science, Sindh Agriculture University, Tandojam.

- **Mr. Tahir Majeed**, Soil and Water Testing Laboratory, Attock.
- **Dr. Ifra Saleem**, Soil Chemistry Section, ISCES, AARI, Faisalabad.
- **Miss Zunaira Bano**, Department of Botany, University of Agriculture Faisalabad.

At the end, shields and appreciation certificates were distributed among the conveners and members of different committees, local organizing committee, media and sponsoring organizations.

### Congress Recommendations

Recommendation committee was constituted by the Society for formulating recommendations of the Congress. The convener of the committee was Dr. Nadeem Tariq, Chief Executive, First Biotech LLC, Lahore.

Keeping in view the keynote address, consultative sessions, presentations and brainstorming during the congress, the committee proposed to align ICSS recommendations with global issues of 21<sup>st</sup> century and development goals. Issues related to soil and environment were summarized as follows:

- Soil degradation at faster pace
- Agricultural emission increasing @ +1% per year
- Prevalence of under-nutrition / malnutrition
- Aggravating water pollution and scarcity
- Mass extinction of soil microflora

These issues are seriously affecting sustainable agriculture, nutritional food security and adequate supply in Pakistan. The committee came out with following recommendations to develop strategies by respective authorities:

1. Climate change is a reality and has significant implications on viable agriculture. Therefore,



Prof. Dr. Fateh Muhammad Marri (Chief Guest, concluding Session) presenting Best Poster Award among the winners





*Dr. Nadeem Tariq presenting the Congress Recommendations at the concluding Session*

resilient systems and practices need to be adopted to mitigate adverse effect on sustainable agriculture.

2. Incentivize ecosystem services for farmer community to expedite adoption, enhancement of soil health by sequestering carbon, reduce GHGs emission and promote sustainable agriculture.
3. Enhance water use efficiency using proven techniques and promote artificial ground water recharge by harvesting rainwater at farm level.
4. Improve nutrient use efficiency (NUE) through coating fertilizers with appropriate material and adopting smart agronomic practices. Government needs to ensure timely and ample supply of quality fertilizers.
5. Promote value-added bio, organic and inorganic fertilizers coated with zinc and other micronutrients to boost nutrient use efficiency, reduce environmental pollution and address malnutrition issues. Government needs to incentivize use of valued-added fertilizers to expedite adoption by farmers at national level.
6. Government needs to maintain fertilizer costs within farmers economic threshold and incentivize use of NPK and value-added fertilizers through transparent and farmer friendly subsidy mechanism. Current structure and amount of subsidy for fertilizers is insufficient, tedious and needs immediate corrective measures to align with the national agricultural goals.
7. Promote academia, research and industry linkages to swiftly transfer benefits of new technologies and improve agricultural productivity and quality.
8. Encourage development of native coefficient for GHGs emission and precise inventory for range of crops in Pakistan.
9. Government needs to strictly stop urbanization on

prime agricultural land and restrict urban and industrial expansions on marginal land.

10. Provincial Soil Survey department need to be revived and should be under the control of Federal government as it was before the 18<sup>th</sup> amendment. This will encourage long-term field experiments in different agro-ecological zones to generate databank of soil parameters and sustainable agriculture for developing indigenous soil quality indices to validate future soil behavior simulations.

Finally, the 19<sup>th</sup> International Congress of Soil Science came up with strong opinion that maintaining soil health using smart management practices and inputs can safeguard environment and sustainable agriculture.

### **National Conference on "Soil Degradation: An Alarming Threat to Food Security and Environment"**

The Department of Soil Science, Faculty of Agricultural Sciences & Technology, Bahauddin Zakariya University, Multan, organized a two-day national conference on March 3-4, 2022.



The conference was aimed to enlighten the importance of soil to meet food security and environmental sustainability. Inaugural session was chaired by Honorable Minister for Agriculture, Punjab **Mr. Syed Hussain Jahania Gardezi**. Eminent scientists and scholars from different institutions all over the country participated and presented their talks on different factors contributing to soil degradation, effects of soil degradation on national economy and environment.

It was agreed that unsustainable agricultural practices, overexploitation of natural resources, deforestation, growing population and urbanization, and climate change are the major threats to degrade soil health and quality. All the experts were convinced that reversing soil degradation is very important to feed the growing population, protect biodiversity and address the planet's climate crisis. It was recommended over exploitation of soil and other natural resources should be avoided.

### **One-day seminar on "Halt Soil Salinization, Boost Crop Productivity"**

The one-day seminar was jointly organized by the





Soil & Water Testing, Agriculture Research Institute, Quetta; Soil Science Society of Pakistan and Pakistan Science Foundation. Eminent scientists from Balochistan University of Information Technology, Engineering and Management Sciences, University of Balochistan, Agriculture College Quetta and Agriculture Research Institute, Quetta shared their experiences and research findings encompassing the causes and solution of soil salinization. Among others, Directors Agriculture Research/Extensions, Research Officers, FAO, UNCHR, FFC, PCRWR, and Farmers participated. Dr. M. Javed Tareen, Director General (Agriculture Research) Agriculture Department, Government of Balochistan was the chief guest.

### National Seminar on Bio-organic fertilizers for sustainable agriculture

One day national seminar on “Bio-organic fertilizers for sustainable agriculture” was organized by the Department of Agriculture, University of Swabi on 22<sup>nd</sup> March 2022 under the HEC-LCF funded project. The chief guest, Dr. Shahana Urooj Kazmi, Vice Chancellor, Women University Swabi addressed the participants and highlighted the need of Biofertilizers for sustainable agriculture and environment. The invited speakers Prof. Dr. Khalid Saifullah, Director, Soil Science Institute,



PMAS Arid Agriculture University, Rawalpindi; Dr. Tariq Sultan, Director, Land Resources Research Institute, NARC, Islamabad; Dr. M. Sharif, Chairman, Department of Soil and Environmental Sciences, Prof. Dr. M. Jamal, The University of Agriculture, Peshawar and Dr. M. Adnan and Dr. M. Javed from Agriculture Extension, KPK shared their valuable experiences regarding use of biofertilizers and vermi-compost and emphasized their role in sustainable agriculture and environment. At the end, Vice Chancellor, University of Swabi, Prof. Dr. Nasir Jamal Khattak thanked the invited speakers and appreciated the efforts of Dr. Fazli Wahid for organizing the seminar.

### Farmer Field Days on Wheat Production

Two farmer field days were organized by Land Resources Research Institute (LRRI), NARC, Islamabad. One field day was held at Charsadda and other was at DI Khan



during March 2022 under the PSDP funded project 'Integrated nutrients management for improving nutrients bio-fortified grain and productivity of wheat under Prime Minister Agriculture Emergency Program'. Dr. Sadar ud din Sadique Member (Incharge), Plant Science Division, PARC chaired the field day at Charsadda and Dr. Shahid Maqsood Gill member (Incharge) Natural Resources, PARC, at D. I. Khan. In this seminar, farming community was enlightened the use of integrated and balance fertilizers for enhancing and sustaining the wheat production.

### Research Grant/Award

#### Automatic Erosion Measuring and Modular Runoff Plots Facility

An international project “Pan-Third Pole Soil Erosion Assessment and Regionalized Countermeasures”, funded by Chinese Academy of Sciences, has been initiated by Institute of Soil & Environmental Sciences, PMAS-Arid Agriculture University Rawalpindi and with collaboration



of Northwest A & F University, China. Four countries namely, Kazakhstan, Nepal, Thailand and Pakistan are participating in the project. **Dr. Shahzada Sohail Ijaz**, Associate Professor, ISES is the Focal Person from Pakistan. Recently, first of its type in Pakistan, Automatic Soil Erosion Measuring Equipment and Modular Runoff plots (worth Rs. 10 million) have been installed at University Research Farm to diagnose the soil erosion degradation causes in the Pothwar plateau and to suggest respective countermeasures to tackle this issue.



**Dr. Fazli Wahid**, Assistant Professor, Department of Agriculture (Soil Science), the University of Swabi has earned Higher Education Commission Local Challenge Fund research project of Rs. 10.4 million. The project is mainly focused to increase the bioavailability of rock phosphate by

Technical specifications  
and country guidelines for

**Global  
Soil Organic Carbon  
Sequestration  
Potential  
Map**

GSOCseq



amending with biodegradable organic wastes and by adding bioagents into a standard compost/vermicompost.

### Promotion/Appointment/Posting



**Dr. Hafiz Naeem Asghar**, Associate Professor of Soil and Environmental Sciences, University of Agriculture, Faisalabad has been promoted as Professor.

**Dr. Shahid Maqsood Gill**, Director/Principal Scientific Officer, Land Resources

Research Institute, NARC, Islamabad has been posted as Member (Incharge), Natural Resources Division, Pakistan Agricultural Research Council, Islamabad



**Mr. Muhammad Nawaz Khan**, Principal Scientist, Citrus Research Institute, Sargodha has been assigned the additional charge of Director General/Chief Scientist (BS-20), Ayub Agricultural Research Institute, Faisalabad



**Dr. Dost Muhammad**, Associate Professor, Department of Soil and Environmental Sciences, The University of Agriculture Peshawar has been promoted as Professor.



**Dr. Tariq Sultan**, Program Leader/Principal Scientific Officer, Soil Microbiology/Biochemistry, Land Resources Research Institute (LRRI), NARC, Islamabad has been posted as Director, LRRI, NARC,

Islamabad

**Dr. Muhammad Zameer Khan**, Principal Scientific Officer, Land Resources Research Institute, NARC, Islamabad has been posted as Program Leader, Soil Plant Nutrition Program, LRRI, NARC, Islamabad



**Dr. Sair Sarwar**, Principal Scientific Officer, Land Resources Research Institute, NARC, Islamabad has been posted as Program Leader, Soil Microbiology and Biochemistry Program, LRRI, NARC, Islamabad

**Dr. Ijaz Ali**, Principal Scientific Officer, Land Resources Research Institute, NARC, Islamabad has been posted as Program Leader, Soil Physics and Salinity Program, LRRI, NARC, Islamabad



**Dr. Fakhar Mujeeb**, Senior scientist, Soil Bacteriology Section, Institute of Bio-Technology, Ayub Agricultural Research Institute (ARRI), Faisalabad has been given the look after charge of Agri. Chemist/Principal Scientist, Soil Bacteriology Section, AARI, Faisalabad.



**Mr. Muhammad Khalid**, Senior Scientist, Soil Biochemistry

Section, Ayub Agricultural Research Institute, Faisalabad has been given the look after charge of the post of the Principal Scientist

(BS-19), Soil Biochemistry Section.



**Dr. Khadim Dawar**, Assistant Professor (TTS), Department of Soil and Environmental Sciences, The University of Agriculture Peshawar has been promoted to Associate Professor (TTS).



**Dr. Wiqar Ahmad**,

Assistant Professor (TTS), Department of Soil and Environmental Sciences, The University of Agriculture Peshawar Amir Muhammad Khan Campus, Mardan has been promoted to Associate Professor and posted as Director, Amir Muhammad Khan Campus, Mardan.



**Mr. Tamoor Ahmed** and **Mr. Muhammad Rafique**, Soil Science graduates, Balochistan Agriculture College, Quetta have been appointed as Assistant Soil Conservation Officer in the Balochistan Forest and Wildlife Department (Soil Conservation Wing).

*Congratulations to all from the desk of Soil Science News.*

### Research Grant/Award

**Mr. M. J. Mukkaram**, a graduate from the Institute of Soil and Environmental Sciences, University Agriculture, Faisalabad has earned the European Union's Erasmus Mundus Master scholarship in Soil Science. The European Union's Erasmus Mundus program aims to enhance quality in higher education through scholarships and academic co-operation between the EU and rest of the world.



**Dr. Jam Niaz Ahmed**, Associate Professor, Department of Soil Science, Bahauddin Zakariya University, Multan bestowed "Quid e Azam Gold Medal Award" by Tehreek e istehkam Pakistan Council, Pakistan in recognition of his services for Soil Science and



Agriculture. The award was presented in a dignified Award Ceremony held at National Auditorium, Lahore on 23<sup>rd</sup> March 2022. The Tehreek e istehkam Pakistan Council promotes people from different departments, government of Pakistan by organizing a Quaid e Azam Gold Medal Award Ceremony.

### Completion of Post Doctoral Fellowship

**Dr. Wiqar Ahmad**, Assistant Professor, Soil and Environmental Sciences, The University of Agriculture Peshawar, Amir Muhammad Khan Campus, Mardan has completed Post Doctorate from the University of Florida, United States funded by HEC, Islamabad. His postdoctoral research was "Response of maize crop to nano zinc oxide (nano zno) particles applied through various methods (foliar spray, seed coating and soil drench) under alkaline and acidic soil conditions".



### Retirement

**Dr. Muhammad Younis**, Director General, PARC Southern Zone Agricultural Research, Centre, Karachi retired from government services on 07-03-2022 after attaining the age of superannuation.

He did M.S. (Soil Science) in 1988 from Central Mindanao University, Bukidnon, Philippines and Ph.D. in 2017 from



Sindh Agriculture University, Tandojam. Dr. Younis started his professional career in 1989 as Consultant in

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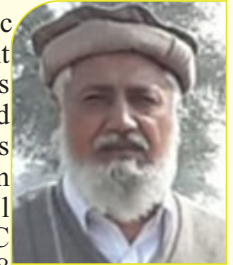
**Mr. Aurangzeb Jamali**, Lecturer, Baluchistan Agri. College, Quetta - [jamali.zaib@gmail.com](mailto:jamali.zaib@gmail.com)

Barani Agriculture Research and Development Project, a Canadian government funded project executed jointly by Canadian International Development Agency and PARC, Islamabad. In 1992, he joined PARC, Islamabad as Scientific Officer and worked at different positions.

Dr. Younis's earlier research work was focused on oil seed hybrids development and seed production. Subsequently, he concentrated on sugarcane varietal development, seed propagation, their nutrient management and introduction at farmers' field.

Dr. Younis executed several research projects as project Incharge and as a team member. He produced a valuable data and published in various peer reviewed Journals of national and international repute.

**Mr. Ahmed Khan**, Principal Scientific Officer/ Program Leader, Soil Plant Nutrition Program, Land Resources Research Institute, NARC, Islamabad has retired from Government services on January 31, 2022. Mr. Ahmed Khan did M. Sc. (Hons.) from Gomal University D.I.Khan. He joined PARC in 1984 and served PARC almost 38 years.



**Dr. Abid Subhani**, Principal Scientist/Director (Chief Scientist Incharge), Soil & Water Conservation Research Institute, Chakwal has retired from government service on 07-02-2022. He did M. Sc. (Hons) in Soil Science from University of Agriculture and Ph.D. from Zhejiang University, Hangzhou, China.



Dr. Subhani joined Punjab Agriculture Department (Research) in 1988 as Agri. Officer and was posted at Soil and Water

Testing Laboratory, Ayub Agri. Research Instt., Faisalabad. He worked in different positions at different stations. He published more than 100 scientific papers in reputed journals.

**Mr. Nisar Ahmad**, Principal Scientist/Head, Biochemistry Section, Ayub Agri. Research Instt., Faisalabad retired in January 2022. Mr. Ahmad did M. Sc. (Hons.) in Soil Science from University of Agriculture Faisalabad in the 1989.

He joined Punjab Agriculture Department (Research) as Agricultural Officer and was posted at Soil and Water Testing Laboratory TT Singh. He served in different institutes in different positions. In 2010, he was selected as Agri. Chemist and was promoted as Principal Scientist in 2021.



Mr. Ahmad is a life member of Soil Science Society of Pakistan and voluntarily served the Society for a long time as a member of the Executive Council.

*We pray for good health and prosperous retired lives of our respected colleagues*