



# Soil Science News

Quarterly Newsletter of Soil Science Society of Pakistan

سوائل سائنس سوسائٹی آف پاکستان

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Editor: M. Mahmood-ul-Hassan

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

## From the Editor's Desk

### Fertilizers Crisis and Small and poor farmers

Nationally and internationally fertilizer prices have increased exponentially during the last two years. For example, internationally, DAP prices have increased by  $\approx 65\%$  (from \$565/ton in 2021 to \$936/ton in 2022) and urea prices are about 90%. Likewise, in Pakistan, the DAP price was about Rs. 3000/bag (50 kg) in 2018 and now it is selling at about Rs. 13000/bag and urea price was about Rs. 1400/ and now it is selling at about Rs. 2100/bag.

The increase in fertilizers prices and their insufficient supply, has severely affected the farmers all over Pakistan. Particularly, the small poor farmers as they do not have money to purchase required fertilizers in advance.

As we all know, fertilizers provide nutrients to crop for better growth and more yield hence support food security. The increase in fertilizer prices and disruption in supply, nationally and internationally, affects the food supplies and security and developing countries are among the worst hit.

For example, during 2021-22, Pakistan harvested 4% lesser wheat than the 2020-21 (26.4 against 27.5 million tonnes) and India 4.4% lower than the previous year. Among others, increase in fertilizer prices and insufficient supply are the major factors.

During this crisis (fertilizer prices and supply), small fertilizer merchants, which mostly sell "Sharbit" and "Chooran" benefited most by bluffing innocent farmers. It is an open secret that apart from the hard work and surveillance of agriculture department, a larger number of

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## News and Views

### One day special seminar on "Cotton Production Technology"

One day special seminar 'Cotton Production Technology' was jointly organized by Engro Fertilizers Ltd. and Department of Soil Science, Sindh Agriculture University, Tandojam on May 19, 2022. Qazi Aijaz Mahesar, Secretary, Department of Agriculture, Government of Sindh was the Chief Guest and Prof. Dr. Fateh Muhammad Marri, Vice Chancellor, Sindh Agriculture University, was the Guest of Honor. The Guest of Honor, stressed that under current climate changing conditions, water scarcity, crop varieties, seed quality and agricultural policies need to be improved. He added, private and public sector must work jointly on R & D projects to solve the problems faced by the Agricultural Community. Provincial Secretary of Agriculture, Qazi Aijaz Mahesar, informed that due to climate change, the production of cotton has decreased by 50% and at the same time lack of pure seeds and less focus on the cotton crop have had a profound effect on Pakistan's textile industry. Mr. Khusrau Nadir Gilani, Chief Commercial Officer, Engro Fertilizers Limited, highlighted the zinc malnutrition in children, need of zinc to be introduced in food crops and role of Engro Fertilizer in this regard. Mr. Hidayatullah Chhajro, Director

General, Agricultural Extension also highlighted the role of Extension Department in creating awareness among farmer community and in solving problems in the agricultural sector. Among others, Mr. Owais Mushtaq Paracha, Muhammad Asif Ali, Naveed Alam Qureshi, Junaid Zubairi, Prof. Dr. Zahoor Hussain Soomro, Dr. Ghulam Murtaza Jamro, Zulfiqar Ali Shah and others also addressed on the occasion. Prof. Dr. Inayatullah Rajpar Chairman Department of Soil Science presented cultural gifts to guests.

### Renewal of Memberships and Updating Mailing Address

All the honorable members are requested to contact **Dr. Muhammad Iqbal**, Treasurer SSSP for renewal/new membership and updating mailing addresses at:

treasurer@sss-pakistan.org  
03365888159



## Promotion/Appointment/Posting

**Professor Dr. Inayatullah Rajpar**, Chairman Department of Soil Science, Sindh Agriculture University, Tandojam/former Vice President (Sindh), Soil Science Society of Pakistan has been appointed as Dean. Faculty of Crop Production, Sindh Agriculture University, Tandojam.



**Professor Dr. Abdul Khaliq**, Department of Soil & Environmental Sciences, University of Poonch Rawalakot/former Vice President (AJK), Soil Science Society of Pakistan has been appointed as Registrar, University of Poonch Rawalakot.



**Dr. Muhammad Ashraf**, Associate Professor, Department of Soil Science, Faculty of Agricultural Sciences & Technology, Bahauddin Zakariya University, Multan has been promoted to the position of Professor.



**Dr. Majid Mahmood Tahir**, Associate Professor, Department of Soil & Environmental Sciences, University of Poonch Rawalakot has been appointed as Additional Registrar, University of Poonch, Rawalakot.



**Dr. Muhammad Shaaban** has joined the Department of Soil Science, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan as Assistant Professor.



**Dr. Muhammad Aon** has joined Department of Soil Science, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan as Assistant Professor (TTS).



**Dr. Sajid Masood** has been appointed as Assistant Professor at the Department of Soil Science, Faculty of Agricultural Science and Technology, Bahauddin Zakariya University Multan. Previously, he was working at the Department of Soil Science, Arid Agriculture University Rawalpindi.

**Hafiza Salma Kausar**, Scientific Officer, Soil and Water Testing Laboratory, Bahawalpur has been promoted as Senior Scientist (BS-18).

**Mr. Majid Rahim**, Scientific Officer, Soil and Water Conservation Research Station, Sohawa, has been promoted as Senior Scientist (BS-18) and posted at Soil and Water Testing Laboratory, Gujranwala.

**Dr. M. Saeed Ashraf**, Scientific Officer, Agronomic Research Institute, Faisalabad has been promoted as Senior Scientist (BS-18).

**Dr. Naseem Akhtar**, Scientific Officer, Biochemistry Section, Faisalabad has been promoted as Senior Scientist (BS-18).

**Mr. M. Zahid Hussain Tarrar**, Scientific Officer, Soil and Water Testing Laboratory, Mandi Bahauddin has been promoted as Senior Scientist (BS-18).

**Mr. M. Bilal**, Scientific Officer, Soil and Water Testing Laboratory, D.G. Khan is promoted as Senior Scientist (BS-18) and posted at Soil Fertility Officer (Field), Bahawalpur.

**Mr. M. Sher Afzal**, Scientific Officer (Field), Soil and Water Testing Laboratory, Attock is promoted as Senior Scientist (BS-18) posted at Soil and Water Testing Laboratory, Jhelum.

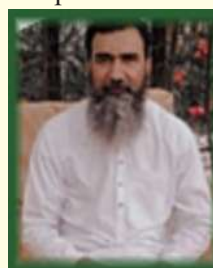
**Mr. Sarfraz Nawaz**, Scientific Officer, Pesticide Quality Control Laboratory, Faisalabad has been promoted as Senior Scientist (BS-18).

**Mr. M. Salik**, Scientific Officer, Provincial Reference Fertilizer Testing Laboratory, Raiwind, Lahore has been promoted as Senior Scientist (BS-18).

**Mr. Tahir Majeed**, Scientific Officer, Soil and Water Testing Laboratory, Attock has been promoted as Senior Scientist (BS-18) and posted at Soil and Water Testing Laboratory, Lahore.



**Mr. M. Saleem**, Scientific Officer (Field), Soil and Water Testing Laboratory, Vehari has been promoted as Senior Scientist (BS-18) and posted at Soil and Water Testing Laboratory, Pakpattan.



**Mr. Ghulam Yaseen**, Scientific Officer, Pesticide Quality Control Laboratory, Faisalabad has been promoted as Senior Scientist (BS-18).

**Mr. M. Aslam**, Scientific Officer, Pesticide Quality Control Laboratory, Multan has been promoted as Senior Scientist (BS-18) and posted at Soil and Water Testing Laboratory, Multan.

**Mr. Aamer Iqbal Saqib**, Scientific Officer, Soil Salinity Research Institute, Pindi Bhattian has been promoted as Senior Scientist (BS-18) and posted at Rice Research Institute, Kala Shah Kaku.

**Raja Abad Raza**, Scientific Officer, Pesticide Quality Control Laboratory, Rawalpindi has been promoted as Senior Scientist (BS-18).

**Dr. Ifra Saleem**, Scientific Officer, Soil Chemistry Section, Ayub Agricultural Research Institute, Faisalabad has been promoted as Senior Scientist (BS-18).



**Dr. M. Arfan-ul-Haq**, Scientific Officer, Soil Chemistry Section, Ayub Agricultural Research Institute, Faisalabad has been promoted as Senior Scientist (BS-18).

**Mrs. Farah Umar**, Scientific Officer, Soil and Water Testing Laboratory, Layyah has been promoted as Senior





Scientist (BS-18) and posted at Pesticide Quality Control Laboratory, Multan.

**Mrs. Fareeha Habib**, Scientific Officer, Soil and Water Testing Laboratory, D. G. Khan has been promoted as Senior Scientist (BS-18).

**Mr. M. Adnan Rafique**, Scientific Officer, Pesticide Quality Control

Laboratory, Kala Shah Kaku has been promoted as Senior Scientist (BS-18).

**Mrs. Rahina Kausar**, Scientific Officer, Soil and Water Conservation Research Station, Fatehjang, has been promoted as Senior Scientist (BS-18).

**Mrs. Sarosh Tariq Alvi**, Scientific Officer Soil and Water Testing Laboratory, Rawalpindi has been promoted as Senior Scientist (BS-18).

**Mr. Nadeem Raza**, Scientific Officer (Field), Soil and Water Testing Laboratory, Faisalabad has been promoted as Senior Scientist (BS-18).

**Mr. Shahid Saleem**, Scientific Officer Soil and Water Testing Laboratory, Rawalpindi has been promoted as Senior Scientist (BS-18) and posted at Soil and Water Testing Laboratory, Gujrat.

**Mr. M. Khalid**, Scientific Officer, Soil and Water Testing Laboratory, Bhakkar has been promoted as Senior Scientist (BS-18) and posted at Soil and Water Testing Laboratory, Khushab.



**Mr. Muhammad Asif**, Scientific Officer, Soil Bacteriology Section, Ayub Agricultural Research Institute, Faisalabad has been promoted as Senior Scientist (BS-18).

**Mr. M. Aamer**, Scientific Officer, Soil and Water Testing Laboratory, Lodhran has been promoted as Senior Scientist (BS-18).

**Dr. Adnan Umair**, Scientific Officer, Soil and Water Conservation Research Station, Sohawa, has been promoted as Senior Scientist (BS-18) and posted at Soil and Water Testing Laboratory, Sialkot.

**Hafiz Riaz Ahmad**, Scientific Officer (Field), Soil Fertility Research Institute, Lahore has been promoted as Senior Scientist (BS-18).

**Mrs. Alia Anayat**, Scientific Officer, Soil and Water Testing Laboratory, Faisalabad has been promoted as Senior Scientist (BS-18).

**Dr. Syed Azhar Hussain**, Scientific Officer, Soil and Water Testing Laboratory, Sargodha has been promoted as Senior Scientist (BS-18).

**Mrs. Maryam Sarfraz**, Scientific Officer, Soil Biochemistry Section, Ayub Agricultural Research Institute, Faisalabad has been promoted as Senior Scientist (BS-18).

**Mr. Muhammad Younis**, Scientific Officer, Soil and Water Testing Laboratory, Attock has been promoted as Senior Scientist (BS-18) and posted at Soil and Water conservation Research Institute, Chakwal

**Dr. Saif Ullah** and **Dr. Hamaad R. Ahmad**, Assistant Professor(s), Institute of Soil & Environmental Sciences,



Faculty of Agriculture, University Agriculture, Faisalabad have been promoted as Associate Professor.



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

### Ph. D. Degree

**Dr. Hidayatullah kakar**, Soil Chemist/x, Soil and Water Testing Laboratory, Agriculture Research Institute, Sariab, Quetta/Vice President (Balochistan), SSSP has successfully completed his PhD degree. His Ph.D. thesis research was on "Development and evaluation of biochar prepared from banana waste for its effect on soil properties and maize yield" under the supervision of Professor Dr Mehrunisa Memon, Department of Soil Science, Sindh Agriculture University, Tandojam.



**Dr. Tasnim Shah**, Department of Soil and Environmental Sciences, Faculty of Crop Production, University of Agriculture, Peshawar has successfully defended her PhD Research titled "Soil microbial dynamics and crop productivity as influenced by biochar under different cropping systems". She completed her Ph.D. thesis research work under the supervision of Prof. Dr. M. Tariq.



*Congratulations from the desk of Soil Science News.*

### Research Grant/Award

**Prof Dr. Allah W. Gandahi**, Department of Soil Science, Sindh Agricultural University, Tandojam has earned an Agricultural Linkage Program, Pakistan Agricultural Research Council, Islamabad project "Development and promotion of improved production technology for oil palm plantation and production in Coastal areas of Sindh, Pakistan".



**Prof. Dr. M. Ashraf**, Department of Soil Science, Faculty of Agricultural Sciences & Technology, Bahauddin Zakariya University, Multan earned an

ALP, PARC, Islamabad funded research project “Micronutrients status and management in citrus orchards under different agro-climatic conditions” worth Rs. 6.494 million. The project is comprised of field survey and experimentation on micronutrients status and management in three important citrus growing districts of Punjab namely Khanewal, Layyah and Toba Tek Singh.

## Retirement

**Mr. Sadiq Muhammad**, Agri. Chemist, Biotechnology Research Institute, AARI, Faisalabad retired from government service on 08-05-2020 after attaining the age of superannuation. He did M. Sc. (Hons) in Soil Science from the University of Agriculture, Faisalabad in 1985. He started his professional career as Research Officer by joining Punjab Agriculture Department (Research) in 1988 and was promoted as Agri. Chemist on 01-02-2018.



**Dr. M. Javaid**, Principal Scientist in Pesticide Quality Control Laboratory, Faisalabad has retired from government services on 30-04-2022 after attaining the age of superannuation. He started his professional career by joining the Punjab Agriculture Department (Research) in 1987 as Agricultural Officer, Pesticide Division, Plant Protection Institute, AARI, Faisalabad. He has also served in Soil Bacteriology



Section and Pesticide Quality Control Laboratory, AARI, Faisalabad.

**Mr. Nasir Muhammad**, Soil Fertility Officer, Multan, has retired from the government service in May, 2022 by attaining the age of superannuation.

**Mr. Abdul R. Naseem**, senior scientist, Soil and Water Testing

Laboratory, Sargodha has retired on 29-04-2022 by attaining the age of superannuation.

**Mr. Javed Iqbal**, Senior Scientist, Soil and Water Testing Laboratory, Hafizabad, has retired from service on 08-05-2022 by attaining the age of superannuation.



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

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surveillance of agriculture department, a larger number of small fertilizers merchants often produce and sell either low quality or fake fertilizers. This situation demands a far better standard surveillance and an increased focus on rooting out fake agricultural inputs.

Further, there is need to increase the fertilizer use efficiency as most of fertilizers are not used effectively.

Some of the technologies that are being used today: fertigation, coated fertilizers, conjunctive use of organic and inorganic fertilizer, mineral and bio-fertilizer, nano-fertilizer, and band placement can enhance fertilizer use efficiency. This is the high time to do more research and development work for higher input use-efficiency and agricultural productivity, farmers' profitability and livelihood.

Above all, the government must pay fertilizer subsidy directly to farmers.

## Research Accomplishment

The Department of Soil Science, PMAS Arid Agriculture University, Rawalpindi has developed three eco-friendly and cost-effective bio-products (soil probiotic, bio-insecticide, and white/brown-rot fungi) under the PSDP project “Data Driven Smart Decision Platform for Increased Agricultural Productivity” led by Associated Professor **Dr. Qaiser Hussain**. They claimed that results of these products are quite encouraging under different agro-climatic conditions.

## Publications

### Global soil organic carbon sequestration potential map - Technical manual

Peralta, G., Di Paolo L., Luotto, et al. 2022. Global soil organic carbon sequestration potential map – Technical manual. Rome, FAO. <https://doi.org/10.4060/cb2642en>

The document presents the technical details of the first ever country-driven Global Soil Organic Carbon Sequestration Potential Map (GSOCseq). This map allows for the estimation of top (0–30 cm) soil organic carbon sequestration potential in agricultural areas using three sustainable soil management scenarios.



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