In the Name of Allah, the Beneficent, the Merciful

Soil Science News

Quarterly Newsletter of Soil Science Society of Pakistan

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EDITORIAL

Commendation

On the behalf of the soil science community of Pakistan, we commend the Executive Council of SSSP as well as Organizing Committee, Technical Committee and several other committees for organizing the 11th Congress of Soil Science at National Agricultural Research Centre, Islamabad, 28-31 March, 2006 in a befitting manner. We believe that this mega professional event was not possible without the generous support of Chairman, Pakistan Agricultural Research Council, Islamabad – in terms of hosting the Congress and extending the requisite logistic facilities. Nevertheless, cooperation and support extended by the NARC Research Programs, i.e, Land Resources Research Program, Water Resources Research Institute and Plant Genetic Resources Program, as well as by other institutions like National Centre for Rural Development and University of Arid Agriculture

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From left: Dr. M. E. Tusneem, Chief Guest Prof. Dr. Atta-ur-Rahman and Dr. A. Rashid, at Inaugural Session of the Congress

NEWS AND VIEWS

11th Congress of Soil Science

The Soil Science Society of Pakistan organized its 11th Congress of Soil Science, March 28-31, 2006, at National Agricultural Research Centre, Islamabad. Theme of the Congress "Soil Management for Sustainable Agriculture and the Environment" was well tuned with the prevailing agricultural situation in the country.

The Congress was attended by a galaxy of national and international agricultural scientists. Registered participants of the Congress were more than 250. At the occasion, the Society published an Abstract Book, revised By-Laws of the Society and 7th edition of National Directory of Soil Scientists.

Inaugural session of the Congress was chaired by Federal Minister and Chairman, Higher Education Commission (HEC), Prof. Dr. Atta-ur-Rahman (NI). Proceedings of the session started with recitation from Holy Qurāan. Professor Dr. Zahir Shah, Secretary SSSP/Congress Secretary briefed the participants about history and activities of the Society.

The Guest of Honour, Dr. M. E. Tusneem, Chairman, Pakistan Agricultural Research Council welcomed the Chief Guest and the participants. In his welcome address, Dr. Tusneem congratulated the Congress Organizers for choosing the theme "Soil Management for Sustainable Agriculture and the Environment". The theme is appropriate and timely due to genuine and increasing concern regarding soil degradation and environmental pollution. He said it was very pleasing

to note that the Soil Science Society of Pakistan is one of the most active and vibrant societies in the country and the ongoing Congress represented the largest forum of soil scientists which inc1uded all major soil disciplines.

Dr. A. Rashid, President SSSP said Pakistan is blessed with a diversity of soil resources but due to over-exploitation and inappropriate land use we are deteriorating the precious soil resource base. He emphasized that soil science community must strive for conserving the precious soil resource base, sustaining and improving its productivity and ensuring its environmental quality by adopting eco-friendly soil management practices. He added that the Congress would address the issues of soil health and formulate strategies by sharing the experiences of the participants.

(R-L) Dr. Atta-ur-Rahman, Dr. M. E. Tusneem, Dr. A. Rashid, and Dr. Zahir Shah at the Inaugural Session

During Inaugural Session of the 11th Congress, Soil Science Society of Pakistan recognized the services of their outstanding members for the promotion of Soil Science profession by conferencing following awards:

1) Honorary Memberships

Prof. Dr. Riaz H. Qureshi, former Vice-Chancellor, University of Agriculture, Faisalabad/Advisor (Quality Assurance) HEC and **Prof. Dr. Amanullah Bhatti,** NWFP Agricultural University, Peshawar.

2) Fellowships

Prof. Dr. Kazi Suleman Memon, Sindh Agriculture University, Tandojam; **Prof. Dr. Muhammad Arshad,** University of Agriculture, Faisalabad; **Dr. Muhammad Ibrahim**, Director, Soil Salinity Research Institute, Pindi Bhattian; and **Dr. Muhammad Sadiq**, GM, FFC, Lahore.

3) Distinguished Soil Science Service Awards

Prof. Jahangir K. Khattak, former Vice-Chancellor, NWFP Agricultural University, Peshawar; **Prof. Dr. Abdul Ghafoor,** University of Agriculture, Faisalabad; **Dr. Taj Muhammad Chaudhary,** Agricultural Reseearch Institute, Tandojam; and **Chaudhary Muhammad Rafiq**, former DG, Soil Survey of Pakistan, Lahore.

4) Distinguished Soil Science Awards (Posthumous)

Late **Prof. Dr. Muhammad Aslam** and Late **Prof. Dr. Maqsood A. Gill**, University of Agriculture, Faisalabad.

Chief Guest of the ceremony, Prof. Dr. Atta-ur-Rahman, Federal Minister/Chairman HEC, congratulated all the award recipients. In his inaugural address, he said that government is making all out efforts to help promote quality education in the country by ensuring ample allocations in education and research funds. The Federal Minister said that it was unfortunate that our universities were allowed to deteriorate to the extent that we lagged far behind in competing with leading universities at international level. Dr. Atta-ur-Rahman highlighted the efforts being made by the HEC for the uplift of science and scientific community in the country. "Professors in different universities have been granted special pay scales based on performance and now a Professor can earn three times the salary of a Minister," said Chairman HEC

Dr. Atta-ur-Rehman presented Society's Award (Posthumous) *to Dr. R. H. Qureshi, Dr. Ammanullah Bhatti, Dr. Kazi S. Memon, Dr. M. Arshad, Dr. M. Ibrahim, Dr. M. Sadiq, Prof. Jahangir K. Khattak, Dr. A. Ghafoor, Chaudhary Muhammad Rafiq, Late Dr. Maqsood A. Gill and late Dr. M. Aslam*

and added that "The government has been asked to introduce the same system in other research and development organizations like PARC". Dr. Atta also expressed his views on the importance of soil and the role of soil scientists in replenishing the earth.

Subsequent to the inaugural session, there was a **Plenary Session**, in which leading scientists of the country, i.e., Prof. Dr. Kazi S. Memon, SAU, Tandojam; Prof. Dr. A. Ghafoor, UA Faisalabad; Dr. Muhammad Rashid, Director, SAWCRI, Chakwal; Dr. Farooq-e-Azam, NIAB, Faisalabad; Prof. Dr. Riaz A. Khattak, NWFP AU Peshawar highlighted the causes of natural resource degradation and proposed management strategies for sustainig agriculture and the environment.

Congress Plenary Session in Progress

A total of 234 research papers were presented in 19 technical ssions and 6 poster sessions. In the oral and poster presentations, crucially important issues pertaining to various disciplines of soil science, i.e., Soil Fertility & Plant Nutrition, Soil Salinity, Soil Physics, Soil Environment, Soil Chemistry, Soil Biology & Biochemistry, and Soil & Water Conservation, were highlighted, elaborated, and discussed.

Concluding Session of the congress was chaired by Dr. M. E. Tusneem, Chairman, Pakistan Agricultural Research Council. Congress Secretary, Dr. Zahir Shah, briefed the chief guest and audienc about the three-day Congress proceedings. Thereafter, Chief Guest presented cash awards and appreciation certificates to the authors of the four outstanding poster papers. After that Dr. Nisar Ahmad, Project Director/Chief, NFDC, Islamabad/Chairman Congress Recommendation Committee, presented the Congress recommendations. The Chief Guest, Dr. Tusneem, appreciated efforts of the Society for elevating the soil science profession and holding the Congress at National Agricultural Research Centre, Islamabad. He offered financial assistance through research project financed out of Agricultural Linkages Program (ALP) for innovative and strategic soil science research to meet future challenges concerning food security and soil environmental quality. In the end, President, SSSP thanked the Chief Guest, national and international participants, organizers and sponsors of the Congress.

From left: Dr. Riaz A. Khattak, Dr. A. Rashid, Chief Guest Dr. M. E. Tusneem, Dr. Nisar Ahmad and Dr, Kazi S. Memon, at Concluding Session of the Congress

Address by President SSSP, Dr. A. Rashid

Soil Management for Sustainable Agriculture and the Environment,

"We all are aware that "Soils sustain life", by performing a number of vital functions in the ecosystem in addition to supporting agricultural production. And the role of soils in protecting the environment can not be over emphasized when we consider how it controls geochemistry of pollutants by decomposing wastes, regulating the flow of water, and filtering the contaminants.

To a layman, all soils may look similar. However, they differ in composition and characteristics, as they are derived from different parent materials and are developed under varied environments. And soils keep changing on geological time scales. In fact, elements and compounds are continuously moving in and out of the soil to the hydrosphere, biosphere, and lithosphere.

Dr. M. E. Tusneem, Chairman PARC at the Concluding Session

Mr. Chief Guest: Pakistan is blessed with a diversity of soil resources having different prospects and limitations. Out of the 12 Soil Orders of *U.S. Soil Taxonomy,* Pakistani soils belong to 6 Soil Orders. Because of the predominant arid to semi-arid climate in the country, Aridisols occupy the largest area, followed by Entisols, Inceptisols, Alfisols, Vertisols and Mollisols. This wide-range diversity, combined with a wide variation in physiography, geology, geomorphology, topography and climate of the country, provide a favorable environment for the growth of a variety of agricultural, horticultural, forest, and range plant species.

However, due to over-exploitation and inappropriate land use, in the face of a fast growing population pressure, various soil degradation processes such as erosion, salt accumulation, organic matter reduction, nutrient depletion and water logging, are deteriorating the soil resource base. Consequently, even in well endowed irrigated areas of the country, the production systems are showing signs of fatigue. On the top of this, pollution of soil and surface water bodies is suspected by indiscriminate use of municipal and industrial wastes in the city suburbs, and by pesticide and nutrient movement, down the soil profile, in high-input cropping systems.

Ladies and Gentlemen: Soil can not remain a mute spectator to all the abuses heaped on it. Neither soil possesses infinite resilience to withstand an ever increasing pressure put on it, by way of enhanced biomass production and increased pollution load.

Unluckily, climatic conditions in the country limit the rehabilitative physical, chemical and biological processes. Consequently, soil degradation is reflected as a loss in farm productivity, and, in fact, a threat to agricultural production systems.

Mr. Chief Guest: While there is hardly any possibility of lateral expansion in the cultivated area– primarily because of water scarcity, prime agricultural lands in the city suburbs are being brought under concrete structures, a situation indicative of our neglect of proper land-use planning.

Colleagues: We are aware that, the development of soil takes geological time periods and, thus, it is a non-renewable natural resource. It is also a fact that agricultural production can not be sustainable without sustaining the natural resource base. Therefore, we are left with the only choice of conserving the precious soil resource base and improving its productivity by adopting eco-friendly soil management practices. This, we know, can be accomplished, but only by applying science-based precise techniques to understand soil processes.

Dr. A. Rashid, President, SSSP, at the Concluding Session

Mr. Chief Guest: The task of managing soil resources in a sustainable manner is a great challenge, indeed. The soil has to be managed within the framework of the biosphere, of which soil is an integral part. Therefore, the future efforts of soil management call for the integration of a host of related scientific disciplines directly or indirectly involved in the study of natural resources.

While the immediate need and challenge remains food security in the Third World countries like Pakistan, with increased awareness in the recent times, environmental issues have come to occupy a center stage in soil science – around the world. However, the environmental issues can only be addressed once we

have a better understanding of the physical, chemical, and biological processes. Obviously, these endeavors call for a matching human resource development and heavy investments in creation of the requisite research facilities. Therefore, I would call upon the decision makers for attaching appropriate priorities and allocating adequate resources for the purpose.

Colleagues: In future, soil scientists will be called upon to answer more complex questions and that too in a precise manner. Thus, the road ahead is full of challenges and opportunities. What the question is "Are we prepared to face these challenges and avail the opportunities"?

Therefore, let us ponder as to what 'Soil Science' is expected to do in the present and in the future context. I hope, at this Congress some of the issues of soil health care be given special attention and strategies will be formulated by sharing the experience of this learned gathering.

As believed by the late American President, *Mr. Franklin Roosevelt,* let us not forget that "A nation that destroys its soils destroys itself".

Ladies and Gentlemen: These being some of my thoughts regarding the present and future of Soil Science in the country, I hope the Congress will be thought-provoking and a socially enjoyable get-together"

Recommendations of 11th Congress of Soil Science

The 11th Congress of Soil Science was held at National Agricultural Research Center, Islamabad from 28-30 March, 2006. The theme of the congress was "Soil Management for Sustainable Agriculture and the Environment". About 300 participants from within country and abroad presented numerous papers in plenary session, oral technical sessions and poster sessions on different aspects of management of soil and water resources for sustainable crop production and safe environment. A committee was constituted by the Society for formulating recommendations of the Congress emanating from the proceedings and the discussions. The recommendations have been categorized into three classes, e.i., for researchers, policy makers and extension workers.

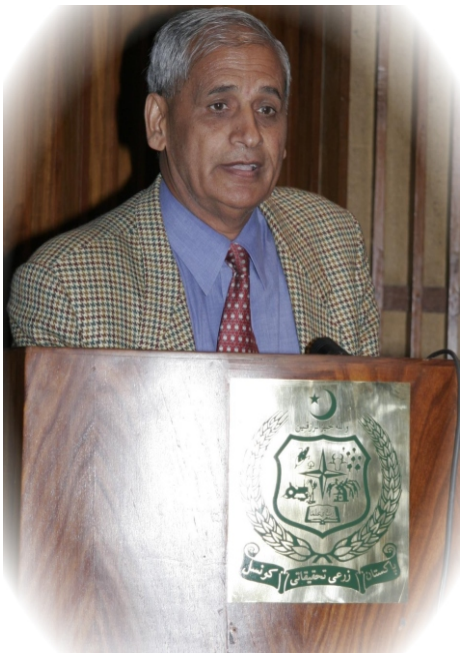
The recommendations are listed bellow:

For Researchers

Soil and Environmental degradation should be combated by strengthening current research activities and planning new ones.

To improve productivity per unit of water, research and development on fertigation, foliar fertilizer application, and high efficiency irrigation should be given priority.

Topical compilation of research done in the country and its synthesis must be undertaken for its application in the field and develop basis for future research.



Dr. Nisar Ahmad, Convenor Recommendations Committee, presenting Congress Recommendation

Currently, bioconversion processes for solid wastes, their pollutant load, and fate in the field are not known. Therefore, research should be conducted on solid wastes to convert it into value-added products and on sewage water as a source of irrigation.

For Policy Makers

Due priority be given to soil science research and development, with major focus on the fields of soil fertility and plant nutrition, soil reclamation, soil conservation, and soil biology to maintain soil fertility, sustain crop productivity, and protect the environment in order to achieve projected growth in agriculture.

Bioconversion of organic waste into value added soil amendments for improving soil health, water use efficiency and improving environment should be promoted.

Policy on procedures should be improved for development of soil management recommendation for farmers. Fertilizer recommendations should be periodically reviewed by an Expert Committee in NFDC to suggest policy measures to government.

New Name! "Soil and Environment"

Name of the Society's official publication, "Pakistan Journal of Soil Science", has been changed to "Soil and Environment". The change in name was proposed by the Editor-in-Chief, Professor Dr. M. Arshad, endorsed by the Executive Council and was approved in the General Body NARC on 28-03-06.

Government of Pakistan must introduce/make

A group of participants on postcongress tour to Murree Hills

available laser levelers at Union Council level.

In rainfed areas, use of bulldozer should be discouraged for land leveling as it is not required, but rather accelerates soil conservation. Instead, appropriate in-vitro soil conservation technologies should be promoted.

Prime agricultural land is being converted into urban structures at an alarming rate; therefore, the Society recommends that a sound land use policy should be developed/implemented.

The wastewater quality standards should be implemented in the country and mixing of wastewater with irrigation canals/rivers should be stopped immediately.

Fertilizer quality control measures should be strengthened and implemented at provincial level to check fake fertilizer, biofertilizer and micronutrient quality and registration procedure should be adopted for new products imported or locally manufactured.

Ministry of Environment should involve soil scientists in developing and implementing remedial strategies for various environmental issues such as soil and water contamination with industrial pollutants, agrochemicals, and petrochemicals.

A stronger coordination between research, education, and extension should be encouraged.

For the Society

The Society should make arrangements for online submission of papers to ease submission and enhance review process of its Journal, 'Soil and Environment'.

WORKSHOP/SEMINAR

Integrated Plant Nutrient Management System

A 6-days training workshop on "Integrated Plant Nutrient Management System (IPNMS)" was held on March 13-18, 2006 at Sindh Agriculture University, Tandojam under sponsorship of Higher Education Commission, Islamabad. Thirty five (35) participants from different colleges and Sindh Agriculture University Tandojam attended this workshop. **Dr. Ghulam Hyder Jamro,** Professor of Agronomy, SAU Tandojam was coordinator of this workshop, while **Dr. Kazi Suleman Memon,** Eminent Professor of Soil Science worked as Master Trainer/Key Resource Person for the workshop.

PROMOTIONS, APPOINTMENTS, AND POSTINGS

Dr Khalid Hussian Gill, Director, Soil Fertility survey & Soil Testing Institute, Lahore has assumed the charge of Director General, (Agri. Research), Ayub Agricultural Research Institute, Faisalabad.

Dr. Inayatullah Rajpar, Assistant Professor, Department of Soil Science, Sindh Agriculture University Tandojam.has has been promoted as Associate Professor.

Mr. Ghulam Murtaza Jamro and Mr. Saleem Maseeh Bhatti have been appointed as Lectures in Department of Soil Science, Sindh Agriculture University, Tandojam

Mr. Sanaullah Solangi and Mr. Virendar Kumar have been appointed as Field Officers in Oilseed Development Board under the project "Promotion and Development of Cultivation of Oil Palm in Coastal

Soil and Environment: Call for Papers

Soil Science Society of Pakistan has been publishing "Pakistan Journal of Soil Science" since 1980s. Recently, the journal has been renamed as "Soil and Environment". Research/Review articles regarding different aspects of soil, environment and allied disciplines are invited for publication in the coming issue of the Journal. The scientists/researchers must participate in this professional activity for sharing of their scientific achievements. Instructions for authors can be downloaded from http://www.sss-pakistan.org. Manuscripts may be submitted to

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Faisalabad-38040, Pakistan; E-mail: bio@fsd.paknet.com.pk

Development"

Dr. Muhammad Ibrahim, Agri. Chemist (Soils), Soil Chemistry Section, Ayub Agricultural Research Institute, Faisalabad has been elevated to the position of Director, Soil Salinity Research Institute, Pindi Bhattian, Hafizabad.

Mr. Attar Khan Jarwar, Rice Technologist, Rice Research Institute, Dokri, has assumed the charge of Deputy Director, Project Planning Section, ARI, Tando Jam.

Dr. Muhammad Akmal has been appointed as Assistant Professor of Soil Science at the University of Arid Agriculture, Rawalpindi under the "tenure track system"

Dr. A. Rashid, CSO/Program Leader, LRRP, NARC, Islamabad has taken over the charge of Deputy Director General, Institute of Natural Resources and Environmental Sciences, NARC, Islamabad and **Mr. Banaras H. Niazi**, PSO has succeeded him as Program Leader.

Congratulations to all from Soil Science News!

TRAINING

Sindh Agriculture (Research) Department has selected **Mr. Amjid Ali Shujrah, Mr. Sajidullah vistero, and Mr. Hafeezullah Babar,** Soil Chemistry and Fertility Section, ARI, Tandojam**,** for six months in-service training at NIBGE, Faisalabad.

RETIREMENT

Dr. M. Sharif Zia, Chief Scientist-II/Incharge, Plant Sciences Division, Pakistan Agricultural Research Council, Islamabad has retired after 33 years professional career. Dr. Zia earned BSc (Hons) Agri (1967) and MSc (Hons) Agri (1969) from West Pakistan Agricultural University, Faisalabad, MS (1984) from University of Queensland, Australia and PhD (1990) from Kyoto University, Japan as an external student.

He started his professional carreer as Research Assistant, AARI, Faisalabad in 1969 and joined MMRI, Cambellpur in 1973 as Assistant Agronomist. In 1977, he joind PARC as a Senior Scientific Officer and was elevated to the position of Principal Scientific Officer in 1988, Chief Scientific Officer in 2002 and untimely Chief Scientist-II in 2005. Dr. Zia is a reputed soil scientist specializing in fertility management of rice soils. He has authored/ co-authored more than 200 publications including research articles in journals of international repute.

Dr Abdul Rashid Agricultural Chemist, Pesticide Division, Plant Protection Institute, Ayub Agricultural Research Institute Faisalabad, retired on 21-04-2006. He joined Soil Chemistry Section, Ayub Agricultural Research Institute, Faisalabad in 1969 as Research Assistant/Assistant Research Officer and in 1986 was promoted as Assistant Agricultural Chemist.He served Agricultural Department as Agricultural Chemist (SAWCRI), Soil Bracterologist, AARI, and Agricultural Chemist, Pesticide, PPI, AARI, Faisalabad..

Mr. Nazir Ahmed Jhatial, Director, Rice Research Institute, Dokri has retired after completing his service.

We pray for there good health and a prosperous retired lives.

UP COMING CONFERENCES/ WORKSHOP

Balanced Fertilization: Impact on Crop Production and Fertilizer Use

National Fertilizer Development Centre (NFDC) in collaboration with FAO of the United Nations, World Phosphate Institute (IMPHOS), federal and provincial research institutes in Pakistan and fertilizer industry has planned to organize a 2-day symposium on "**Balanced Fertilization: Impact on Crop Production and Fertilizer Use**" at Islamabad from October **30 to 31, 2006**. The Symposium will focus on: i) Fertilizer use in Asia: present and future trends; ii) Prospects for agricultural production and fertilizer use in Pakistan - 2020/2030; iii) Balanced fertilization practices for increased crop production and farmers incomes; iv) Constraints to balanced fertilizer use practices and v) Measures to improve balanced fertilizer use, efficiency and crop productivity

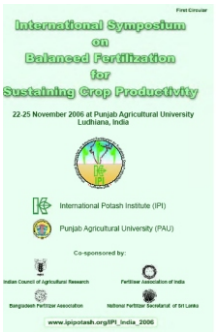
International participation is expected from FAO, IMPHOS, international Fertilizer Industry Association (IFA), International Potash Institute (IPI) and Kali and Salz, etc.

The country papers will also be presented from India, Vietnam, China and Indonesia.

Those interested to attend, may contact: **Mr. Abdul Hamid,** Deputy Chief, National Fertilizer Development Centre, Street 1, H-8/1, Islamabad, Pakistan. Telephone: 92-51-9259126, Fax: 92-51-9259128

Zinc Crops 2007: An international scientific conference will be held **at Istanbul, Turkey, 24-26 May 2007** to review the latest knowledge and best agricultural practices in addressing zinc deficiency and its impact on global crop production and human health. . Organized by International Zinc Association (IZA) and International Fertilizer Industry Association (IFA). Details at **www.zinc-crops.org**

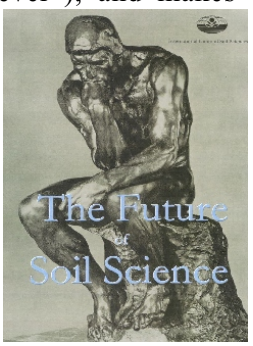
Balanced Fertilization for Sustainability of Crop Productivity: Punjab Agricultural University, Ludhiana, India in has planned to organise an International Symposium on **Balanced Fertilization for Sustainability of Crop Productivity, 22-25 November 2006** with collaboration of International Potash Institute, Indian Council of Agricultural Research., Fertilizer Association of India, Bangladesh Fertilizer Association and National Fertilizer Secretariat of Sri Lanka. Details at www.ipipotash.org



BOOKS

The Future of Soil Science

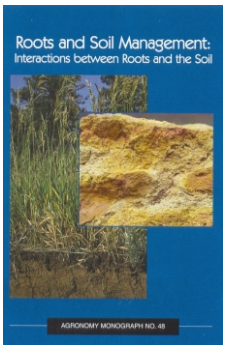
Contains the views from 55 soil scientists in 28 countries from Finland to South Africa, from Canada to Ghana, Malaysia and China. The result is a palette of opinions and views reflecting great diversity but also several commonalities. It aims to feed the discussion of the pessimists ("pedology is dead and buried") and the optimists ("future for soil science is brighter than ever"), and makes background reading for the 18th World Congress of Soil Science in Philadelphia, USA. This book is a compulsory reading for anyone interested in soils, the way that soils are studied, and will be studied in the future.



The Future of Soil Science edited by **Alfred E Hartemink** (2006). Wageningen: International Union of Soil Sciences (IUSS) 2006, PO Box 353, 6700 AJ Wageningen, The Netherlands. 165 pp. €25

Roots and Soil Management: Interactions between Roots and the Soil 2005. *Edited by Richard W Zobel and Sara F. Wright*

Readers will discover root-soil interactions and how to use them to manage the quality and productivity of our soils. Ranging from those identifiable from a moving vehicle, to those only elucidated with powerful molecular tools, the rhizosphere is examined by 28 authors in three sections, i.e., Macro-, Meso-, and Micro-scale.



Hardcover, 312 pages Agronomy Monograph 48 ASA-CSSA-SSSA, $70. **Onlinel** www.societystore.org

Commendation: *from page 1*

proved also crucial and helpful in making the event a success.

We also acknowledge the generous contributions of sponsors from public sector (i.e., PARC and PSF) as well as from private sector, (i.e., FFC, Engro Chemicals, Pakarab Fertilizer, Ali Akbar Group and Chawala International).

News and Views, for next issue of the Soil Science News, may be conveyed to:

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