Scientist Profile

Dr. Sanjib Kumar Behera

Designation: Principal Scientist (Soil Science)
Project Coordinator Micronutrient Unit
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Research specialization:

The major research areas of **Dr. Sanjib Kumar Behera** are soil chemistry & fertility and plant nutrition especially micronutrient management in soil-plant systems, Nutrient management in field and planation crops, agronomic biofortification, Diagnosis and Recommendation Integrated System (DRIS), spatial variability studies of soil fertility parameters and management zone delineation for site-specific nutrient management.

During one and half decades of professional carrier, **Dr. Behera** has made significant contribution in the area of assessment of spatial distribution of soil properties and available nutrients and development of soil nutrient management zones using geological tools in important agricultural soils/ areas of India for site/region-specific soil nutrient management and helping policy makers and industries to plan right kind of fertilizer production and prioritize their distribution in different agro-ecological regions of India. He has contributed towards development of block-wise S and micronutrients maps in 640 districts of India and publication e-Atlas and atlases on vernacular languages. He has evaluated the suitability of different extractants like for extraction of phyto-available cationic micronutrients in acid soils. He has assessed the Zn efficiency of wheat and pigeonpea genotypes grown on Vertisols of central India and tested efficacy of several novel fertilizer products for their efficacy. He has carried out impact assessment of long-term maize-wheat cropping and fertilizer use on soil properties, crop yield and dynamics of different fractions of micronutrient and their contribution towards phyto-availability and crop uptake in Inceptisols. He has derived optimum leaf nutrient concentration of oil palm plantation of India through Diagnosis and Recommendation Integrated System (DRIS) technique and investigated leaf nutrient concentration variability in oil palm plantations for developing differential fertilizer application schedule as per plant demand. He has studied the impact of oil palm cultivation on soil parameters and oil palm yield variability vis-à-vis soil and leaf nutrient status for optimization of nutrient management.

Professional Experience:

Dr. Sanjib Kumar Behera was born at Nuapur, Balasore, Odisha and did his early education at Balasore, Odisha. He studied B. Sc. (Ag.) Hons. during 1995-2000 from Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, M. Sc. (Ag.) Soil Science during 2000-2002 from Gobind Ballabh Pant University of Agriculture and Technology, Pantanagar, Uttarakhand and Ph. D. in Soil Science & Agricultural

Chemistry during 2002-2006 from ICAR-Indian Agricultural Research Institute New Delhi. He joined ARS (ICAR) in 2007 and started his career at ICAR-Indian Institute of Soil Science, Bhopal as Scientist in 2007 after completing FOCARS training at ICAR-National Academy of Agricultural Research Management, Hyderabad. He has been serving at ICAR- Indian Institute of Soil Science, Bhopal as Scientist (2007-2012), at ICAR-Indian Institute of Oil Palm Research, Pedavegi, West Godavari, Andhra Pradesh as Senior Scientist (2012-2017) and at ICAR- Indian Institute of Soil Science, Bhopal as Senior Scientist and Principal Scientist since 2017 to till date. He is having more than 150 publications including peer reviewed research papers (66), technical articles, books, book chapters, bulletins and annual reports etc., which have been widely cited across the world (h-index 19, i10-index 31). Presently, he has been actively involved in research, training and extension programmes of the institute.

Awards and Honours:

- Awarded Mosaic Company Foundation Young Scientist Award in the area of Plant Nutrition 2018-19 by M/s Mosaic India Private Limited, Gurgaon, India
- Received XII International Congress Commemoration Award 2018 by Indian Society of Soil Science, New Delhi
- Elected Councillor of Indian Society of Soil Science for the year 2019 and 2020
- Included as Editor in the Editorial Board of Journal of the Indian Society of Soil Science for the year 2019 and 2020, and 2021 and 2022
- Awarded Associate Fellowship of Andhra Pradesh Akademi of Sciences in the year 2016 by Andhra Pradesh Akademi of Sciences, Amaravathi, Guntur, Andhra Pradesh
- Recipient of Golden Jubilee Young Scientist Award 2014 by Indian Society of Soil Science, New Delhi
- Awarded CSIR Junior Research Fellowship (JRF – NET) and Senior Research Fellowship (SRF – NET) during Ph. D. Programme
- Obtained IARI fellowship during Ph. D. Programme
- Awarded ICAR Junior Research Fellowship (JRF) during master programme
- Awarded National Scholarship during under graduate programme

Top Ten publications:

1. **Behera, S. K**., Suresh, K., Shukla, A. K., Kamireddy, M., Mathur, R. K., Majumdar, K. **(2021)**. Soil and leaf potassium, calcium and magnesium in oil palm (*Elaeis guineensis* Jacq.) plantations grown on three different soils of India: Status, stoichiometry and relations. ***Industrial Crops and Products*** 168, 113589. https://doi.org/10.1016/j.indcrop.2021.113589
2. **Behera, S. K**., Shukla, A. K., Singh, P., Trivedi, V., Patra, A. K., Rao, A. S., Singh, A. K. **(2021)**. Zinc application enhances yield and alters micronutrients concentration in pigeonpea (*Cajanus cajan* L. Millsp.). ***Nutrient Cycling in Agroecosystems*** 119: 423-443. https://doi.org/10.1007/s10705-021-10133-w
3. **Behera, S. K**., Shukla, A. K., Prakash, C. Tripathi, A., Kumar, A., Trivedi, V. **(2021)**. Establishing management zones of soil sulphur and micronutrients for sustainable crop production. ***Land Degradation & Development*** 32(13), 3614-3625. https://doi.org/10.1002/ldr.3698
4. **Behera S. K**., Shukla, A. K., Tiwari, P. K., Tripathi, A., Singh, P., Trivedi, V., Patra, A. K., Das, S. **(2020)**. Classification of pigeonpea (*Cajanus cajan* (L.) Millsp.) genotypes for zinc efficiency. ***Plants*** 9 (952): 1-14. https://doi.org10.3390/plants9080952
5. **Behera, S. K.,** Shukla, A. K., Suresh, K., Manorama, K., Mathur, R. K., Kumar, A., Harinarayana, P., Prakash, C., Tripathi, A. **(2020)**. Oil palm cultivation enhances soil pH, electrical conductivity, concentrations of exchangeable calcium, magnesium and available sulphur and soil organic carbon content. ***Land Degradation & Development*** 31: 2789-2803. https://doi.org/10.1002/ldr.3657
6. **Behera, S. K.,** Mathur, R. K., Shukla, A. K., Suresh, K. and Prakash, C. **(2018)**. Spatial variability of soil properties and delineation of soil management zones of oil palm plantations grown in a hot and humid tropical region of southern India. ***Catena*** 165: 251-259. https://doi.org/10.1016/j.catena.2018.02.008

7. **Behera, S. K.** and Shukla, A. K. **(2015).** Spatial distribution of surface soil acidity, electrical conductivity, soil organic carbon content and exchangeable potassium, calcium and magnesium in some cropped acid soils of India. ***Land Degradation & Development*** 26(1): 71-79. https://doi.org/10.1002/ldr.2306
8. **Behera, S. K.** and Shukla, A. K. **(2014).** Total and extractable manganese and iron in some cultivated acid soils of India - status, distribution and relationship with some soil properties. ***Pedosphere*** 24(2): 196-208. https://doi.org/10.1016/S1002-0160(14)60006-0
9. **Behera, S.K.,** Singh, M. V., Singh, K.N. and Todwal, S. **(2011)**. Distribution variability of total and extractable zinc in cultivated acid soils of India and their relationship with some selected soil properties. ***Geoderma*** 162 (3-4):242-250. https://doi.org/10.1016/j.geoderma.2011.01.016
10. **Behera, S.K.**, Singh, D., Dwivedi, B.S., Singh, S., Kumar, K. and Rana, D.S. **(2008)**. Distribution of fractions of zinc and their contribution towards availability and plant uptake of zinc under long-term maize (*Zea mays* L.)-wheat (*Triticum aestivum* L.) cropping on an Inceptisol. ***Australian Journal of Soil Research*** 46 (1): 83-89. https://doi.org/10.1071/SR07073

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