

## PROFILE

Designation: Scientist

**Dr. Dhiraj Kumar**



AICRP on Long Term Fertilizer Experiments,  
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### Research Specialization:

- Soil chemistry/Fertility/Microbiology
- Plant nutrition
- Carbon, Nitrogen dynamics in soil
- Aggregate stabilisation
- Soil quality assessment
- Agroforestry based watershed interventions
- Fine roots and nutrient dynamics
- Carbon sequestration

### Professional Experience:

During my professional carrier I have made significant contributions in the area of soil carbon and nitrogen dynamics, tree-crop interaction studies, fine root dynamics, soil quality assessment, watershed based interventions for soil quality improvement etc. I had also evaluated watershed projects under IWMP of Government of Uttar Pradesh. I along with team worked on mega project of doubling farmers' income (KISAN MITrA) through agroforestry based watershed interventions on pilot basis along with various consortium partner agencies in seven districts of Bundelkhand, Uttar Pradesh. I had contributed 23 research papers, 14 book chapters, edited books, various technical bulletins, research reports and popular articles published in refereed national and international journals. I had contributed in bringing out the publication on successful agroforestry models for various agro-ecological zones in India. Prepared policy brief for stakeholders on Agroforestry in Mitigation of Climate Change: Current Status. I went to Bogor, Indonesia for Meta analysis trainings and also conducted International Training on Ecosystem Services: Concept, Theory and Practice under (ICAR-ICRAF Collaborative Work Plan). Also developed methodology for the valuation of fuel wood from Agroforestry system particularly for cooking needs (Published in Agroforestry Systems, 2021).

### Awards and Honours:

- Editor, Indian Journal of Agroforestry.

- Best Worker (Science & Institution Development) Award by ICAR-CAFRI, Jhansi (2019).
- Elected Business Manager, Indian Society of Agroforestry (2018-2021).
- Best Research Paper Presentation Award (2018)
- Young Scientist Award-2018 by The Society of Tropical Agriculture.
- ICAR's-Senior Research Fellowship [ICAR-SRF(PGS)]-2011-12.
- CSIR-UGC (NET) in the subject EARTH, ATMOSPHERIC, OCEAN & PLANETARY SCIENCES in 2011.
- IARI Fellowship (2009-2011).
- National Talent Search Scholarship during graduation (2005-2009).
- Awarded numerous best poster and popular article awards from various forums.

### Top Ten publications:

1. **Kumar, Dhiraj.**, Rizvi, R. H., Bhatt, Shiva., Singh, Ramesh and Chaturvedi, O. P. (2021) Land use/land cover change and soil fertility mapping using GIS and remote sensing: A case study of Parasai-Sindh watershed in Bundelkhand region of Central India. *Range Management and Agroforestry*, **42(1)**: 15-21.
2. Singh, N. R., **Kumar, Dhiraj.**, Handa, A. K., Newaj, Ram., Prasad, Mahendra., Kamini., Kumar, Naresh., Ram, Asha., Dev, I., Bhatt, B. P., Chaturvedi, O. P., Arunachalam, A. and Singh, L. N. (2021) Land use effect on soil organic carbon stocks, microbial biomass and basal respiration in Bundelkhand region of central India. *Agricultural Research*. <https://doi.org/10.1007/s40003-021-00584-6>
3. Singh, Mahendra., Sridhar, K. B., **Kumar, Dhiraj.**, Dwivedi, R. P., Dev, I., Kumar, Anil., Tewari, R. K., Chaturvedi, O. P. and Dagar, J. C. (2021) Valuation of fuelwood from agroforestry systems: a methodological perspective. *Agroforestry Systems*, **95**: 977-993.
4. **Kumar, Dhiraj.**, Newaj, Ram., Ram, Asha., Prasad, Rajendra and Kumar, V. (2020) Fine roots dynamics and biomass of *Phyllanthus emblica* based agroforestry system in Bundelkhand region of Central India. *Current Science*, **119(10)**: 1694-1699.
5. **Kumar, Dhiraj.**, Prasad, Rajendra., Singh, Ramesh., Rizvi, R. H., Chavan, S. B., Dev, I., Dwivedi, R. P., Tewari, R. K., Ram, Asha., Kumar, Sudhir., Kumar, Sunil., Singh, Prashant., Tripathi, V. D. and Singh, A. K. (2020) Impact of watershed interventions on soil fertility status in Bundelkhand region of semi-arid tropics, India. *Indian Journal of Agroforestry*, **22(1)**: 84-89.
6. Dev, I., Ram, Asha., Ahlawat, S. P., Palsaniya, D. R., Singh, Ramesh., Dhyani, S. K., Kumar, Naresh., Tewari, R. K., Singh, Mahendra., Sridhar, K. B., Newaj, Ram., Dwivedi, R. P., Kumar, R. V., Yadav, R. S., Chand, Lal., **Kumar, Dhiraj** and Prasad, Jasti (2020) Bamboo based agroforestry system (*Dendrocalamus strictus* + sesame-chickpea) for enhancing productivity in semi-arid tropics of central India. *Agroforestry Systems*, **94**: 1725-1739.
7. Purakayastha, T. J., Das, Ruma., Kumari, Savita., Shivay, Y. S., Biswas, Sunanda., **Kumar, Dhiraj** and Chakrabarti, Bidisha (2019) Impact of continuous organic manuring on mechanisms and processes of the

stabilisation of soil organic C under rice-wheat cropping system. **Soil Research**, **58(1)**: 73-83.

8. Newaj, Ram., Chaturvedi, O. P., **Kumar\***, **Dhiraj.**, Prasad, Rajendra., Rizvi, R. H., Alam, Badre., Handa, A. K., Chavan, S. B., Singh, A. K., Chaturvedi, M., Karmakar, P. S., Maurya, A., Saxena, A., Gupta, Gargi and Singh, K. (2017) Soil organic carbon stock in agroforestry systems in western and southern plateau and hill regions of India. **Current Science**, **112(11)**: 2191-2193. (Corresponding author)
9. Chavan, S. B., Uthappa, A. R., Sridhar, K. B., A. Keerthika., Handa, A. K., Newaj, Ram., Kumar, Naresh., **Kumar, Dhiraj** and Chaturvedi, O. P. (2016) Trees for Life: creating sustainable livelihood in Bundelkhand. **Current Science**, **111(6)**: 994-1002.
10. **Kumar, Dhiraj.**, Purakayastha, T. J. and Shivay, Y. S. (2015) Long-term Effect of Organic Manures and Biofertilizers on Physical and Chemical Properties of Soil and Productivity of Rice-Wheat System. **International Journal of Bio-resource and Stress Management**, **6(2)**:176-181.