

DR. WIQAR AHMAD

List of Publications:

- i. D.L. Jones, D.V. Murphy, M. Khalid, **W. Ahmad**, et al.. **2011**. Short-term biochar-induced increase in soil CO₂ release is both biotically and abiotically mediated. **Soil Biology & Biochemistry** 43 1723-1731 **(IF: 3.65)**.
- ii. **W. Ahmad** and F Khan. Remediation of soil past erosion effects through amendments and agronomic practices. **2014**. *JNSF SriLanka*: 42 (1): 45-62. **(IF: 0.323)**
- iii. **Wiqar Ahmad**, Farmanullah Khan and Muhammad Naeem. **2014**. Improvement in physical properties of eroded agricultural soils through agronomic management practices. *The Indian Journal of Agricultural Sciences*: 84 (7) 62-67. **(IF: 0.19)**.
- iv. **W.Ahmad**, F. Khan, Z. Shah, M. J. Khan, et al. **2014**. Recovery of organic fertility in degraded soil through fertilization and crop rotation. *Journal of the Saudi Society of Agricultural Sciences* 13, 92–99.
- v. S. G. Khattak, P. J. Dominy, **W. Ahmad**. **2015a**. Assessment of Zn Interaction with Nutrient Cations in Alkaline Soil and its Effect on Plant Growth. *Journal of Plant Nutrition*, 38:1110–1120. **(IF: 0.536)**
- vi. S. G. Khattak, P. J. Dominy, **W. Ahmad**. **2015b**. Effect of Zn as Soil addition and foliar application on yield and protein content of wheat in alkaline soil. *JNSF Sri Lanka*, 43 (4): 303 – 312, **(IF: 0.323)**.
- vii. S. Hussain, M. Sharif, **W. Ahmad**, F. Khan, H. Nihar. 2018. Soil and plants nutrient status and wheat growth after mycorrhiza inoculation with and without vermicompost. *J. Plant Nutr.*; DOI: 10.1080/01904167.2018.1459687. **(IF: 0.536)**.
- viii. **W. Ahmad**, F. Khan, Z. Shah, M. J. Khan, 2019. Quality and Crop Yield Potential of Moderately Degraded Alfisols Under Different Nutrient Inputs and Cropping Patterns. *Pedosphere*, 29(2): 235–247. **(IF: 3.181)**.
- ix. M. M. Billah, **W. Ahmad** & M. Ali. 2019. Biochar particle size and Rhizobia strains effect on the uptake and efficiency of nitrogen in lentils, *Journal of Plant Nutrition*, 42(15): 1709-1725, **(IF: 0.536)**
- x. M. Zeeshan, **W. Ahmad**, F. Hussain, W. Ahamd, M. Numan, M. Shah, I. Ahmad. 2020. Phytostabalization of the heavy metals in the soil with biochar applications, the impact on chlorophyll, carotene, soil fertility and tomato crop yield. *Journal of Cleaner Production*, 255 (2020) 120318. **(IF: 7.42)**
- xi. M. Zeeshan, F. Hussain, **W. Ahmad**, and K. Khan. 2020. Impact of Biochar Particle Sizes on the Bioaccumulation of the Heavy Metals and Their Target Hazard Assessment. *Environmental Engineering Science* 37(9):614-622, **(IF: 1.575)**

- xii. Ijaz Ahmad, Fida Mohammad, Sultan Akber Jadoon, Aurang Zeb, Fazal Munsif and **Wiqar Ahmad**. 2020. Diallel analysis for the inheritance study of phytic acid along with morpho-yield traits in bread wheat, African Journal of Biotechnology 19(5):.259-264, DOI: <http://10.5897/AJB2019.16815> (IF 0.44)
- xiii. [S. Hussain](#), [M. Sharif](#) & [W. Ahmad](#), 2021. Selection of efficient phosphorus solubilizing bacteria strains and mycorrhiza for enhanced cereal growth, root microbe status and N and P uptake in alkaline calcareous soil. Soil Science and Plant Nutrition, 67(3): 259-268 (IF: 2.525)
- xiv. F. Munsif, U. Farooq, M. Arif, T. Shah, M. Jehangir, S. Zaheer, K. Akhtar, M. S. Khan, I. Ahmad, **W. Ahmad**, S. Ali, and R. Amir. 2021. Potassium and salicylic acid function synergistically to promote the drought resilience through upregulation of antioxidant profile for enhancing potassium use efficiency and wheat yield. Annals of Applied Biology, <https://doi.org/10.1111/aab.12731> (IF: 2.75)
- xv. **W. Ahmad**, A. Khan, M. Zeeshan, I. Ahmad, M. Adnan and S. Fahad. 2022. Relative Efficiency of Different Size Biochar Particles in the Immobilization of Heavy Metals and Improving Soil Properties One Year after Application. Crop & Pasture Science (IF: 2.286).
- xvi. M. Ali, M. Sharif, **W. Ahmad** and I. Ahmed. 2022. Assessing Potent Zinc Solubilizing Bacteria to Augment Wheat Yield and Zinc Biofortification. Gesunde Pflanzen, 75: 1061-1073, <https://doi.org/10.1007/s10343-022-00757-5>. (IF: 2.082)
- xvii. Ali, A.; **Ahmad, W.**; Munsif, F.; Khan, A.; Nepal, J.; Wójcik-Gront, E.; Ahmad, I.; Khan, M.S.; Ullah, I.; Akbar, S.; et al. 2022. Residual Effect of Finely-Ground Biochar Inoculated with Bio-Fertilization Impact on Productivity in a Lentil–Maize Cropping System. Agronomy, 12, 2036. (IF: 3.7)
- xviii. M. Asim, **W. Ahmad**, Z. Qamar, M. Awais, J. Nepal and I. Ahmad. 2022. Seed Coating with Zinc Oxide Nanofiber (ZnONF) and Urea Improved Zinc Uptake; Recovery Efficiency, Growth, and Yield of Bread Wheat (Triticum aestivum L.) Journal of Soil Science and Plant Nutrition, 22, 5009–5020 (IF: 3.9) <https://doi.org/10.1007/s42729-022-00978-7>
- xix. J. Nepal, X. Xin, A. L. Wright, **W. Ahmad** and Z. L. He. 2022. Water-dispersible carbon nanomaterials improve lettuce (Lactuca sativa) growth and enhance soil biochemical quality at low to medium application rates. Plant Soil, 485: (569–587) (IF: 4.993,) <https://doi.org/10.1007/s11104-022-05852-0>.
- xx. Nepal J, **Ahmad W**, Munsif F, Khan A and Zou Z. 2023. Advances and prospects of biochar in improving soil fertility, biochemical quality, and environmental applications. Front. Environ. Sci. 11:1114752. (IF: 4.6) <https://doi.org/10.3389/fenvs.2023.1114752>
- xxi. **Ahmad, W.**; Zou, Z.; Awais, M.; Munsif, F.; Khan, A.; Nepal, J.; Ahmad, M.; Akbar, S.; Ahmad, I.; Khan, M.S.; et al. 2023. Seed-Primed and Foliar Oxozinc Nanofiber Application Increased Wheat Production and Zn Biofortification in Calcareous-

- Alkaline Soil. *Agronomy* 2023, 13, 400. (IF: 3.7)
<https://doi.org/10.3390/agronomy13020400>.
- xxii. **Ahmad W**, Nepal J, Zou Z, Munsif F, Khan A, Ahmad I, Zaheer S, Khan MS, Jadoon SA and Tang D. **2023**. Biochar particle size coupled with biofertilizer enhances soil carbon-nitrogen microbial pools and CO₂ sequestration in lentil. *Front. Environ. Sci.* 11:1114728. (IF: 4.6) <https://doi.org/10.3389/fenvs.2023.1114728>
- xxiii. **W. Ahmad, J. Nepal, X. Xin** and **Z. He**. **2023**. Agronomic Zn biofortification through nano ZnO application enhanced growth, photosystem efficiency, Zn and P nutrition in maize. *Archives of Agronomy and Soil Science*. 69(14): 3328-3344 (IF: 3.092)
<https://doi.org/10.1080/03650340.2023.2231350>
- xxiv. A. Khan, Z. Jie, J. Wang, J. Nepal, N. Ullah, Ze-Y. Zhao, P-Y. Wang, **W. Ahmad**, A. Khan, W. Wang, M-Y. Li, W. Zhang, M. S. Elsheikh, Y-C Xiong. **2023**. Ecological risks of microplastics contamination with green solutions and future perspectives. *Science of the Total Environment*, 899 (2023) 165688. (IF: 10.754)
<https://doi.org/10.1016/j.scitotenv.2023.165688>
- xxv. J. Nepal, X. Xin, G-M-Landry, **W. Ahmad**, J. Pereira, S. Santra, A. L. Wright, A. Ogram, P.J. Stofella, M. Ritenour and Z. He. **2023**. Carbon nanomaterials are a superior soil amendment for sandy soils than biochar based on impacts on lettuce growth, physiology and soil biochemical quality. *Nanoimpact*, <https://doi.org/10.1016/j.impact.2023.100480> (IF: 6.038)
- xxvi. Ahmad, I., **W. Ahmad**, J. Nepal, M. B. Junaid, N.A. Bukhari, M. Usman, N. Ahmad and R.N, Khan. **2024**. Synergistic enhancement of maize crop yield and nutrient assimilation via zinc oxide nanoparticles and phosphorus fertilization. *Journal of Science of Food and Agriculture* , 104(11):6733-6745. Doi 10.1002/jsfa.13500, (IF: 4.038, Category W)
- xxvii. Nepal, J., X. Xin, G. Maltais-Landry, **W. Ahmad**, A. L. Wright, A. Ogram, P.J. Stoffella, Z. He. **2024**. Comparing carbon nanomaterial and biochar as soil amendment in field: influences on soil biochemical properties in coarse-textured soils. *Nutr Cycl Agroecosyst*. <https://doi.org/10.1007/s10705-024-10393-2>. (IF: 2.4)
- xxviii. Xin, X., Nepal, J., Shohag, J.I., C.de-Souza. João (jr.), S. He, **W. Ahmad**, B. Scully, Z. He. **2025**. Enhancing Corn Growth and Nutrient Uptake Using Carbon Nanoparticles Derived from Carbon Black: A Two-Year Field Study. *J Soil Sci Plant Nutr*. <https://doi.org/10.1007/s42729-024-02192-z> (IF: 3.4).
- xxix. **Wiqar Ahmad**, Jaya Nepal, Xiaoping Xin, Muhammad Nadeem, Zhenli He. **2025**. Nano Zinc Oxide Enhances Corn Growth and Nutrient Uptake: Comparison between Soil Drench and Seed Coating Applications in Alkaline Sandy Soils. *Journal of Soil Science and Plant Nutrition*, 25: 3198-3210. <https://doi.org/10.1007/s42729-025-02329-8> (IF: 3.4)
- xxx. Muhammad Nadeem, Muhammad Anwar-Ul-Haq, Xiaoping Xin, M.J.I.Shohag, Muhammad Ashar Ayub, **Wiqar Ahmad** & Zhenli He. **2025**. Exogenous application of silica and nano silica particles improves nutrient acquisition and growth of maize (*Zea Mays* L.) under saline and water deficit conditions, *Communications in Soil Science and Plant Analysis*, <https://doi.org/10.1080/00103624.2025.2480126>
- xxxi. Xin X, He Z and Wiqar A (2026) Editorial: Nanotechnology-enabled agriculture and its environmental impact. *Front. Environ. Sci.* 14:1886685. doi: XXXX10.3389

NATIONAL REFEREED HEC RECOGNIZED JOURNALS

- xxxii. Farmanullah Khan, **W. Ahmad**, A.U. Bhatti and R.A. Khattak. **2003**. Effect of soil erosion on physical properties of some soil series in NWFP, Pakistan. *Pak Journal of Soil Science* 22(1) 36-41.
- xxxiii. Farmanullah Khan, **Wiqar Ahmad**, A.U. Bhatti, R.A. Khattak and M. Shafiq. **2004**. Effect of soil erosion on chemical properties of some soil series in NWFP, Pakistan. *Science, Technology and Development*. 23(4) 31-35.
- xxxiv. M. Naeem, F. Khan and **W. Ahmad**. **2009**. Effect of Farmyard manure, mineral fertilizers and mung bean residues on some microbiological properties of eroded soil in District Swat. *Soil & Environment* 28(2) 162-168.
- xxxv. **W. Ahmad**, F. Khan and M. Naeem. **2010**. Impact of cropping patterns and fertilizer treatments on the organic fertility of slightly eroded Pirsabak soil series in NWFP, Pakistan. *Soil & Environment* 29 (1) 53-60.
- xxxvi. Mohammad Arif, Kawsar Ali, Fazal Munsif, **Wiqar Ahmad**, Akhlaq Ahmad and Khalid Naveed. **2012**. Effect of biochar, fym and nitrogen on weeds and maize phenology. *Pakistan Journal of Weed Science Research*, 18(4): 475-484.
- xxxvii. Amir Khatam, **Wiqar Ahmad** and Muhammad Zafarullah Khan. **2012**. Perception of farmers regarding effect of various weed management practices in onion crop. *Pakistan Journal of Weed Science Research*, 18(4): 553-559
- xxxviii. Farmanullah Khan, Zubair Hayat, **Wiqar Ahmad**, Muhammad Ramzan, Zahir Shah, Muhammad Sharif, Ishaq Ahmad Mian and Muhammad Hanif. **2013**. Effect of slope position on physico-chemical properties of eroded soil. *Soil and Environment* 32(1): 22-28,
- xxxix. Amir Khatam¹, Muhammad Zafarullah Khan, Khalid Nawab, Ishaq Ahmad Mian, and **Wiqar Ahmad**. **2013**. Effect of various herbicides and manual control on yield, yield components and weeds of maize. *Pakistan Journal of Weed Science Research*, 19(2): 209-216.
- xl. **Wiqar Ahmad**, Zahir Shah, Farmanullah, Shamsher Ali, and Wasiullah Malik. **2013**. Maize yield and soil properties as influenced by integrated use of organic, inorganic and bio-fertilizers in a low fertility soil. *Soil and Environ.* 32(2): 121-129.
- xli. Kawsar Ali, Muhammad Arif, Waheed Ullah, Abdullah, **Wiqar Ahmad**, M. Rabnawaz Khan, L.S. Ayeni, M. Amin and Muhammad Jehangir. 2015. Influence of organic and inorganic amendments on weeds density and chemical composition. *Pak. J. Weed Sci. Res.*, 21(1): 47-57.
- xlii. Fazal Munsif, Kawsar Ali, Shah Khalid, Amjad Ali, Murad Ali, Masood Ahmad, **Wiqar Ahmad**, Ijaz Ahmad and Abdul Basir. **2015**. Influence of row spacing on weed density, biomass and yield of chip bud settling of sugarcane. *Pak. J. Weed Sci. Res.*, 21(1): 137-144.
- xliii. **Wiqar Ahmad**, Mujahid Shah, Farmanullah Khan, Wasiullah Malik, Sadiq Hussain, Fazal Munsif and Ijaz Ahmad. **2016**. Comparative effectiveness of parthenium weed compost on growth and yield of chili crop. *Pak. J. Weed Sci. Res.* 22(2): 239-252.
- xliv. Khan, F., S. Khan, **W. Ahmad** and I. Khan. **2016**. Nutrient application from integrated sources improve crop yield and soil properties of water eroded land.

- xliv. Hussain, S., M. Sharif, S. Khan, F. Wahid, H. Nihar, **W. Ahmad**, I. Khan, N. Haider and T. Yaseen. **2016**. Vermicompost and mycorrhiza effect on yield and phosphorus uptake of wheat crop. *Sarhad Journal of Agriculture*, 32(4): 372-381. DOI | <http://dx.doi.org/10.17582/journal.sja/2016.32.4.372.381>
- xlvi. Ali, M., F. Khan, **W. Ahmad** and I. Khan. **2017**. Optimizing Farmyard and Poultry Manures Co-Applied with NPK for Improved Yield and Soil Fertility of Water Eroded Land. *Sarhad Journal of Agriculture* 33(3): 419-425. DOI: 10.17582/journal.sja/2017/33.3.419.425
- xlvii. Jan, Z. , S. Ali, T. Sultan, Wasiullah and **W. Ahmad**. 2017. The role of cyanobacteria on availability of major plant nutrients and soil organic matter to rice crop under saline soil condition. *Sarhad Journal of Agriculture*, 33(4): 566-572. DOI: <http://dx.doi.org/10.17582/journal.sja/2017/33.4.566.572>
- xlvi. Ahmad, I., F. Munsif, **W. Ahmad** and S. Akber. 2017. Weed flora of Amir Muhammad Khan campus Mardan, Pakistan. *Pak. J. Weed Sci. Res.* 23(3): 323-336.
- xliv. Munsif, F., Faryal, M.Z. Afridi, I. Ahmad, **W. Ahmad**, W. Malik and M.R. Khan. 2017. Impact of crop row orientation on weed density and biomass and yield of wheat. *Pak. J. Weed Sci. Res.* 23(3): 343-350.
- l. **W. Ahmad**, I. R. Arshad, M. Naeem, S. Hussain and F. Khan. 2017. Lentil yield and nodulation in response to foliar S and Zn combined with NPK and their interaction with farmyard manure. *Pakistan Journal of Agriculture, Agricultural Engineering and Veterinary Sciences* (ISSN 1023-1072), 33 (2): 201-211.
- li. Khan, I., Z. Shah, **W. Ahmad**, F. Khan and M. Sharif. 2018. Integrated nutrient and tillage management improve organic matter, micronutrient content and physical properties of alkaline calcareous soil cultivated with wheat. *Sarhad Journal of Agriculture*, 34(1): 144-157. DOI | <http://dx.doi.org/10.17582/journal.sja/2018/34.1.144.157>.
- lii. Khan, I., Z. Shah, **W. Ahmad**, F. Khan and M. Sharif. 2018. Wheat yield and post harvest fertility status of calcareous soil using shallow and deep tillage and integrated nutrient management (INM). *Sarhad Journal of Agriculture*, 34(2): 459-470. DOI | <http://dx.doi.org/10.17582/journal.sja/2018/34.2.459.470>.
- liii. Murad Ali, Farmanullah Khan, Subhanullah, **Wiqar Ahmad**, Muhammad Ishaq and Muhammad Saeed. 2018. Enhancing wheat productivity and soil physical properties of water eroded agricultural land through integrated nutrient management. *Soil and Environment*, 37(1): 21-27.
- liv. **Ahmad, W.** and F. Khan. 2018. Integrated nutrients and cropping patterns management on eroded soil for yield and fertility restoration. *Sarhad Journal of Agriculture*, 34(3): 533-542.
- lv. Ali, S., S. Khan, M.J. Khan, N. Ullah, M. Rashid and **W. Ahmad**. 2018. Screening of Various Bread Wheat (*Triticum aestivum* L.) Varieties in Different Saline Soils

- on the Basis of Emergence and Plant Height. *Sarhad Journal of Agriculture*, 34(3): 563-568.
- lvi. Ullah, S., A. Jan, M. Ali, **W. Ahmad**, H.U. Rehman, M. Ishaq and B. Ahamd. 2018. Response of chickpea (*Cicer Arietinum* L.) to phosphorus and zinc levels and their application methods. *Sarhad Journal of Agriculture*, 34(3): 575-582.
 - lvii. Muhammad Mutasim Billah, **Wiqar Ahmad**, Murad Ali and Farmanullah Khan. 2018. Effect of biochar particle size and biofertilizers on lentil (*Lense culinarous* M.) yield and available fractions of soil nutrients. *Soil & Environ.* 37(2): 143-151.
 - lviii. Ali, A., **W. Ahmad**, M. Zeeshan, F. Khan and M.M. Billah. 2019. Biochar and biofertilizers residual effect on fertility status of soil two crop seasons after their application. *Sarhad Journal of Agriculture*, 35(3): 727-733.
 - lix. Khan, A.U., **W. Ahmad**, A. Raza, F. Khan and M. Sharif. 2019. Assessing suitability of wheat genotypes for growth, yield and nutrients uptake under sand culture. *Sarhad Journal of Agriculture*, 35(3): 741-750.
 - lx. **Ahmad, W.**, F. Khan, M. Sharif and M.J. Khan. 2019. Agricultural land management of eroded soil to restore productivity, organic matter (OM) stock and physical properties. *Sarhad Journal of Agriculture*, 35(4): 1144-1154.
 - lxi. Rehman, R., Z. Ahmad, **W. Ahmad**, M. Mansoor and S. Masaud. 2019. Efficacy of different rhizobium strains on nodulation and seed yield in mungbean (*Vegna radiata* L.) cultivar “Inqalab Mung”. *Sarhad Journal of Agriculture*, 35(4): 1099-1106.
 - lxii. **Wiqar Ahmad**, Sadiq Hussain, Muhammad Sharif and Farmanullah Khan. 2019. Efficiency of nitrogen sources as composting starter and decomposition of parthenium weed into a quality compost. *Pak. J. Weed Sci. Res.*, 25(1): 27-36
 - lxiii. Ijaz Ahmad, Munsif Khan, Wiqar Ahmad and Sultan Akber. 2019. Diversity in the weed flora of Swabi Khwar, a water body in Swabi District, Khyber Pakhtunkhwa, Pakistan. *Pak. J. Weed Sci. Res.*, 25(3): 209-221.
 - lxiv. Murad Ali, **Wiqar Ahmad**, Irfan Ullah Khan, Fazal Said, Ahmad Zubair, Muhammad Saeed, Rifat Ali, Zeeshan Shahzad, Obaid Ullah Shah. **2021**. Integrated nutrients management for enhancing yield and nutrients uptake in wheat under water eroded land. **BIOSCIENCE RESEARCH**, 18(3): 2355-2361 (Category Y).

PAPERS IN CONFERENCE PROCEEDINGS

1. **Wiqar Ahmad** and Sadiq Hussain, Effect of parthenium weed compost on yield and the occurrence of verticillium wilt in chillies. In: 15th international congress of soil science; Soil management in changing climate, NARC, Islamabad-Pakistan, **18-20 March, 2014**. Pp. 10.
2. **Wiqar Ahmad**, Assadullah Khan, Farmanullah Khan, Wasiullah Malik and Imran Khan. Effect of rock phosphate acidulation on phosphorus availability in soil and accumulation in maize crop. 16th international congress of soil science, PAMAS Arid Agriculture University, Rawalpindi-Pakistan, **15-17 March, 2016**. Pp. 25.

3. **Wiqar Ahmad**, Farmanullah Khan, Murad Ali and Imran Khan. Restoring productivity - under degraded soil conditions through integrated nutrient management. 16th international congress of soil science, PAMAS Arid Agriculture University, Rawalpindi-Pakistan **15-17 March, 2016**. Pp. 108.
4. **Wiqar Ahmad**, Sadiq Hussain, Farmanullah Khan and Wasiullah Malik. Evaluation of nitrogen sources as compost starter on physic-chemical properties of parthenium weed compost. 13th national conference of weed sciences, Shahedd Benazir Bhutto University, Shringal, Dir Upper-Pakistan, **19-21 August, 2016**. Pp. 17.
5. Mutasim Billah and **Wiqar Ahmad**. Biochar particle size and rhizobia strains can increase lentil yield and biomass accumulation by enhancing major nutrients availability. National Conference on Climate change threats to agriculture and food security (THINK-ADAPT, 2017), The University of Agriculture Peshawar, November 22-24, 2017.
6. **Wiqar Ahmad** and Sadiq Hussain. Parthenium weed composting with different nitrogen sources as compost starter based on properties of the mature compost. 14th National Weed Science Conference, Islamia College University, Peshawar. March 24-25, 2018.