CURRICULUM VITAE OF DR. MUHAMMAD IQBAL

Full Name: **Dr. Muhammad Iqbal**
Position: **Associate Professor**
Institution: Institute of Soil & Environmental Sciences, University of Agriculture, Faisalabad.
Trainings: **INTERNATIONAL TRAININGS**

a) Fourth International course on sustainable management of soil and water resources, June 24, 2013 to July 5, 2013 Mannemen Izmir, Turkey.
b) First International Cornell Soil Health Training-the-Trainer Workshop in Ithaca, New York, USA August 10-14, 2009. Cornell University, NY 14853, USA.
c) One-day soil health training entitled "Cornell Soil Health Test (CSHT) Report interpretation & Adoptive Nitrogen Management Training Wednesday, March 24, 2010" USA.

NATIONAL TRAININGS

a) Effective Teaching Course organized by Division of Education and Extension, UAF
b) Teachers Training Workshop organized by Dean Faculty of Agriculture, UAF.
c) Research orientation Program on Research Methodology and Analytical Techniques, June 15-30, 2004.UAF.
d) National IPM Program, Pakistan Agricultural Research Council NARC, Islamabad, February 7-9, Lahore, 2005.
e) Training workshop on "Sustainable management of insect's pests of fruits with special reference to citrus through modern protection and post-harvest losses reduction techniques "held on 01-04 September 2010, University of Agriculture, Faisalabad.

Education/Qualification:

Degree	Institution
Matric (Science group)	Govt. High School Ali Pur Chatha
F. Sc. (Pre-medical)	Government College Lahore
B. Sc. (Hons.) Soil Science	University of Agriculture, Faisalabad
M. Sc. (Hons.) Soil Science	University of Agriculture, Faisalabad
PhD (Soil Science)	University of Agriculture, Faisalabad
Post-Doc	Cornell University, Ithaca, NY, USA
Post-Doc	The Adelaide University, Australia (Endeavour Fellowship Award)

List of Positions:

Position	Duration	Institution
Lecturer	12.4.2003 to 4.5.2005	Institute of Soil & Env. Sciences, Uni. of Agric., Faisalabad
Assistant Professor	5.5.2005 to 30.8.2019	Institute of Soil & Env. Sciences, Uni. of Agric., Faisalabad
Associate Professor	31.8.2019 to date	Institute of Soil & Env. Sciences, Uni. of Agric., Faisalabad

RESEARCH PROJECTS COMPLETED:

1. HEC funded Research Project: Amounting Rs. 3.6 million.
Title: *Determination of carbon sequestration and NO_3 leaching under different tillage systems and dairy manure levels in maize (Zea mays L.) and wheat (Triticum aestivum L.) rotation on Typic calciargids.*
2. Pakistan Agricultural Research Council/ALP funded Project amounting Rs. 4.88 million
Title*: Carbon sequestration, water conservation through organic farming, tillage and mulch: managing soil quality for sustainable crop production*
3. HEC funded research Project: Amounting Rs. 7.79 million.
Title: *A Soil Health Initiative for Agricultural and Environmental Sustainability in Pakistan.*
4. HEC funded research Project: Amounting Rs. 2.586 million.
Title: *Improving the soil fertility and crop productivity through conservation tillage and cover crops in Rice-Wheat cropping system.*

Publications (peer reviewed Journals):

1. Shahzad, H., M. Iqbal, N. Latif, M.A. Khan and Q.U. Khan. 2021. Managing organic carbon of sandy clay loam soil with organic amendments to promote particle aggregation. Arabian Journal of Geoscience.14: 275
2. Iqbal, M., M. Yasir, A. Javed and S.T. Ahmad. 2020. Comparative effect of different types of biochar on physical properties of soil and growth of maize. Journal of bioresource management.7:55-62.
3. Javed, A., M. Iqbal and R. Shehzadi. 2020. Effect of plastic film and straw mulch on wheat yield, water use efficiency and soil properties in Punjab, Pakistan. Journal of bioresource management.7:63-73.
4. Iqbal, M., A. Javed and M. Farooq. 2020. Soil water and residue amendment effects on nutrient availability and wheat growth in silt loam soils of south Australia. International Journal of Agriculture and Biology. 23: 889-898.
5. Shahid, M.F., M. Iqbal, J. Akhtar and M. Farooq. 2020. Residual effect of cover crops and conservation tillage on soil physical properties and wheat yield grown after direct seeded rice. International Journal of Agriculture and Biology. 24: 1265-1272.
6. Shahzad, H., M. Iqbal, M.A. Khan, M. Waheed, M. M. Shahid, Q.U. Khan, M.A. Siddique, A. Ullah, M.A. Ahmad, S. Ullah, M. Kashan and A. Haseeb. 2020. Comparative potential of different Rhizobium species for phytohormones. Interciencia Journal. 45: 298-309.
7. Shahzad, H., S. Ullah, M. Iqbal, H. M. Bilal, G.M. S. S. Ahmad, A. Zakir, A. Ditta, M. A. Farooqi, I. Ahmad. 2019. Salinity types and level-based effects on the growth, physiology and nutrient contents of maize (Zea mays). Italian Journal of Agronomy. 14: 199-207
8. Shahzad, H., M. Iqbal, S. Bashir and M. Farooq. 2019. Relative efficacy of organic substrates on maize root proliferation under water stress. Bio. Sci. J. 35:101-114.
9. Sarvet Jehan, M. Iqbal, Z. A. Zahir and M. Farooq. 2019. Effect of deficit irrigation and dairy manure on winter wheat yield, soil physical health, and nitrate leaching. Communication in soil science and plant analysis. 50:203-212.
10. Farooq, N., M. Iqbal, M. Farooq, and Z.A. Zahir. 2019. Interactive effects of synthetic fertilizer and organic residue inputs on soil fertility and wheat crop under various moisture regimes. International Journal of Agriculture and Biology 21:244-250.
11. Javed, A., M. Iqbal, M. Farooq, R. Lal and R. Shehzadi.2019. Plastic film and straw mulch effects on maize yield and water use efficiency under different irrigation levels in Punjab, Pakistan. International Journal of Agriculture and Biology. 21:767-774.
12. Javed, A., M. Iqbal and M. Farooq. 2018. Effect of nitrogen fertilization under plastic and straw mulched conditions on crop yield and water use efficiency in maize-wheat rotation. Applied Ecology and Environmental Research. 16:7395-7411.
13. Shahzad, H., M. Iqbal and Q.U. Khan. 2018. Rheo-chemical characterization of exopolysaccharides produced by plant growth producing rhizobacteria. Turk. J. Biochem.43 (6) :686-692
14. Farooq, N., S. Kanwal, A. Ditta, A. Hussain, M. Naveed, M.U. Jamshaid and M. Iqbal. 2018. Comparative efficacy of KCl blended compost and sole application of KCl or K2SO4 in improving K nutrition, photosynthetic capacity and growth of maize. Soil Environ. 37: 68-74
15. Farooq, N., M. Iqbal, Z.A. Zahir. M. Farooq. 2018. Integration of allelopathic crop residues and NPK fertilizer under different moisture conditions to mitigate residue-phytotoxicity and improve soil fertility and wheat growth. Planta Daninha. 36:1-11
16. Rehman, M.Z., H. Khalid, F. Akmal, S. Ali, M. Rizwan, M. F. Qayyum, M. Iqbal, M.U. Khalid, M. Azhar. 2017. Effect of limestone, lignite and biochar applied alone and combined on cadmium uptake in wheat and rice under rotation in an effluent irrigated field. Environmental Pollution. 227: 560-568

17. Haroon Shahzad, M. Imran, M. Iqbal, Atif Javed, H. M. Bilal, Sajid Hussain, Zahid Hussain, Bushra Huma, Shazia Iqbal, M. Arslan. 2016. Soil physical health indices, WUE and wheat yield under different mulching amendments. Sylwan Journal. 160: 367-387
18. Muhammad Usman Bashir, Syed Aftab Wajid, Ashfaq Ahmad and Muhammad Iqbal. 2016. Potential Soil Moisture Deficit: An Alternative Approach for Irrigation Scheduling in Wheat. Int. J. agric. Biol. 18: 16-22.
19. Shakeel Ahmad Anwar, Muhammad Iqbal, Anwar-ul-Hassan, Ehsan Ullah. 2015. Growth and yield of rice/wheat in response to integrated use of organic and inorganic N sources. Soil & Environment. 34:136-141
20. Imran, M., A.U. Hassan, M. Iqbal and E. Ullah. 2015. Assessment of actual evapotranspiration of wheat under different irrigation regime with potassium application. Soil Environment. 34:156-165
21. Shahzad H. and Iqbal, M. 2015. Nitrification dynamics under submerged and aerated soil conditions. Russian Journal of Agriculture and Socioeconomics Sciences. 3: 37-41
22. Khan, A.G., A.U. Hassan, M. Iqbal and E. Ullah. 2015. Assessing the performance of different irrigation techniques to enhance the water use efficiency and yield of maize under deficit water supply. Soil & Environment. 34: 166-169
23. Sajid Hussain, Mazhar Iqbal, Muhammad Iqbal, Omar Aziz,Ghulam murtaza, Shazia Iqbal, Shahid Mehmood, Tassadduq Rasool. 2015. Effect of different irrigation practices and plastic mulch on water use efficiency, growth and yield of spring maize. Basic Research Journal of Agricultural Science and Review. 4: 314-320
24. Imran, M., A.U. Hassan, M. Iqbal and E. Ullah. 2014. Assessing Yield, Water Use Efficiency and Evapotranspiration with Ameliorating Effect of Potassium in Wheat Crop Exposed to Regulated Deficit Irrigation. Pakistan Journal of Nutrition. 13:168-175.
25. Iqbal, M. O.J. Idowu, A. Hassan, A. Khan and M. Amjad. 2014. Dairy manure and nitrogen fertilizer effects on residual nitrate and phosphate, and wheat yield in a sandy clay loam soil. Journal of Plant Nutrition.37:562-574
26. Masood, S, T. Naz, M. T. Javed, I. Ahmed, H. Ullah and M. Iqbal. 2014. Effect of short-term supply of farmyard manure on maize growth and soil parameters in pot culture. Archives of Agronomy and Soil Science. 60:337-347
27. Iqbal, M., A.G. Khan, R. Mukhtar and S. Hussain. 2014. Tillage and nitrogen fertilization effect on wheat yield, soil organic carbon and total nitrogen. J. Sustainable Watershed Sci. Management. 2: 108-117
28. Iqbal, M., H.M. van Es, A.U.Hassan, R.R. Schindelbeck and B.N. M. Clune. 2014. Soil health indicators as affected by long term application of farm manure and cropping patterns under semi-arid climates. Int. J. Agric. Biol.16:242-250
29. Iqbal, M., A.G. Khan, A.U. Hassan and K.R. Islam. 2013. Tillage and nitrogen fertilization impact on irrigated corn yields and chemical and physical properties under semi-arid climates. J. Sustainable Watershed Sci. Management. 3: 90-98.
30. Qamar, R., Ehsanullah, R. Ahmad and M. Iqbal. 2012. Response of wheat to tillage and nitrogen fertilization in Rice-Wheat system. Pak. J. Agric. Sci. 49: 243-254
31. Iqbal, M., A.G. Khan, A.U. Hassan and M. Amjad. 2012. Soil physical health indices, soil organic carbon, nitrate content and wheat growth as influenced by irrigation and nitrogen rates. Int. J. Agric. Biol. 14: 1–10.
32. Iqbal, M., A.G. Khan, A.U. Hassan, M.W. Raza and M. Amjad. 2012. Soil organic carbon, nitrate contents, physical properties and maize growth as influenced by dairy manure and nitrogen rates. Int. J. Agric. Biol., 14: 20–28.

33. Tahir, M., A.H. Khan, M. Batool, M.H.M. Zeeshan, M. Iqbal and A.G. Khan. 2012. Effect of dairy manure and rice planting methods on yield, soil quality, water use efficiency and economics of rice and succeeding wheat crop. Communication in Soil Science and Plant Analysis.43:1897-1914.
34. Iqbal, M., A. Hassan and H.M. van Es. 2011. Influence of residue management and tillage systems on carbon sequestration, N, P and K dynamics and wheat production in semi-arid region. Communication in Soil Science and Plant Analysis. 42: 528-547.
35. Iqbal, M., A. Hassan and M. Ibrahim. 2008. Effects of tillage systems and mulch on soil physical quality parameters and maize (Zea mays L.) yield in semi-arid Pakistan. Biological Agriculture& Horticulture Journal. 25(4). 311-325.
36. Ibrahim, M., A. Hassan and M. Iqbal. 2008. Response of wheat growth and yield to various levels of composts and organic matter. Pak. J.Bot. 40: 2135-2141.
37. Khan, A.U.H., M. Iqbal and K.R. Islam. 2007. Dairy manure and tillage effects on soil fertility and corn yields. Bioresource Tech. 98: 1972-1979.
38. Iqbal, M., A. Hassan and Rattan Lal. 2007. Nutrient content of maize and soil organic matter status under various tillage methods and farmyard manure levels. Acta Agriculturae Scandinavica Section B. Soil and Plant Science.57: 349-356.
39. Hassan, W., M. Iqbal, S.M. Shahzad, M.S. Arif, S. Raza and M. Pervaiz. 2010. Effect of different levels of mulch application on maize (Zea mays L.) growth, yield and soil physical properties. Int. J. Appl. Sci. 2: 76-79.
40. Pervaiz, M.A., M. Iqbal, K. Shahzad and A. Hassan. 2009. Effect of mulch on soil physical properties and N, P, K concentration in maize (Zea mays) shoots under two tillage systems. Int. J. Agric. Biol. 11: 119-124.
41. Khurshid, K., M. Iqbal, M.S. Arif and A. Nawaz. 2006. Effect of tillage and mulch on soil physical properties and growth of maize. Int. J. Agric. Biol. 8: 593-596.
42. Muqaddas, B. A.M. Ranjha, M. Abid and M. Iqbal. 2005. Soil physical properties as affected by tillage and farm manure. Pak. J. Agric. Sci. 42: 3-4.
43. Iqbal, M., A. Hassan, A. Ali, M. Rizwanullah. 2005. Residual Effect of Tillage and Farm Manure on Some Soil Physical Properties and Growth of Wheat (Triticum aestivum L.). Int. J. Agric. Biol. 7: 54-57.
44. Iqbal, M., A. Hassan, M. Rizwanullah and A. Ali. 2005. Nutrient (N, P and K) content in soil and plant as affected by the residual effect of tillage and farm manure. Int. J. Agric. Biol. 7:50-53.
45. Aziz, T., A. Hassan, A. Wakeel and M. Iqbal. 2002. Growth response of two maize cultivars to soil compaction and texture. Pak. J. Agric. Sci. 39: 94-98.
46. Ranjha, A.M., T. Sultan, S.M. Mehdi and M. Iqbal. 2002. Relative efficiency of potassium source for wheat production. Pak. J. Agric. Sci. 39:91-93.
47. Wakeel, A., A. Hassan, T. Aziz and M. Iqbal. 2002. Effect of different potassium levels and soil texture on growth and nutrient uptake of maize. Pak. J. Agric. Sci. 39: 99-103.
48. Ranjha, A.M., I. Ahmad, M. Iqbal and M.J. Ahmad. 2001. Rice response to applied phosphorus, zinc and farmyard manure. Int. J. Agric. Biol. 2:197-198.
49. Ranjha, A.M., S. M. Mehdi and M Iqbal. 2000. Response of maize fodder to muriate of potash. Int. J. Agric. Biol. 3: 253-254.
50. Iqbal, M and M. Aslam, A.M. Ranjha and J. Akhtar. 2000. Salinity tolerance of rice as affected by Zn application. Pak. J. Biol. Sci. 3: 2055-2057.
51. Iqbal, M. and M. Aslam. 1999. Effect of Zn application on rice growth under saline conditions. Int. J. Agric. Biol. 1: 362-365.

ABSTRACTS PUBLISHED

1. Ahmad, S.T., M. Iqbal and M.F. Shahid. 2020. Impacts of organic amendments on soil physical properties, nutrient bioavailability and plant growth. 18th International Congress of Soil Science, Sindh Agriculture, University, Tando Jam, February 11-13, 2020.

2. Iqbal, M. Soil moisture and residue amendment effects on nutrients availability and wheat growth. 18th International Congress of Soil Science, Sindh Agriculture, University, Tando Jam, February 11-13, 2020.

3. Kamran, A., M. Iqbal, M.F. Shahid, S.T. Ahmad and A. Ahmad. 2020. Wheat (Triticum aestivum L.) yield and soil physico-chemical properties under organic and inorganic nitrogenous fertilizers. 18th International Congress of Soil Science, Sindh Agriculture, University, Tando Jam, February 11-13, 2020.

4. Javed, A. M. Iqbal, R. Shahzadi and H.M. Bilal. 2020. Simulation of soil water dynamics under different management practices in maize-wheat rotation. 18th International Congress of Soil Science, Sindh Agriculture, University, Tando Jam, February 11-13, 2020.

5. Siddique, F., M. Iqbal, A. Javed, Z. Suleman, M. Alvi, I. Riaz and R. Shahzadi. 2020. Rice yield and soil properties under different dairy manure levels and sowing methods. 18th International Congress of Soil Science, Sindh Agriculture, University, Tando Jam, February 11-13, 2020.

6. Shahid, M. F., M. Iqbal, M.K. Khan, S.T. Ahmad, A. Ullah and M. Hashmi. 2020. Improving soil health and crop productivity through conservation tillage and cover crops in rice-wheat cropping system. 18th International Congress of Soil Science, Sindh Agriculture, University, Tando Jam, February 11-13, 2020.

7. Jehan, S. and M. Iqbal. Nitrogen mineralization under deficit irrigation. 18th International Congress of Soil Science, Sindh Agriculture, University, Tando Jam, February 11-13, 2020.

8. Yaseen, R., A. Hassan, M. Iqbal and M. Imran. 2014. Effect of deficient irrigation and mulch on soil physical properties and growth and yield of maize (Zea mays L.). 15th International Congress of Soil Science, Islamabad Pakistan, 18-20 March 2014.
9. Ullah, S. M. Iqbal, M. Saleem and S. Ahmad. Root proliferation and maize growth under different textures and manure rates in pots. 15th International Congress of Soil Science, Islamabad Pakistan, 18-20 March 2014.
10. Hassan, A.U., M. Imran and M. Iqbal. 2012. Effect of tillage methods and dairy manure levels on carbon sequestration under maize-wheat cropping system. 14th Congress of Soil Science Lahore Pakistan, 12-15 March 2012.
11. Imran, M. M.F. Rashid, A. Hassan, M. Iqbal and S. Bibi. 2012. Effect of irrigation and dairy manure on water use efficiency, wheat crop and soil health indicators. 14th Congress of Soil Science Lahore Pakistan, 12-15 March 2012.
12. Imran, M., S.U. Saif, M. Iqbal and A. Hassan. 2012. Effect of mulch on water use efficiency, yield of maize and soil physical properties under deficient irrigation practices. 14th Congress of Soil Science Lahore Pakistan, 12-15 March 2012.
13. Iqbal, M, M.W. Raza, M. Imran, A. Hassan, A.G. Khan, M. Amjad and Sadia Bibi. 2010. Soil physical health indices, SOC, NO3 content as influenced by residual dairy manure and nitrogen rates. Int. Sci. Con. On Utilization of modern agriculture technology in changing environmental perspectives. 21-23 July 2010, University of Azad Jammu & Kashmir, Faculty of Agriculture, Rawala kot.

14. Iqbal, M., A. Hassan and M. Ibrahim. 2008. Tillage and mulching effects on some chemical properties of soil and wheat (Triticum aestivum L.) yield in Punjab, Pakista. 12th Cong. Soil Sci., Soc. Pak., October 20-23, 2008. University of Agriculture, Peshawar.
15. Hussain, K., M. Iqbal and M.A. Haq. Physiochemical estimation of salinity tolerance in rice cultivars. 2006. Int. Confe. Sustainable Crop Prod. Salt-affected Soils. 4-6 Dec., 2006, Saline Agric., Res. Centre, Univ., Agric., Faisalabad, Pakistan.
16. Iqbal, M., A. Hassan, A. M. Ranjha and Z. A. Cheema. 2006. Effect of tillage systems and farm manure application on soil and plant N, P, K and organic matter content at maize harvest.
17. Iqbal, M., A. Hassan, A. M. Ranjha and Z. A. Cheema. 2006. Soil physical properties and growth of maize (Zea mays L.) as affected by tillage systems and farm manure application. 11th Cong. Soil Sci., Soc. Pak., March 28-31, 2006. National Agriculture Research Center, Islamabad.
18. Hassan. A. and M. Iqbal. 2004. Nutrients (N, P, K) concentration in soil and plant as influenced by the residual effect of tillage and farm manure in wheat (Triticum aestivum L.). 10th Intl. Cong. Soil Sci., Soc. Pak., March 16-19, 2004. Sindh Agriculture University, Tandojam.
19. Iqbal, M., A. Hassan and A. Ali. 2004. Residual effect of tillage and farm manure on some soil physical properties and growth of wheat (Triticum aestivum L.). 10th Intl. Cong. Soil Sci., Soc. Pak., March 16-19, 2004. Sindh Agriculture University, Tandojam.

MEMBERSHIPS

- Member The New York Academy of Sciences.
- Student Councilor/Executive member, Soil Science Society of Pakistan. 1998-2000.
- Member Pakistan Association for the Advancement of Science.
- Member of the Soil Science Society of Pakistan.

Student supervised:

M. Sc. (Hons)/ M. Phil **(103), PhD 12** (8 as major supervisor+ 4 as committee member).

HONORS AND DISTINCTIONS

1. HEC approved PhD Supervisor from 2007 to date
2. Productive Scientist of Pakistan-2012, 2014 (awarded with productivity award by Pakistan Council for Science and Technology (PCST)
3. Scientific Talent Scholarship Holder from University Grants Commission, Islamabad.
4. Holding excellent carrier first division throughout academic carrier
5. Merit Scholarship from Higher Education Commission during M.Sc and PhD degree

SCIENTIFIC CONFERENCES/ SEMINARS ATTENDED

1. International conference on energy, water and environment (ICEWI-21). March 31, 2021, Department of Mechanical Engineering, New Campus (KSK), University of Engineering and Technology, Lahore Pak.
2. Seminar on “Influence of soil water content on nutrient availability after residue addition” by visiting Endeavour Research Fellow Dr. Muhammad Iqbal, Prescot Seminar Room, School of Agriculture, Food and Wine, *The Adelaide University, Australia*, September 23, 2015.
3. Seminar on “Long term impact of farmyard manure application and cropping systems on soil health indices” by visiting Endeavour Research Fellow Dr. Muhammad Iqbal, Prescot Seminar Room, School of Agriculture, Food and Wine, *The Adelaide University, Australia*, May 28, 2015.
4. Seminar on “Characterization and evaluation of Camelina sativa as a potential oil seed crop under water limited environment" by visiting Endeavour Executive Fellow Dr. Ejaz Waraich, Prescot Seminar Room, School of Agriculture, Food and Wine, *The Adelaide University, Australia*, October 1, 2015.
5. Seminar on “The Yellow Stripe1-Like YSL Family: transporter involved in long range movement" presented by Elsbeth Walker Associate Professor of Biology, *University of Massachusetts, Amherst, Cornell University, USA,* March 18, 2010.

6. Seminar on “Characterization of microbial life colonizing biochar and biochar- amended soils” presented by Hongyn Jin a PhD Candidate, Crop and Soil Science, *Cornell University*, *USA,* March 4, 2010.
7. Seminar on "Quantifying sustainable biomass resources at national, regional, and state scales" by Dr. Peter Woodbury a Senior Research Associate, Crop and Soil Science, *Cornell University*, *USA*, February 18, 2010.

BOOK CHAPTERS:

Anwar-ul-Hassan and Muhammad Iqbal. 2017. Soil physical quality indicators and plant growth. P.1-35. In: Soil Science Concepts & Applications. Published by UAF.