

Mr. Muhammad Abbas [M.Sc. (Hons.)]

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Academic Qualification

M.Sc. (Hons.) Soil Science 88% Marks 2008-2010

Courses: Soil Chemistry, Soil Classification, Soil Conservation, Soil Physics, Soil Microbiology, Soil Fertility

B.Sc. (Hons.) Soil Science 87% marks 2004-2008

Courses: Soil Chemistry, Soil Classification, Soil Conservation, Soil Physics, Soil Microbiology, Soil Fertility

Intermediate Sciences 68% Marks 2000-2002

Courses: Physics, Chemistry, Biology

Research Work and Experience

Research Scientist

Nuclear Institute of Agriculture (NIA), Tando Jam, Pakistan

- Currently working as Senior Scientist in Soil and Environmental Sciences Division, Nuclear Institute of Agriculture, Tando Jam (Pakistan Atomic Energy Commission) from 01-12-2018 to date in the following research areas:
 - ✓ Improving phosphorus use efficiency in field crops
 - ✓ Integrated nutrient management system (IPNMS) under wheat-cotton crop rotation
 - ✓ Determining nutritional requirements of crop genotypes evolved at Nuclear Institute of Agriculture (NIA), Tando Jam, Sindh
 - ✓ Evaluating boron requirement and boron use efficiency in rice and wheat genotypes
- Worked as Junior Scientist in Soil and Environmental Sciences Division, Nuclear Institute of Agriculture, Tando Jam (Pakistan Atomic Energy Commission) from 20-06-2013 to 30-11-2018

Assistant Research Officer

Punjab Agriculture Research Department

- Worked as Assistant Research Officer/Agricultural Officer in the Research Wing of Punjab Agriculture Department, Pakistan from 17-07-2012 to 19-06-2013

M.Sc. (Hons.) Dissertation

University of Agriculture, Faisalabad, Pakistan

- Evaluated ‘the effect of different levels of irrigation on maize yield, water use efficiency and soil properties under different sowing methods’

Research Publications

- M. Irfan, **M. Abbas**, J. A. Shah, M. A. Akram, N. Depar and M. Y. Memon. 2019. Biomass and phosphorus accumulation, partitioning and remobilization during grain development in wheat under phosphorus deficiency. *Int. J. Agric. Biol.* 21(2): 351-358. DOI: [10.17957/IJAB/15.0901](https://doi.org/10.17957/IJAB/15.0901).
- M. Irfan, **M. Abbas**, J. A. Shah, N. Depar, M. Y. Memon, N. A. Sial. 2019. Interactive effect of phosphorus and boron on plant growth, nutrient accumulation and grain yield of wheat grown on calcareous soil. *Eurasian J. Soil Sci.* 8(1):17-26. DOI: [10.18393/ejss.484654](https://doi.org/10.18393/ejss.484654).
- M. Abbas**, M. Irfan and J. A. Shah. 2018. Differential performance of wheat genotypes for grain yield, phosphorus uptake and utilization at low and high phosphorus levels. *Proc. Pak. Acad. Sci.* 55(2): 55-64.
- M. Abbas**, J. A. Shah, M. Irfan and M. Y. Memon. 2018. Remobilization and utilization of phosphorus in wheat cultivars under induced phosphorus deficiency. *J. Plant Nutr.* 41(12): 1522-1533.
- M. Abbas**, M. Irfan, J. A. Shah and M. Y. Memon. 2018. Intra-specific variations among wheat genotypes for phosphorus use efficiency. *Asian J. Agric. Biol.* 6(1):35-45.
- M. Irfan, **M. Abbas**, J. A. Shah and M. Y. Memon. 2018. Internal and external phosphorus requirements for optimum grain yield are associated with P-utilization efficiency of wheat cultivars. *Commun. Soil Sci. Plant Anal.* 49(22): 2843-2853.
- M. Irfan, **M. Abbas**, J. A. Shah and M. Y. Memon. 2018. Grain yield, nutrient accumulation and fertilizer efficiency in bread wheat under variable nitrogen and phosphorus regimes. *J. Basic & Appl. Sci.* 14: 80-86.
- N. A. Sial, S. A. Abro, **M. Abbas**, M. Irfan and N. Depar. 2018. Growth and yield of wheat as affected by phosphate solubilizing bacteria and phosphate fertilizer. *Pak. J. Biotechnol.* 15(2): 475-479.

- M. Irfan, J. A. Shah and **M. Abbas**. 2017. Evaluating the performance of mungbean genotypes for grain yield, phosphorus accumulation and utilization efficiency. *J. Plant Nutr.* 40(19): 2709-2720.
- M. Abbas**, M. Irfan, J. A. Shah and M. Y. Memon. 2017. Exploiting the yield potential of wheat genotype NIA-MB-2 under different rates of nitrogen and phosphorus. *Sci. Lett.* 5(1):13-21.
- J. A. Shah, Zia-ul-hassan, M. A. Sial and **M. Abbas**. 2017. Disparity in growth, yield and fiber quality of cotton genotypes grown under deficient and adequate levels of boron. *Pak. J. Agri., Agril. Engg., Vet. Sci.* 33(2): 163-176.
- N. A. Sial, S. A. Abro, **M. Abbas**, M. Irfan and M. Y. Memon. 2017. Studies on different levels of phosphorus fertilizer and phosphorus solubilizing bacteria in mungbean (*Vigna radiata* L.). *Pak. J. Biotechnol.* 14(2): 189-192.
- M. Abbas**, J. A. Shah, M. Irfan and M. Y. Memon. 2016. Growth and yield performance of candidate wheat variety 'BWQ-4' under different nitrogen and phosphorus levels. *American-Eurasian J. Agric. & Environ. Sci.* 16 (5): 952-959.
- M. Abbas**, M. Aslam, J. A. Shah, N. Depar and M. Y. Memon. 2016. Relative growth response of hydroponically grown wheat genotypes to deficient and adequate phosphorus levels. *Pak. J. Agri., Agril. Engg., Vet. Sci.* 32 (2): 169-181.
- M. Abbas**, J. A. Shah, M. Irfan and M. Y. Memon. 2016. Evaluating nitrogen and phosphorus requirement for the economical harvest of rice genotype 'NIA-19/A'. *Sci. Intl.* 28: 3977-3982.
- J. A. Shah, N. Rais, Zia-ul-Hassan, **M. Abbas** and M. Y. Memon. 2016. Evaluating non-aromatic rice varieties for growth and yield under different rates of soil applied boron. *Pak. J. Anal. Environ. Chem.* 17 (1): 1-7.
- M. Irfan, M. Y. Memon, J. A. Shah and **M. Abbas**. 2016. Application of nitrogen and phosphorus in different ratios to affect paddy yield, nutrient uptake and efficiency relations in rice (*Oryza sativa* L.). *J. Environ. Agric.* 1(2): 79-86.
- N. A. Sial, M. Y. Memon, S. A. Abro, J. A. Shah, N. Depar and **M. Abbas**. 2015. Effect of phosphate solubilizing bacteria (*Bacillus megatherium*) and phosphate fertilizer on yield and yield components of wheat. *Pak. J. Biotechnol.* 12(1): 35-40.

Honors and Awards

- Silver medal for standing first in M. Sc. (Hons.) Soil Science

Trainings/Workshops/Symposia/Conferences/Seminars

- Special Seminar on “Alternative Plant Nutrient Sources for Higher Crop Yields under Changing Climate” organized by Soil Science Society of Pakistan at Sindh Agriculture University (SAU), Tando Jam, on September 10, 2018
- 17th International Congress of Soil Science on “Soil: Ultimate Solution to Food Security and Climate Change” organized by Soil Science Society of Pakistan at Serena, Faisalabad-Pakistan (March 13-15, 2018)
- Special Seminar on “Soil and Nutrients Management for Sustainable Agriculture” organized by the Department of Soil Science, Sindh Agriculture University (SAU), Tando Jam, on December 4, 2017
- Training Program on “Implementation of ISO 9001:2015 QMS and Internal Auditing” conducted by Directorate of Quality Assurance, Pakistan Atomic Energy Commission from May 08-10, 2017 at NIA, Tando Jam
- International Seminar on “Potassium Nutrition for Sustainable Crop Production” organized by the Department of Soil Science, Sindh Agriculture University (SAU), Tando Jam, Engro Fertilizers Ltd. and International Plant Nutrition Research Institute (IPNI) at SAU, Tando Jam on April 19, 2017
- 1st International Conference on ‘Chemical Engineering and Exhibition’ organized by MUET, Jamshoro, Sindh (January 14-16, 2016)
- Two week training course on “application of nuclear and other advanced techniques in agricultural and biological research” organized by NIAB from December 02 -13, 2013
- 3rd International Conference on “Crop Productivity: Threats and Options” organized by Pakistan Society of Agronomy at AARI, FSD (April 11-12, 2013)
- Symposium on “Use of Potassium in Pakistan” organized by Soil Science Society of Pakistan at Serena, Faisalabad (November 06-07, 2012)