

## CURRICULUM VITAE

**Dr. Abdur Rehim**

**E-mail Address:** [abdur.rehim@bzu.edu.pk](mailto:abdur.rehim@bzu.edu.pk)

**Address:** Department of Soil Science  
Bahauddin Zakariya University, Multan, Pakistan



**Contact Number:** +923446211945

**Present Employment:** Associate Professor (Teaching & Research)

**Field of Specialization** Soil Science

**ID No:** 34201-0449344-7

### **Academic Qualifications**

| <b>Examination</b>                         | <b>Year</b> | <b>Marks/<br/>CGPA</b> | <b>Division</b> | <b>Board/<br/>University</b>             |
|--------------------------------------------|-------------|------------------------|-----------------|------------------------------------------|
| Matriculation                              | 1994        | 746/850                | 1 <sup>st</sup> | Gujranwala Board                         |
| F.Sc.<br>(Pre-Medical)                     | 1997        | 713/1100               | 1 <sup>st</sup> | Gujranwala Board                         |
| B.Sc. (Hons.) Agri.<br>Major: Soil Science | 2001        | 3.28/4.00              | 1 <sup>st</sup> | University of Agriculture,<br>Faisalabad |
| M.Sc. (Hons.)<br>Soil Science              | 2003        | 3.40/4.00              | 1 <sup>st</sup> | University of Agriculture,<br>Faisalabad |
| Ph.D. (Soil Science)                       | 2009        |                        |                 | University of Agriculture,<br>Faisalabad |
| Post Doc.                                  | 2019        |                        |                 | Yale University, USA                     |

### **Master's THESIS:**

“Effect of Calcium Carbide as a Soil Amendment on Growth and Yield of Rice”

### **Ph.D. THESIS:**

“Phosphorous Fertilization Management to Improve Phosphorous Use Efficiency and Wheat Yield on Calcareous Soils”

## EXPERIENCE/ EMPLOYMENT HISTORY

1. **Lecturer: Department of Soil Science, BZ University, Multan from 20-02-2006 to 11-12-2011**
2. **Assistant Professor: Department of Soil Science, BZ University, Multan from 12-12-2011 to 13-12-2018**
3. **Associate Professor: Department of Soil Science, BZ University, Multan from 14-12-2018 to date**
4. **Director, BZU Bahadur Sub-Campus, Layyah from 03.01.2020 to-02.01.2023**

### **Responsibilities:**

- a. Administrative
- b. Teaching of various courses of Soil Science at post graduate and undergraduate levels
- c. Warden Ijaz Hall Boys Hostel from 17-02-2020 to 02-01-2023
- d. Assistant Superintendent Hamza Hall from 13-12-2006 to 01-10-2011.
- e. Member Purchase Committee, University College of Agriculture, BZU, Multan
- f. Member of Quality Enhancement Committee of University College of Agriculture, BZU, Multan
- g. Internship Coordinator, Faculty of Agricultural Sciences and Technology, BZU, Multan
- h. Incharge Examination, Department of Soil Science, BZU, Multan
- i. Member Purchase Committee, Department of Soil Science, BZU, Multan
- j. Member Departmental Discipline Committee, Department of Soil Science, BZU, Multan
- k. Director Student Affairs, Department of Soil Science, BZU, Multan

5. **Teaching Assistant: Department of Soil Science, University of Agriculture, Faisalabad from 22-11-2005 to 19-02-2006.**

### **Responsibilities:**

- a. Teaching Assistance at undergraduate Level

6. **Research Fellow: Soil Salinity Research Institute Pindi Bhattian from 01-10-2004 to 31-09-2005**

### **Responsibilities:**

- a. To plan and execute the research related to various problems of soil, water and environment

## Conferences/Seminars/Workshops

1. Workshop on "Simulation modeling: A decision support system for agro-technology transfer for improving the standards of research" B.Z. University, Department of Agronomy (3/4/2013-3/5/2013)

2. Workshop on "Three days cascading of Asian institute of technology (AIT), Thailand based training program "Ensuring training effectiveness"" B.Z. University, Department of Agronomy (4/9/2012-4/11/2012)
3. Workshop on "Statistical modeling for improving the standards of research and education for university professionals" B.Z. University, HEC, Learning innovation division (1/23/2012-1/25/2012)
4. Seminar on "Recent development in edible oil production and processing with special reference to Pakistan" B.Z. University, Department of Food Science (3/12/2012-3/13/2012)
5. Workshop on "Project formulation workshop" B.Z. University, Pakistan Science Foundation Islamabad (6/20/2012-6/21/2012)
6. Workshop on "ASM scientific writing and publishing workshop" Department of Food Science and Technology, BZU-ASM Bio-Resource centre, (10/02/2013)
7. Workshop on "Biochar for climate friendly agriculture" University of Agriculture Faisalabad (03/24/2014-03/27/2014)
8. Conference on "Food Security Challenges" Agriculture College, B.Z. University, Multan (03/31/2014-04/02/2014)
9. Workshop on " Biosafety in Pakistan-Challenges and Solutions" Department of Food Science and Technology, BZU, Multan (24/11/2014)
10. Awareness seminar on "Potash Use in Pakistan Agriculture" Organized by IPI/BZU, Multan (04-12-2014)
11. Workshop/Training on " Safe Production of Grains" Shenyang Agricultural University, P.R. China (11<sup>th</sup> September to 30<sup>th</sup> September 2015)
12. 5<sup>th</sup> International Conference "Food and Nutrition Security, impact of climate change" Institute of Home & Food Sciences, Government College University, Faisalabad. (March 7-8, 2017)
13. One day workshop on "Tools and Methods in Research Writing, Developing Skills in Scientific Writing" Bahauddin Zakariya University, Multan (18<sup>th</sup> April, 2017)
14. Training workshop on " The role of faculty in the protection of human values and conflict management in Muslim society" Department of Islamic Studies, BZU, Multan (16-18 August, 2017)
15. Seminar/C- Lecture on " current status and future trends in design and development of agricultural machinery" Pakistan Engineering Council,

- continuing professional development programme, Bahauddin Zakariya University, Multan (14-02-2018)
16. Participation in 17<sup>th</sup> International congress of soil science" Soil: Ultimate solution of food security and climate change" Soil Science Society of Pakistan. March 13-15, 2018.
  17. Participation in 1<sup>st</sup> international and 2<sup>nd</sup> national conference on "Challenges and opportunities to boost agriculture in changing climate" at College of Agriculture BZU, Sub-Campus Layyah, Pakistan. March 26-28, 2018.
  18. Participation in the training, faculty teaching program (success mind set of faculty) at Bahauddin Zakariya University, Multan. April 19, 2018.
  19. Certificate of Organizer "International seminar on biochar use in changing climate" at Bahauddin Zakariya University, Multan. October 05, 2018.
  20. Certificate of Participation "25<sup>TH</sup> Yale ISTF 2019 Conference" at School of Forestry and Environmental Studies, Yale University, USA. January 31-February 02, 2019.
  21. Certificate of Participation "1<sup>st</sup> e-Seminar on Agricultural Mechanization; Practices, Issues and Prospects in Pakistan, 18<sup>th</sup> June, 2020.
  22. Certificate of Attendance, Webinar "Valuing Zinc Nutrition for Better Crop Production and Human Health" 5<sup>th</sup> September, 2020.
  23. Certificate of Attendance, Webinar "Balanced Fertilizer Application in Wheat" 12<sup>th</sup> September, 2020.
  24. Certificate of Participation "COMSTECH- A virtual seminar on Saline Agriculture-Solution to Global Food Security" 29<sup>th</sup> September, 2020.
  25. Certification of Participation "Webinar on Soil Microbes for sustainable Agriculture & Environment" organized by Institute of Soil Science, PMAS -Arid Agriculture University & Pilot Project for DDSDP for Increased Agriculture Productivity on September 30, 2021.
  26. Certificate "Research beyond Academia: strategies for real world impact" Organizer Taylor and Francis Group on Aug 10, 2023.
  27. Certificate "Excellence in peer review: how to be an effective peer reviewer" Organizer Taylor and Francis Group on Aug 29, 2023.
  28. Certificate of Recognition as a **Distinguished Speaker** at "Virtual Event - 2<sup>nd</sup> Global Summit on Advances in Earth Science and Climate Change" Organizer Peers Alley Media, Canada held during September 15-16, 2023.

29. Certificate of Participation for attending The National Webinar “Soil Pollution & SDGS” Organized by Department of Soil & Environmental Sciences, MNS University of Agriculture, Multan on September 19, 2023.
30. Certificate “Enhancing Biomedical Scientific Discoveries through Open Data” Organizer Taylor and Francis Group on Sep 25, 2023.
31. Certification of participation/oral presentation National Conference on “Climate Change and Water Resources: Bridging the Gap for SDG6” Organizer Department of Agricultural Engineering, BZU, Multan on 28-29 February, 2024.
32. Certificate of Attendance “Maximizing research impact: Enhancing efficiency and effectiveness with Web of Science data and tools” Organizer Clarivate & HEC on Oct. 17, 2024.
33. Certificate of Attendance “Choosing the right journal: Leveraging journal citation reports to boost research impact” Organizer Clarivate & HEC on Oct. 18, 2024.
34. Certificate of Attendance “Refresher-How to effectively use using ScienceDirect (Read Quality Publish Quality) at HEC Pakistan Organizer Researcher Academy Elsevier on Nov. 06, 2024.
35. Certificate “Wiley’s journals: How they can help researchers and how to be successful in your publication process-HEC” Organizer Wiley Research Training on Nov. 11, 2024.
36. Certificate “Choosing Quality Journals” Organizer Taylor and Francis Group on Nov. 20, 2024.
37. Certificate of Completion “A guide to maximizing speed and quality for scholarly writing” Organizer LetPub Learning Nexus Dec. 11, 2024.
38. Certificate “Exploring open access publishing: Strategies for successful outcomes” Organizer Taylor and Francis Group on Jan. 29, 2025.
39. Certificate “Promoting visibility and credibility through publishing” Organizer Taylor and Francis Group on Jan. 31, 2025.
40. Certificate “Introduction to Open Research” Organizer Taylor and Francis Group on Feb. 26, 2025.
41. Certificate of Completion “Crafting and wordsmithing the perfect abstract using our easy, step-by-step process” Organizer LetPub Learning Nexus Jan. 15, 2025.
42. Certificate of Completion “Academic how-to: Free step-by-step instructions for preparing a graphical abstract” Organizer LetPub Learning Nexus Feb. 20, 2025.
43. Certificate “Author Workshop: Publishing Open Access with Wiley-HEC” Organizer Wiley Research Training on Jan. 08, 2025.

44. Certificate of Completion "Best practices for presenting and networking at academic conferences to grow your career standing" Organizer LetPub Learning Nexus March. 20, 2025.
45. Certificate "Publishing ethics 101" Organizer Taylor and Francis Group on April 09, 2025.
46. Certificate of Completion "AI Prompt Engineering Techniques for Researchers: How Can AI Actually Help with Your Manuscript?" Organizer LetPub Learning Nexus April 17, 2025.
47. Certificate of Completion "The Secret to Fast and Easy Response Letter Preparation for Challenging Peer Reviews" Organizer LetPub Learning Nexus May 22, 2025.
48. Certificate of Completion "Doctoral program selection and navigating the PhD transition" Organizer LetPub Learning Nexus June 26, 2025.

#### Research Grants/ Projects

1. **Co-PI:** "Identification and Management of root pathogenic fungi of Chilli (*Capsicum annum*) with rhizobacteria" Funded by: HEC, Jan 15, 2021
2. **Principal Investigator** "Effect of boron application method and organic sources on growth, yield and nutrient uptake of maize under medium saline condition" Funded by: B.Z. University, Multan (March, 2012-March, 2013)
3. **Principal Investigator** "Use of modern soil survey techniques for evaluation of soil fertility and contamination status of tehsil Lahore city" Funded by: B.Z. University, Multan (March, 2016-March, 2017). Ref. No. DR&EL/D-438
4. **Principal Investigator** " Potassium fractionation in different textured soils" Funded by: B.Z. University, Multan (October, 2017- October, 2018)

#### Research students Supervision (PhD)

1. Muhammad Imran. PhD (Soil Science) entitled "Management of Phosphorous for biofortifying zinc in maize (*Zea mays* L.) grown on calcareous soils". **Completion Year 2017**
2. Hafiz Muhammad Ali Raza. PhD (Soil Science) entitled "Evaluating the response of zinc and potassium on morpho-physiological characteristics of maize (*Zea mays* L.)" **Completion Year 2022**

3. Qurat-Ul-Ain Raza, PhD (Soil Science) entitled “Assessing the Role of Biostimulants in Vegetables Production”. **Completion Year 2023**

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|-----------------------------------------------|
| <b>Research students Supervision (M.Phil)</b> |
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4. Asad-Ur-Rehman completed his M. Phil (Soil Science) with dissertation entitled “Effect of phosphorus and zinc application on growth and yield of rice crop”.  
**Completion year: 2011**
5. Irfan Ali completed his M. Phil (Soil Science) with dissertation entitled “Effect of phosphorus application on wheat yield and quality” **Completion year: 2011**
6. Rashid Abbas completed his M. Phil (Soil Science) with dissertation entitled “Effect of different combinations of nitrogen and poultry manure on wheat production”  
**Completion year: 2012**
7. Hassan Mehmood completed his M. Phil (Soil Science) with dissertation entitled “Effect of calcium carbide on the growth and nutrient use efficiency of cotton crop”  
**Completion year: 2012**
8. Iram Naz completed his M. Phil (Soil Science) with dissertation entitled “Effect of plant growth promoting rhizobacteria on growth of maize crop under salt affected condition”  
**Completion year: 2012**
9. Maryam Khan completed his M. Phil (Soil Science) with dissertation entitled “Effect of farm manure and nitrogen fertilization on nutrient use efficiency and growth of wheat”  
**Completion year: 2012**
10. Muhammad Hanif Ullah completed his M. Phil (Soil Science) with dissertation entitled “Effect of different combinations of phosphorus fertilizer and farm manure on wheat production”  
**Completion year: 2012**
11. Nouman Majeed completed his M. Phil (Soil Science) with dissertation entitled “Effect of foliar and soil applied boron fertilizer integrated with farm and poultry manure on uptake of boron and growth and yield of maize (*Zea mays* L.)”  
**Completion year: 2014**
12. Muhammad Mujahid completed his M. Phil (Soil Science) with dissertation entitled “Effect of foliar and soil applied zinc fertilizer integrated with farm and poultry manure on uptake of zinc and growth and yield of maize (*Zea mays* L.)”  
**Completion year: 2014**
13. Adnan Hussain completed his M. Phil (Soil Science) with dissertation entitled “Effect of boron fertilizer on growth and yield of Mung Bean”.  
**Completion year: 2014**

14. Syed Ahsan Nawaz Shah. M. Phil (Soil Science) entitled "Effect of zinc and boron application rates and methods on maize production." **Completion year: 2014**
15. Javed Saleem. M. Phil (Soil Science) entitled "Effect of potassium and boron application rates on growth and yield of maize." **Completion year: 2014**
15. Muhammad Javaid. M. Phil (Soil Science) entitled "Effect of zinc fertilizer on growth and yield of Mung Bean". **Completion year: 2014**
16. Syed Asif Faheem. M. Phil (Soil Science) entitled "Effect of sulfur fertilization on wheat crop productivity." **Completion year: 2015**
17. Asif ur Rehman. M. Phil (Soil Science) entitled "Effect of different soil applied zinc sources on grain quality of maize (zea mays L.)" **Completion year: 2015**
18. Sara Manzoor. M. Phil (Soil Science) entitled "Efficacy of different maize cultivars for zinc-biofortification/ acquisition" **Completion year: 2016**
19. Sadiq Naveed. M. Phil (Soil Science) entitled "Zinc Biofortification of Maize using different organic manures as soil amendments" **Completion year: 2016**
20. Bushra Iram. M. Phil (Soil Science) entitled "Heavy metal induced stress in cotton remediated by various organic amendments" **Completion year: 2016**
21. Muhammad Amjad. M. Phil (Soil Science) entitled "Evaluation of soil fertility and contamination status of Tehsil Lahore city by classifying different soil series and GIS mapping" **Completion year: 2016**
22. Noor ul Ain. M. Phil (Soil Science) entitled "Ameliorating the drought stress through ACC containing rhizobacteria in cereal crops under axenic conditions" **Completion Year: 2016**
23. Mustafa Nawaz. M. Phil (Soil Science) entitled "Effect of different sources and application methods of zinc on growth and yield of rice" **Completion Year: 2018**
24. Namra Khursheed. M. Phil (Soil Science) entitled "Effect of phosphorus and zinc foliar application on maize fodder quality in saline-sodic soils" **Completion Year: 2017**
25. Sehrish Haji. M. Phil (Soil Science) entitled "Comparison of various reclamation technique for saline-sodic under wheat cultivation" **Completion Year: 2018**
26. Shakeel Anjum. M. Phil (Soil Science) entitled "Phosphorus fractionation in different textured soils" **Completion Year: 2018**



27. Muhammad Aurangzeib. M. Phil (Soil Science) entitled "Potassium fractionation in different textured soils"  
**Completion Year: 2017**
28. Alizay Ramzan. M. Phil (Soil Science) entitled "Evaluation of different levels of vinasse as soil amendment on growth and yield of rice."  
**Completion Year: 2018**
29. Saliha Akhtar. M. Phil (Soil Science) entitled "Effect of combine application of vinasse and nitrogen fertilizer on growth and yield of rice."  
**Completion Year: 2018**
30. Hasnain Riaz Khan. M. Phil (Soil Science) Integrated use of zinc and manures to improve growth and yield of *Triticum aestivum* L. under saline conditions  
**Completion Year: 2021**
31. Sheher Yar Mahmood. M. Phil (Soil Science) Effect of zinc and phosphorus fertilizers on zinc bioavailability to bread wheat  
**Completion Year: 2021**
32. Syed Abbas Raza. M. Phil (Soil Science) Assessing the effect of vinasse and biostimulants on rice productivity  
**Completion Year: 2022**
33. Rahim Bakhsh. M. Phil (Soil Science) Wheat productivity under the application of zinc with nitrogenous and phosphatic fertilizer sources at the critical growth stages  
**Completion Year: 2022**
34. Azfar Imran. M. Phil (Soil Science) Effect of zinc and nitrogen application on grain yield and phytic acid contents in bread wheat  
**(In progress)**
35. Asad Ullah. M. Phil (Soil Science) Glycine and Alpha Tocopherol effects on Maize production  
**Completion Year: 2023**

## PUBLICATIONS

### A: Published Abstracts

1. Yaseen, R., **A. Rehim**, M. Imran and M. Zafar-ul-Hye. 2014. Mulching improves maize crop productivity and soil physical properties. p 135. Abstract published in 2nd international conference on global environmental changes held on 25-26 February. Government College University, Faisalabad.
2. Imran, M., **A. Rehim** and S. Hussain. 2014. Zinc and Phosphorus adsorption in different textured soils; an incubation study. p 25. Abstract published in 15th international congress of soil science on soil management in changing climate held on 18-20 March at National Agricultural Research Centre, Islamabad, Pakistan.
3. Majeed, N., **A. Rehim** and M. Imran. 2014. Effect of foliar and soil applied boron fertilizer integrated with farm and poultry manure on uptake of boron and growth and yield of maize (*Zea mays* L.). p 23. Abstract published in 15th international congress of soil science on soil management in changing climate held on 18-20 March at National Agricultural Research Centre, Islamabad, Pakistan.
4. Mehmood, H., **A. Rehim**, M. Imran and I. Ali. 2014. Effectiveness of combinations of NPK and Calcium Carbide on growth, yield and nutrient use efficiency of cotton (*Gossypium hirsutum* L.) crop. p 24. Abstract published in 15th international congress of soil science on soil management in changing climate held on 18-20 March at National Agricultural Research Centre, Islamabad, Pakistan.
5. Ashiq, K., **A. Rehim**, M. Zafar-ul-Hye and M. Imran. 2014. Effect of different nitrogen level and sowing method for wheat crop under salt affected conditions. p 191. Abstract published in 15th international congress of soil science on soil management in changing climate held on 18-20 March at National Agricultural Research Centre, Islamabad, Pakistan.
6. Yaseen, M., M. Arshad, Saif-Ur-rehman Kashif and **A. Rehim**. 2004. Response of different crops to soil applied encapsulated calcium carbide. Abstract published in 13th international soil science conference held on 13-16 March at Tandojam University, Jamshuro, Pakistan.
7. **Rehim, A.**, M. Yaseen, M. Arshad, M. Yousaf and Saif-Ur-Rehman Kashif. 2004. Evaluation of calcium carbide as a soil amendment on growth and yield of rice (*Oryza sativa* L.). Abstract published in 13th international soil science conference held on 13-16 March at Tandojam University, Jamshuro, Pakistan.

8. Imran, M., **A. Rehim** and S. Hussain. 2016. Zinc fertilization for biofortification and estimated zinc bioavailability in maize grain. p 37. Abstract published in 16th international congress of soil science on healthy soils for food security held on 15-17 March at University of Arid, Agriculture, Rawalpindi, Pakistan.
9. Imran, M., **A. Rehim**, N. Sarwar and R. Yaseen. 2016. Zinc Bioavailability in Maize Grains in Response of Phosphorous-Zinc Interaction. p 123. Abstract Published in 2<sup>nd</sup> international conference on malnutrition on Malnutrition Kills! Can we see the writing on the wall? on 7-8 April at Bahauddin Zakariya University, Multan, Pakistan.
10. Imran, M., **A. Rehim** and S. Hussain. 2016. Modeling temporal variations in adsorption of applied zinc and phosphorous in alkaline-calcareous soils. pp 79. Abstract published in international joint conference for the New Zealand Society of Soil Science and Soil Science Australia on Soil, a balancing act down under held on 12-16 December at Queenstown, New Zealand.
11. **Abdur Rehim**, Sehrish Haji, Muhammad Amjad Bashir, Hafiz Muhammad Ali Raza and Mubshar Hussain. 2018. "Strategies to uplift the wheat crop productivity by the sole and combined application of reclaiming agents under saline-sodic conditions" pp 257. Abstract published in 1<sup>st</sup> international and 2<sup>nd</sup> national conference on challenges and opportunities to boost agriculture in changing climate, held on 26-28, March at College of Agriculture BZU, Sub-Campus Layyah, Pakistan.
12. **Abdur Rehim**, Namra Khurshid, Muhammad Amjad Bashir, Hafiz Muhammad Ali Raza and Mubshar Hussain. 2018. "Maize fodder quality was enhanced by foliar application of phosphorus and zinc to overcome nutritional deficiencies in dairy animals" pp 259. Abstract published in 1<sup>st</sup> international and 2<sup>nd</sup> national conference on challenges and opportunities to boost agriculture in changing climate, held on 26-28, March at College of Agriculture BZU, Sub-Campus Layyah, Pakistan.
13. **Abdur Rehim**, Muhammad Aurangzeib, Shahid Hussain and Amjad Bashir. 2018. "Potassium forms and its adsorption on five differently-textured calcareous soils" p 306. 17th International Congress of Soil Science. March 13-15, 2018. Faisalabad, Pakistan.
14. Raza, Q.U.A., Bashir M.A., Rehim, A., and Raza H.M.A. 2023. Utilization of sugar industrial byproducts contributes to sustainable agriculture and environment. p 115. Abstract published in 1st International Conference on Soil Pollution and Remediation held on 15-16 March, 2023 Forman Christian College (A Chartered University), Lahore.
15. Bashir M.A., Raza, Q.U.A., Rehim, A., Raza H.M.A., Hassan, F., Noor A.I., Iqbal, M.U., Amir, M., Rasheed, I., Qasim Z., and Mahtab, A. 2023. Application of biostimulants to enhance the turnip production and quality compared with chemical fertilization. p 295. Abstract published in 32nd All Pakistan Annual Conference of Pakistan Society of Food Scientists and Technology held on March 8, 2023 at Bahuddin Zakariya University, Multan
16. Raza, Q.U.A. Bashir M.A., Rehim, A., Raza H.M.A., Noor A.I., Amir, M., Iqbal, M.U., and Hassan, F. 2023. Comparison of biostimulants and chemical fertilization on

- the production and quality of radish crop. p 355. Abstract published in 32nd All Pakistan Annual Conference of Pakistan Society of Food Scientists and Technology held on March 8, 2023 at Bahuddin Zakariya University, Multan.
17. Raza, Q.U.A. Bashir M.A., Rehim, A., Hassan, F., and Raza H.M.A. 2023. p 141. Abstract published in International Conference on Remote Sensing, GIS and Climate Change Applications, Strategies, Solutions & Education held on 13-15 March 2023, University of the Punjab, Lahore, Pakistan.
  18. Rehim, A. Raza, Q.U.A., and Bashir M.A. 2023. p 42. Exploring the Efficiency of Biostimulants for Radish Performance in Comparison to Chemical Fertilization. Virtual Event - 2nd Global Summit on Advances in Earth Science and Climate Change held during September 15-16, 2023.
  19. Noor, A.I., Raza, Q.U.A., Rehim, A., Raza, H.M.A., Basit A., Hassan F., Bashir M.A., Huzaifa, M. 2024. Investigating the Impact of Biostimulants and Moringa Leaf Extract on Brinjal (*Solanum melongena*) Yield in Comparison to Synthetic Fertilizers held on 16-17 April 2024 at MNS University of Agriculture, Multan.
  20. Raza, Q.U.A., Rehim, A., Bashir M.A., Huzaifa, M. 2024. Impact of Biostimulants on Yield and Quality of Brinjal held on 28-29 February 2024, Department of Agricultural Engineering, Bahauddin Zakariya University Multan, Pakistan.

|                                 |
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| <b>B: Published manuscripts</b> |
|---------------------------------|

21. Yaseen, M., M. Sohail, R. Mehmood, S. A. Hussain, **A. Rehim**, W. Ahmad and Saif-Ur-rehman Kashif. **2004**. Phosphorus use efficiency in wheat genotypes: II. Chemical composition. Pak. J. Life Soc. Sci., 2(2): 159-162.
22. Rashid, M., A. M. Ranja and **A. Rehim**. **2007**. Model based P fertilization to improve yield and quality of sorghum (*Sorghum bicolor* L.) fodder on an ustochrept soil. Pak. J. Agri. Sci., 44(2): 221-227.
23. **Rehim, A.**, G. H. Abbasi, M. Rashid and A. M. Ranja. **2007**. Methods of phosphorus application and irrigation schedule influencing wheat yield. Pak. J. Agri. Sci., 44(3): 420-422.
24. **Rahim, A.**, A. M. Ranjha, Rahamtullah, and E. A. Waraich. **2010**. Effect of phosphorus application and irrigation scheduling on wheat yield and phosphorus use efficiency. Soil & Environment 29 (1): 15-22.
25. **Rehim A.**, M. Hussain, M. Abid, M. Zia ul Haq, and S. Ahmed. **2012**. Phosphorus use efficiency of *Triticum aestivum* L. as affected by band placement of phosphorus and farm yard manure on calcareous soil. Pak. J. Bot., 44 (4) 1391-1398.

26. **Rehim A.**, M. Farooq, F. Ahmad, and M. Hussain. **2012**. Band placement of phosphorus improves the phosphorus use efficiency and wheat productivity under different irrigation regimes. *Int. j. Agric. Biol*, 14 (5) 727-733.
27. Hussain M., W. Bashir, S. Farooq, and **A. Rehim**. **2013**. Root development, allometry and productivity of Maize hybrids under terminal drought sown by varying method. *Int. j. Agric. Biol*, 15(6) 1243-1250.
28. Naz I., **A. Rehim**, M. Zafar-ul -Hye, Z. A. Zahir, M. Abid, M. A. Ali, and M. Hussain. **2013**. Effectiveness of ACC-deaminase containing *Pseudomonas* strains to induce salinity tolerance in maize under fertilized and unfertilized field conditions. *Soil & Environment* 32 (2): 167-172.
29. Ali M. A., N. H. Tariq, N. Ahmed, M. Abid and **A. Rahim**. **2013**. Response of wheat (*Triticum Aestivum* L.) to soil applied Boron and Zinc fertilizer under irrigated conditions. *Pak. J. Agri. Agril. Engg. Vet. Sci.* 29(2): 114-125.
30. **Rehim, A.**, M. Z. Hye, M. Imran, M. A. Ali and M. Hussain. **2014**. Phosphorus and zinc application improves rice productivity. *Pak. J. Sci.* 66(2): 134-139.
31. Zafar ul hye, M., **A. Nasir**, Z. A. Zaheer, **A. Rehim** and M. Ahmad. **2014**. Rhizobacterial inoculation integrated with mineral fertilizers promote maize productivity in compacted saline sodic soil. *Pak. J. Agri. Agril. Engg. Vet. Sci.* 30(1): 43-53.
32. Khalil Ahmed, Ghulam Qadir, Abdul-Rehman Jami1, M. Qaisar Nawaz, **Abdur Rehim**, Khawar Jabran and Mubshar Hussain. **2015**. Gypsum and farmyard manure application with chiseling improve soil properties and performance of fodder beet under saline sodic conditions. *Int. j. Agric. Biol.*, 17(6): 1225-1230.
33. Ahmed, K., G. Qadir, M.Q. Nawaz, A. I. Saqib, **A. Rehim**, M. Imran, M.A. Zaka and N. Sarwar. **2015**. Response of Black Cumin (*Nigella sativa* L.) to Different Levels of Ece and SAR. *Int. J. Biosci.* 7 (6): 65-73.
34. Muhammad Imran, **Abdur Rehim**, Nadeem Sarwar, and Saddam Hussain. **2016**. Zinc bioavailability in maize grains in response of phosphorus-zinc interaction. *J. Plant Nutr. Soil Sci.* 179: 60-66. DOI:10.1002/jpln.201500441.
35. **Rehim, A.**, M. Hussain, S. Hussain, S. Noreen, H. Dogan, M, Ziaulhaq and S. Ahmad **2016**. Band application of phosphorus with farm manure improves phosphorus use efficiency, productivity and net returns of wheat on sandy clay loam soil. *Turkish Journal of Agriculture and Forestry*. 40(3): 319-326. TAR-1505-133.
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| <b>C: Accepted manuscripts</b> |
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| <b>D: Book Chapters</b> |
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90. Bashir, M.A., **Rehim, A.**, Qurat-Ul-Ain Raza, H.M., Raza, A., Zhai, L., Liu, H., Wang, H., Ahmad, F. and Muhammad, S. (2021). Biostimulants as plant growth stimulators in modernized agriculture and environmental sustainability. *Technology in Agriculture*, pp.311-322.
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| <b>E: Distinctions</b> |
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1. HEC approved supervisor
2. Mr. Muhammad Imran (Ph.D. Student) has been selected for International Plant Nutrition Institute (IPNI) Scholar Award. (2015).

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| <b>F: Booklets/Popular Article Published</b> |
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1. Nazir Hussain, M. Anwar Zaka, Abdul Rasool Naseem, Ahmad Ali Khan, Ghulam Sarwar, Fakhar Mujeeb and **Abdur Rehim**. "Reclamation of salt affected soils and brackish water and their use (in Urdu)". (2004-05). Soil Salinity Research Institute, Pindi Bhattian.
2. Imran, M. and **A. Rehim**. 2015. Zinc Biofortification of Maize crop by Managing Phosphorous. The Pakistan Times. December 12, 2015

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