Muhammad Mubashar Zafar

Proficient Research Scientist

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Feb 04, 1992

- Innovative expert with extensive experience in conventional, molecular and marker assisted cotton breeding.
- Proficient in tools & techniques in advanced plant breeding
- Innovative, dedicated and accomplished cotton plant breeding researcher with substantial blend of scientific knowledge and experience in genetics and fiber quality research

PROFESSIONAL QUALIFICATION

- **Lecturer, Department of Plant Breeding and Genetics, University of Agriculture, Faisalabad (Present)**
- **Postdoc Researcher, Hainan University, Haikou China** (2023-2024)
- **Cotton Research Institute, GSCAAS** (2019-2023)
  PhD Biochemistry and Plant Molecular Biology
  Outstanding Graduate Student Award GSCAAS, China (2023)
- **University of Agriculture, Faisalabad** (2016-2018)
  M.Sc. (Hons.) Plant Breeding and Genetics
  CGPA obtained: 3.73 Grade: A
- **University of Agriculture, Faisalabad** (2012-2016)
  B.Sc. (Hons.) Plant Breeding and Genetics
  CGPA obtained: 3.62 Grade: A

CORE STRENGTHS & ENABLING SKILLS

- Conventional and Molecular Breeding
- Academic Research
- Project Management
- Association Mapping
- Fine Mapping
- QTL Mapping
- Documentation & Reporting
- Motivation & Interpersonal Skills
- Leadership & Presentation Skills

PROFESSIONAL EXPERIENCE

Editorial Member BMC Plant Biology (5.26 Impact factor) https://bmcplantbiol.biomedcentral.com/about/editorial-board
Editorial Member Journal of Crop Health (2.9 Impact factor) https://www.springer.com/journal/10343/editors
Associat Editor Discover Applied Sciences (2.6 Impact factor) https://link.springer.com/journal/42452/editors
Turkish Journal of Agriculture and Forestry (3.0 Impact factor) https://journals.tubitak.gov.tr/agriculture/editorialboard.html
Guest Editor in Genes MDPI (4.14 Impact factor) https://www.mdpi.com/journal/genes/special_issues/0VZN8320FG
Senior Editor in Int. Journal of Agri & Biosciences http://www.ijagbio.com/editorial-boar/
Associate Editor in Agrobiological Records https://agrobiologicalrecords.com/archive.php
Biotechnology for the Environment https://biotechforenvironment.biomedcentral.com/about/editorial-board
Editor in Chief Trends in Animal and Plant Sciences https://trendsaps.com/Board.php

Cotton Research Institute, GSCAAS, China
Worked as *"**Research Associate**"*, 10-Oct-2019 to 15-Dec-2022

Four Brothers Seed Corporation, Lahore, Pakistan
Worked as **"Research Associate"**, 05-Aug-2021 to 09-Apr-2022

Additional Experience

- Worked as "***Internee***" in Oil Crop Research Institute in Ayub Agricultural Research Institute Faisalabad, Pakistan (4 months)
- Worked as "***Internee",*** wheat campaign launched by Punjab Govt. Pakistan (one month)

PROFESSIONAL CERTIFICATIONS, COURSES & TRAININGS

- Attended "Rotract Fellowship Conference of Rotract District 3272 at Sangam Hotel Muzaffarabad Azad Kashmir" (2018).
- Attended workshop on "Molecular Approaches for Crop Improvement", by Institute of Horticultural Sciences and Center of Agricultural Biochemistry & Biotechnology at University of Agriculture Faisalabad, Pakistan (2014)
- Attended workshop on "Hands-on Training on Application of Genomics in Plant Breeding", by Department of Plant Breeding and Genetics at University of Agriculture Faisalabad, Pakistan (2014)
- Attended international conference on "Recent Trends in Maize Production", by Department of Plant Breeding and Genetics at University of Agriculture Faisalabad, Pakistan (2014)
- Attended workshop on "Capacity Building in Seed Technology", by Department of Crop Physiology at University of Agriculture Faisalabad, Pakistan (2014)
- Attended workshop on "Allelopathy Research in Pakistan: Experiences and Opportunities", by Department of Botany, Crop Physiology & Agronomy (2013)
- Attended international seminar on "Seed Production & Supply Chain", by Department of Plant Breeding and Genetics & Office of Research Innovation and Commercialization (ORIC) at University of Agriculture Faisalabad, Pakistan (2013)
- Attended "One day unit camping held at Gutt wala Park" by Teepu Rover Scout Unit, University of Agriculture Faisalabad, Pakistan (2011)
- Attended "Training workshop on English Vocabulary" by Deartment of Social Sciences and Humanities, University of Agriculture Faisalabad, Pakistan (2011)

RESEARCH PUBLICATIONS

- **Muhammad Mubashar Zafar**, Razzaq, A., Anwar, Z., Ijaz, A., Zahid, M., Iqbal, M. S., ... & Jiang, X. (2025). Enhancing salt tolerance and yield potential in cotton: insights from physiological responses, genetic variability, and heterosis. ***Turkish Journal of Agriculture and Forestry,*** *49*(1), 110-124. **IF (3.0)**
- **Muhammad Mubashar Zafar**, Ijaz, A., Anwar, Z., Iqbal, M. S., Zafar, S., Subhan, M., ... & Jiang, X. (2025). Harnessing genetic diversity in cotton for enhanced resilience against salt stress by using agro-physiological characters. ***Plant Production Science,*** *28*(1), 51-68. **IF (2.47)**
- Rather, B. A., Masood, A., Qiao, F., Jiang, X., **Muhammad Mubashar Zafar**, Cong, H., & Khan, N. A. (2025). The role of nitric oxide and nitrogen in mediating copper stress in Brassica juncea L. ***Plant Science,*** 112414. **IF (6.8)**
- Shoukat, A., Maryam, U., Pitann, B., **Muhammad Mubashar Zafar***, Nawaz, A., Hassan, W., ... & Mühling, K. H. (2025). Efficacy of Nano and Conventional Zinc and Silicon Fertilizers for Nutrient Use Efficiency and Yield Benefits in Maize Under Saline Field Conditions. ***Plants,*** *14*(5), 673. **IF (4.5)**
- Ashraf, M. N., Mehmood, I., Farooqi, Z. U. R., Hassan, M. I., Sanaullah, M., **Muhammad Mubashar Zafar**, & Elhindi, K. M. (2025). Long-term grass lawn management increases soil organic carbon sequestration and microbial carbon use efficiency. ***Environmental Monitoring and Assessment,*** *197*(4), 1-11. **IF (2.2)**
- Bai, Y., Huang, X., Yao, R., **Muhammad Mubashar Zafar***, Chattha, W. S., Qiao, F., & Cong, H. (2024). Transcriptome and genome-wide analysis of the mango glycosyltransferase family involved in mangiferin biosynthesis. ***BMC genomics***, *25*(1), 1074. **IF (3.5)**
- **Muhammad Mubashar Zafar**, Razzaq, A., Chattha, W. S., Ali, A., Parvaiz, A., Amin, J., ... & Jiang, X. (2024). Investigation of salt tolerance in cotton germplasm by analyzing agro-physiological traits and ERF genes expression. ***Scientific reports***, *14*(1), 11809. **IF (4.99)**

- Kamal, H†., **Muhammad Mubashar Zafar**†, Parvaiz, A., Razzaq, A., Elhindi, K. M., Ercisli, S., ... & Jiang, X. (2024). Gossypium hirsutum calmodulin-like protein (CML 11) interaction with geminivirus encoded protein using bioinformatics and molecular techniques. ***International Journal of Biological Macromolecules,*** 132095. **IF (8.30)**
- Kamal, H., Zafar, M. M., Razzaq, A., Parvaiz, A., Ercisli, S., Qiao, F., & Jiang, X. (2024). Functional role of geminivirus encoded proteins in the host: past and present. ***Biotechnology Journal,*** *19*(6), 2300736. **IF (4.7)**
- KAMAL, H., **Muhammad Mubashar Zafar***, RAZZAQ, A., IJAZ, A., ANVAR, Z., TOPÇU, H., ... & JIANG, X. (2024). Using computational modeling to design antiviral strategies and understand plant-virus interactions. ***Turkish Journal of Agriculture and Forestry***, *48*(3), 417-429. **IF (3.0)**
- Zahra, L. T., Qadir, F., Khan, M. N., Kamal, H., Zahra, N., Ali, A., **Muhammad Mubashar Zafar***, & Jiang, X. (2024). Seed treatment: an alternative and sustainable approach to cotton seed delinting. *Frontiers in Bioengineering and Biotechnology*, *12*, 1376353. **IF (4.3)**
- Firdous, H., Ali, A., Saleem, S., Razzaq, A., Mustafa, G., Ercisli, S., ... & **Muhammad Mubashar Zafar*.** (2024). Development of genetically modified rust resistant wheat: A breakthrough by dinted introgression of novel DREB2C and HSFA2 genes under stress induced expression. ***Plant Stress***, *14*, 100636. **IF (6.8)**
- **Muhammad Mubashar Zafar**, Iqbal, M. S., Kamal, H., Khan, A. I., Sarfraz, S. A., Razzaq, A., & Shakeel, A. (2024). Advancing heat tolerance in cotton through integration of multiple stress tolerance indices and multivariate analyses. ***Int. J. Agric. Biosci***, *13*, 65-75.
- Firdous, H., Ali, A., Zafar, M. M., Joyia, F. A., Hamza, M., Razzaq, A., **Muhammad Mubashar Zafar*** & Jiang, X. (2024). Nuclear integration of MYB36 and APX-1 genes impart heat tolerance in wheat. ***Functional & Integrative Genomics***, *24*(5), 185. **IF (3.9)**
- Shoukat, A., Pitann, B., **Muhammad Mubashar Zafar**, Farooq, M. A., Haroon, M., Nawaz, A., ... & Saqib, Z. A. (2024). Nanotechnology for climate change mitigation: Enhancing plant resilience under stress environments. ***Journal of Plant Nutrition and Soil Science,*** *187*(5), 604-620. **IF (2.9)**
- Razzaq, A., **Muhammad Mubashar Zafar**, Zahra, L. T., Qadir, F., Qiao, F., & Jiang, X. (2024). Smog: Lahore needs global attention to fix it. ***Environmental Challenges,*** 100999.
- Zain-ul-Hudda, T. F., Qadir, F., Alam, R., Shehzad, S., Iqbal, S., Tabbusam, R., **Muhammad Mubashar Zafar*** & Razzaq, A. (2024). Transformation of Allium sativum Leaf Agglutinin (ASAL) Gene in Cotton through Pollen Tube Method to Enhance Resistance against Whitefly. *International Journal of Agriculture and Biosciences*, *13*(3), 456-462.
- Cheng, H., Yang, C., Ge, P., Liu, Y., **Muhammad Mubashar Zafar**, Hu, B., ... & Ren, M. (2024). Genetic diversity, clinical uses, and phytochemical and pharmacological properties of safflower (Carthamus tinctorius L.): an important medicinal plant. ***Frontiers in Pharmacology***, *15*, 1374680. **IF (5.6)**
- **Muhammad Mubashar Zafar**, Chattha, W. S., Khan, A. I., Zafar, S., Subhan, M., Saleem, H., ... & Xuefei, J. (2023). Drought and heat stress on cotton genotypes suggested agro-physiological and biochemical features for climate resilience. ***Frontiers in Plant Science***, *14*. **IF (5.6)**
- **Muhammad Mubashar Zafar**, Zhang, H., Ge, P., Iqbal, M. S., Muneeb, A., Parvaiz, A., ... & Maozhi, R. (2023). Exploiting Morphophysiological Traits for Yield Improvement in Upland Cotton under Salt Stress. ***Journal of Natural Fibers***, *20*(2), 2282048. **IF (3.5)**
- Razzaq, A., **Muhammad Mubashar Zafar**†., Ali, A., Li, P., Qadir, F., Zahra, L. T., ... & Gong, W. (2023). Biotechnology and Solutions: Insect-Pest-Resistance Management for Improvement and Development of Bt Cotton (Gossypium hirsutum L.). ***Plants***, *12*(23), 4071. **IF (4.5)**
- Haroon, Muhammad, Hala Tariq, Rabail Afzal, Muhammad Anas, Shanza Nasar, Neha Kainat, Sajid Fiaz, Uswa Irfan, Fahad Idrees, and **Muhammad Mubashar Zafar***. "Progress in genome-wide identification of RBPs and their role in mitigating stresses, and growth in plants." **South African Journal of Botany** 160 (2023): 132-146. **IF (3.1)**
- Ali, Ahmad, **Muhammad Mubashar Zafar†***, Zunaira Farooq, Syed Riaz Ahmed, Aqsa Ijaz, Zunaira Anwar, Huma Abbas et al. (2023). Breakthrough in CRISPR/Cas system: Current and future directions and challenges." **Biotechnology Journal** : 2200642. **IF (5.8)**
- Ahmed, S. R., Anwar, Z., Shahbaz, U., Skalicky, M., Ijaz, A., Tariq, M. S., ... & **Muhammad Mubashar Zafar***. (2023). Potential Role of Silicon in Plants Against Biotic and Abiotic Stresses. ***Silicon***, *15*(7), 3283-3303. **IF (3.00)**
- Razzaq, Abdul, Arfan Ali, Sara Zahid, Arif Malik, Li Pengtao, Wankui Gong, Yuan Youlu, Sezai Ercisli, Muhammad Bilawal Junaid, and **Muhammad Mubashar Zafar***. "Engineering of cry genes “Cry11 and Cry1h” in cotton (Gossypium hirsutum L.) for protection against insect pest attack." **Archives of Phytopathology and Plant Protection** 56, no. 5 (2023): 384-396. **IF (1.00).**

- Ali, M., Shaukat, F., Khan, W., Syed, A., Maqsood, J., Kamal, H., ... & **Muhammad Mubashar Zafar***. (2023). Microsatellite-based diversity analysis and the development of core-set germplasm in Pakistani barley lines. ***Cellular and Molecular Biology***, *69*(10), 100-108. **IF (1.6).**
- Iqbal, Z., Iqbal, M. S., Alamery, S., Shehzad, K., Zaman, Q. U., Attacha, S., **Zafar MM** ... & Du, X. (2023). Genome-wide association study reveals novel genes on different chromosomal positions regulating boll weight in upland cotton (Gossypium hirsutum L.). ***Genetic Resources and Crop Evolution***, 1-15. **IF (2.1)**
- **Muhammad Mubashar Zafar**, Mustafa, G., Shoukat, F., Idrees, A., Ali, A., Sharif, F., Shakeel, A., Mo, H., Youlu, Y., Ali, Q., Razzaq, A., Ren, M., and Li, F. (2022). "Heterologous expression of cry3Bb1 and cry3 genes for enhanced resistance against insect pests in cotton." ***Scientific Reports***, 12(1), 10878. **IF (4.996).**
- **Muhammad Mubashar Zafar**, Abdul Rehman, Abdul Razzaq, Aqsa Parvaiz, Ghulam Mustafa, Huijuan Mo, Yuan Youlu, Amir Shakeel, and Maozhi Ren (2022). "Genome Wide Characterization, Identification And Expression Analysis Of Erf Gene Family In Cotton." ***BMC Plant Biology*** **IF (5.260).**
- **Muhammad Mubashar Zafar,** Xue Jia, Amir Shakeel, Zareen Sarfraz, Abdul Manan, Ali Imran, Huijuan Mo, Arfan Ali, Yuan Youlu, Abdul Razzaq, Muhammad Shahid Iqbal, Maozhi Ren (2022). Unraveling heat tolerance in upland cotton (Gossypium hirsutum L.) using univariate and multivariate analysis. ***Frontiers in Plant Science***: 12. **IF (6.627).**
- **Muhammad Mubashar Zafar,** Yufang Zhang, Muhammad Awais Farooq, Arfan Ali, Hina Firdous, Muhammad Haseeb, Sajid Fiaz, Amir Shakeel, Abdul Razzaq, and Maozhi Ren. "Biochemical and Associated Agronomic Traits in Gossypium hirsutum L. under High Temperature Stress." ***Agronomy*** 12, no. 6 (2022): 1310. **IF (3.949)**
- Razzaq, Abdul†, **Muhammad Mubashar Zafar†,** Arfan Ali, Hafeez A, Sharif F, Guan X, Deng X, Pengtao L, Shi Y, Haroon M, Gong W, Ren M and Yuan Y (2022) The Pivotal Role of Major Chromosomes of Sub-Genomes A and D in Fiber Quality Traits of Cotton. ***Frontiers in Genetics***: 12:642595. **IF (4.772).**
- Zhang, Yufang, Wenkang Li, Yiming Hu, Tianze Ding, **Muhammad Mubashar Zafar**, Xue Jia, Liya Zhang, Maozhi Ren, Fuguang Li, and Wenjing Wang. "Cotton flower metabolites inhibit SARS-CoV-2 main protease." *FEBS Open bio* (2022). **IF (2.79).**
- Haroon, Muhammad, Xiukang Wang, Rabail Afzal, **Muhammad Mubashar Zafar**, Fahad Idrees, Maria Batool, Abdul S. Khan, and Muhammad Imran. 2022. "Novel Plant Breeding Techniques Shake Hands with Cereals to Increase Production" ***Plants*** 11, no. 8: 1052. **IF (4.9).**
- Haroon, Muhammad, Rabail Afzal, **Muhammad Mubashar Zafar**, Hongwei Zhang, and Lin Li. "Ribonomics Approaches to Identify RBPome in Plants and Other Eukaryotes: Current Progress and Future Prospects." ***International Journal of Molecular Sciences*** 23, no. 11 (2022): 5923. **IF (6.208).**
- Muhammad Awais Farooq†, Xiaomeng Zhang†, **Muhammad Mubashar Zafar†,** Wei Ma, Jianjun Zhao (2021). Roles of Reactive Oxygen Species and Mitochondria in Seed Germination. ***Frontiers in Plant Science***:2911. **IF (6.627).**
- Razzaq, Abdul, **Muhammad Mubashar Zafar,** Li Pengtao, Xiaoying Deng, Arfan Ali, Abdul Hafeez, Aiying Liu et al (2021). "Transformation and overexpression of primary cell wall synthesis-related zinc finger gene *Gh_A07G1537* to improve fiber length in cotton." ***Frontiers in Plant Science***: 12. **IF (6.627).**
- **Muhammad Mubashar Zafar**, Amir Shakeel, Muhammad Haroon, Abdul Manan, Adeela Sahar, Abbas Shoukat, Huijuan Mo, Muhammad Awais Farooq & Maozhi Ren (2021): Effects of Salinity Stress on Some Growth, Physiological, and Biochemical Parameters in Cotton (*Gossypium hirsutum* L.) Germplasm, ***Journal of Natural Fibers,*** DOI: 10.1080/15440478.2021.1975596. **IF (3.507).**
- **Muhammad Mubashar Zafar**, Abdul Manan, Abdul Razzaq, Misbah Zulfqar, Asif Saeed, Muhammad Kashif, Azeem Iqbal Khan, Zareen Sarfraz, Huijuan Mo, Muhammad Shahid Iqbal, Amir Shakeel and Maozhi Ren (2021). "Exploiting Agronomic and Biochemical Traits to Develop Heat Resilient Cotton Cultivars under Climate Change Scenarios." ***Agronomy***, 11(9), 1885. **IF (3.949)**
- Abdul Manan†, **Muhammad Mubashar Zafar†,** Maozhi Ren, Muhammad Khurshid, Adeela Sahar, Abdul Rehman, Hina Firdous, Yuan Youlu, Abdul Razzaq and Amir Shakeel. "Genetic analysis of biochemical, fiber yield and quality traits of upland cotton under high-temperature." **Plant Production Science** (2021). 1-14. **IF (2.471).**
- Abdul Razzaq†, Arfan Ali†, **Muhammad Mubashar Zafar†,** Aisha Nawaz, Deng Xiaoying, Li Pengtao, Ge Qun, Muhammad Ashraf, Maozhi Ren, Wankui Gong & Yuan Youlu (2021) Pyramiding of *cry* toxins and methanol

producing genes to increase insect resistance in cotton, **GM Crops & Food**, 12:1, 382-395, DOI: 10.1080/21645698.2021.1944013. **IF (3.118)**

- Adeela Sahar†, **Muhammad Mubashar Zafar**†, Abdul Razzaq†, Abdul Manan, Muhammad Haroon, Sunaina Sajid, Abdul Rehman, Huijuan Mo, Muhammad Ashraf, Maozhi Ren, Amir Shakeel and Yuan Youlu (2021). "Genetic variability for yield and fiber related traits in genetically modified cotton." ***Journal of Cotton Research***, 4(1), 19. **IF (2.7).**
- Abdul Hafeez, Abdul Razza, Aijaz Ahmed, Aiying Liu, Ge Qun, Li Junwen, Yuzhen Shi, Xiaoying Deng, **Muhammad Mubashar Zafar,** Arfan Ali, Wankui Gong, Youlu Yuan. 2021. Identification of hub genes through co-expression network of major QTLs of fiber length and strength traits in multiple RIL populations of cotton. ***Genomics,*** *113*(3), 1325-1337. **IF (4.310).**
- RAZZAQ, Abdul, **Muhammad Mubashar ZAFAR**, A. L. I. Arfan, Abdul HAFEEZ, Wajeeha BATOOL, S. H. I. Yuzhen, G. O. N. G. Wankui, and Y. U. A. N. Youlu. "Cotton germplasm improvement and progress in Pakistan." ***Journal of Cotton Research*** 4, no. 1 (2021): 1-14. **IF (2.7).**
- Farooq, Muhammad Awais, Amir Shakeel, **Muhammad Mubashar Zafar,** Muhammad Farooq, Waqas Shafqaat Chattha, and Tayyab Husnain. "A Study Towards the Development of Salt Tolerant Upland Cotton (Gossypium Hirsutum L.)." ***Journal of Natural Fibers*** (2020): 1-17. **IF (3.507).**
- **Muhammad Mubashar Zafar**, Abdul Razzaq, Muhammad Awais Farooq, Abdul Rehman, Hina Firdous, Amir Shakeel, Huijuan Mo, Maozhi Ren, Muhammad Ashraf, and Yuan Youlu. "Genetic Variation Studies of Ionic and within Boll Yield Components in Cotton (Gossypium Hirsutum L.) Under Salt Stress." ***Journal of Natural Fibers*** (2020): 1-20. **IF (3.507).**
- **Muhammad Mubashar Zafar**, Abdul RAZZAQ, Muhammad Awais FAROOQ, Abdul REHMAN, Hina FIRDOUS, Amir SHAKEEL, M. O. Huijuan, and R. E. N. Maozhi. "Insect resistance management in Bacillus thuringiensis cotton by MGPS (multiple genes pyramiding and silencing)." ***Journal of Cotton Research*** 3, no. 1 (2020): 1-13. **IF (2.7).**
- Razzaq, Abdul, Arfan Ali, Luqman Bin Safdar, **Muhammad Mubashar Zafar**, Yang Rui, Amir Shakeel, Abbad Shaukat, Muhammad Ashraf, Wankui Gong, and Youlu Yuan. "Salt stress induces physiochemical alterations in rice grain composition and quality." ***Journal of food science*** 85, no. 1 (2020): 14-20. **IF (3.693).**
- Ren, Maozhi, **Muhammad Mubashar Zafar**, Huijuan Mo, Zhaoen Yang, and Fuguang Li. "Fighting against fall armyworm by using multiple genes pyramiding and silencing (MGPS) technology." ***Sci China Life Sci*** 62, no. 12 (2019): 1703-6. **IF (10.372)**.

LANGUAGES

1. Native Languages

Urdu, Punjabi
Grade: A
Level: Upper, Fluent

2. Foreign Languages

English
Grade: A

3. Chinese Language HSK 3

Score: 227

References

On demand