

Dr. Zilhas Ahmed Jewel

Plant Breeding & Genetics | Genomics | Crop Improvement
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Research direction:

- i. Use Plant molecular breeding approach and genomic tools to develop plant cultivars and improved traits under biotic and abiotic stress.
- ii. Pyramiding and breeding application of new genes for resistance to developed new cultivars.

Resume:

- i. **2011-2015 Ph.D Plant Breeding and Plant Genetics**, University of the Philippines Los Banos, the Philippines
PhD Thesis title: “Development of nutrient use efficient (NUE) rice (*Oryza sativa* L.) Cultivars and identification of QTLs governing NUE related traits”.
PhD Research Institute: Plant Breeding, Genetics and Biotechnology Division, Genetics and Genomic Laboratory, International Rice Research Institute, Los Banos, the Philippines
- ii. **2008-2010 Master of Science (M.Sc.) Genetics and Plant Breeding**, Bangladesh Agricultural University, Mymensingh, Bangladesh
M.Sc. Thesis title: “Genetic and physico-chemical study of aromatic rice germplasm through molecular markers”
M.Sc. Research Institute: Plant Biotechnology Division, Bangladesh Institute of Nuclear Agriculture (BINA), Bangladesh Agricultural University Campus, Mymensingh, Bangladesh
- iii. **2002-2008 Bachelor of Science in Agriculture (B.Sc. Ag.)** Patuakhali Science and Technology University, Bangladesh.

Working Experience:

1. **Dean Faculty of Agriculture:** September 2024 to date- Faculty of Agriculture at Gopalganj Science and Technology University, Gopalganj-8100, Bangladesh
2. **Head Department of Agriculture:** September 2024 to date- Department of Agriculture (Plant Breeding & Plant Genetics) Gopalganj Science and Technology University, Gopalganj- 8100, Bangladesh
3. **Head Department of Animal Science and Veterinary Medicine:** May 2025 to date- Department of Animal Science and Veterinary Medicine, Gopalganj Science and Technology University, Gopalganj-8100, Bangladesh
4. **Associate Professor:** September 2023 to date-Department of Agriculture (Plant Breeding & Plant Genetics) at Gopalganj Science and Technology University, Gopalganj- 8100, Bangladesh
5. **Assistant Professor:** April 2018 to September 2023-Department of Agriculture (Plant Breeding & Plant Genetics) at Gopalganj Science and Technology University, Gopalganj-8100, Bangladesh
6. **Post Doctoral Fellow:** January 2022 to June 2022- Department of Integrative Biological Sciences and Industry , Sejong University, Seoul, South Korea
7. **Assistant Scientist (Post-Doctoral Fellow)-Plant Breeding:** February, 2016 to April, 2018-, International Rice Research Institute (IRRI)
8. **PhD Research Scholar:** May, 2011 to July, 2015- Plant Breeding, Genetics and Biotechnology Division, International Rice Research Institute (IRRI), Los Banos, Laguna, Philippines
9. **Technology Development Scientist:** May, 2010 to July, 2011- Molecular Biology Laboratory, BRAC Agriculture Research and Development Centre, Gazipur, Bangladesh.
10. **M. Sc Research Scholar:** August, 2008 to December, 2010-Plant Biotechnology Division, Bangladesh Institute of Nuclear Agriculture (BINA), Bangladesh Agricultural University Campus, Mymensingh, Bangladesh
11. **Research Monitoring Officer:** August, 2009 to December, 2010- International Fertilizer Development Center, Bangladesh

Scholarship/Fellowship/Awarded:

- i. Certificate of Outstanding Paper in 2019 Published in the Journal of Crop for the “Developing green super rice varieties with high nutrient use efficiency by phenotypic selection under varied nutrient conditions”. The Crop Journal, 7(3), 368– 377.<https://doi.org/10.1016/j.cj.2019.01.002>. (SCI-Impact factor:3.658)
- ii. Bill and Melinda Gates Foundation (BMGF Scholarship) through International Rice Research Institute- Green Super Rice Project, Los Banos, Laguna, Philippines
- iii. International Rice Research Institute awarded on work with “Development of nutrient use efficient (NUE) rice (*Oryza sativa* L.) cultivars and identification of QTLs governing NUE related traits” 3 May 2011 to 7 July,2015, International Rice Research Institute, Los Banos, Laguna, Philippines
- iv. International Rice Research Institute Training Centre awards Plaque of Appreciation for distinguished leadership and dedicated service to Association of Fellows, Scholars, Trainees and Residents of IRRI in 2012, given at 23 February 2013, Los Banos, Laguna, Philippines
- v. The Chinese Ministry of Science and Technology Provide Young Talented Scientist Fellowship April 20, 2020 to April 19, 2021 at Haiko Experimental Station of Chinese Academy of Tropical Agricultural Science Hainan ,China.

Publications : (Book-1, Book Chapter-1, Research Paper-14)

Book Chapter:

1. Plant Genetics and Molecular Breeding (Two Chapter Contribute), MDPI-Books, Publishing open Access books and series, ISBN 978-3-03921-175-3 (Pbk); ISBN 978-3-03921-176-0 (PDF) <https://doi.org/10.3390/books978-3-03921-176-0> ©2019 by the authors; CC BY-NC-ND licence, Published: July 2019 (This book is a printed edition of the Special Issue Plant Genetics and Molecular Breeding that was published in IJMS).

Book:

1. Genetic Study of Aromatic Rice through Molecular Markers” LAP Lambert Academic Publishing, German, ISBN 978-3-8465-2977-5, October, 2011

Research Paper:

1. Md. Masudul Hassan, Muhammad Ashraf Habib, Swati Nayak, **Zilhas Ahmed Jewel**, Samira Islam Resmi, Mahamudul Hasan. Evaluating farmers' satisfaction from high-yielding rice (*Oryza sativa*) variety cultivation in boro season: evidence from adaptive trials in Bangladesh. Journal of the Saudi Society of Agricultural Sciences (2025) 24:40 <https://doi.org/10.1007/s44447-025-00047-2>
2. Shumon, Saiful Islam, Nayan Chandra Howlader, **Zilhas Ahmed Jewel**, Hasan Miah, Sarah Khan, Nahidul Islam, and others, ‘Diversity Analysis of Rice Genotypes Collected from Six Southern Districts of Bangladesh Based on Agro-Morphological Traits’, Journal of Agroforestry and Environment 18.1 (2025), 52–65, <https://doi.org/10.55706/jae1807>
3. Shu, Haiyan, **Zilhas Ahmed Jewel**, Omor Faruk, Luqiong He, Qing Wei, Rulin Zhan, and Shenghe Chang. 2025. "Immune Responses of Mango Callus Infected by *Agrobacterium tumefaciens* Inhibited Transformation" International Journal of Molecular Sciences 26, no. 11: 5006. <https://doi.org/10.3390/ijms26115006>
4. Omor Faruk , **Zilhas Ahmed Jewel** , Sanjoy Bairagi , Mohammad Rasheduzzaman , Hindol Bagchi , Akber Subahan Mahbub Tuha , Imran Hossain , Ayon Bala , Sarafat Ali , Phage treatment of multidrug-resistant bacterial infections in humans, animals, and plants: The current status and future prospects, Infectious Medicine (2025), doi: <https://doi.org/10.1016/j.imj.2025.100168>
5. Md. Mahmud Al Noor , Md. Tahjib-Ul-Arif , S. M. Abdul Alim , Md. Mohimenul Islam , Md. Toufiq Hasan , Md. Ali Babar , Mohammad Anwar Hossain , **Zilhas Ahmed Jewel** , Yoshiyuki Murata and Mohammad Golam Mostofa (2024) Lentil adaptation to drought stress: response, tolerance, and breeding approaches. Front. Plant Sci. 15:1403922. <https://doi.org/10.3389/fpls.2024.1403922>
6. **Zilhas Ahmed Jewel**, Ali, Jauhar., Pang, Y., Mahender, A., Acero, B., Hernandez, J., Li, Z. (2019). Developing green super rice varieties with high nutrient use efficiency by phenotypic selection under varied nutrient conditions. The Crop Journal, 7(3), 368–377. <https://doi.org/10.1016/j.cj.2019.01.002> (SCI-Impact factor: 4.407)
7. **Zilhas Ahmed Jewel** Ali, Jauhar.; Mahender, A.; Hernandez, J.; Pang, Y.; Li, Z. Identification of Quantitative Trait Loci Associated with Nutrient Use Efficiency Traits, Using SNP Markers in an Early Backcross Population of Rice (*Oryza sativa* L.). Int. J. Mol. Sci. 2019, 20, 900. <https://doi.org/10.3390/ijms20040900> (SCI-Impact factor: 5.923 and Cite score 6.0 SCOPUS).
8. Ali, Jauhar.; **Zilhas Ahmed Jewel**.; Mahender, A.; Anandan, A.; Hernandez, J.; Li, Z. Molecular Genetics and Breeding for Nutrient Use Efficiency in Rice. Int. J. Mol. Sci. 2018, 19, 1762. <https://doi.org/10.3390/ijms19061762> (SCI-Impact factor: 5.923 and Cite score 6.0 SCOPUS)
9. Varunseelan Murugaiyan, Jauhar Ali, Anumalla Mahender, Umair M Aslam, **Zilhas Ahmed Jewel**.

- Yunlong Pang, Corinne M Marfori-Nazarea, Lin-Bo Wu, Michael Frei, Zhikang Li (2019). Mapping of genomic regions associated with arsenic toxicity tolerance in a backcross breeding population of rice (*Oryza sativa* L). *Rice*(2019) 12:61, <https://doi.org/10.1186/s12284-019-0321-y> (SCI-Impact factor: 4.625)
10. Najeeb Ul-Rehman Sofi, Jauhar Al, Anumalla Mahender, Yunlong Pang, **Zilhas Ahmed Jewel**, Varunseelan Murugaiyan, Lakshminarayana R Vemireddy, Zhikang Li, "Identification of main-effect quantitative trait loci (QTLs) for low- temperature stress tolerance germination- and early seedling vigor- related traits in rice (*Oryza sativa* L. *Mol Breeding* (2020) 40:10 <https://doi.org/10.1007/s11032-019-1090-4> (SCI-Impact factor:2.149)
 11. Al Noor, Md. Mahmud, Quazi Forhad Quadir, Jobadatun Naher, **Zilhas Ahmed Jewel**, Harun-or Rashid, Tusher Chakrobarty, Sultana Razia, and Ujjal Kumar Nath. 2019. "Inducing Variability in Rice for Enriched Iron and Zinc Content through In Vitro Culture". *Plant Tissue Culture and Biotechnology* 29 (2):161-74. <https://doi.org/10.3329/ptcb.v29i2.44505>.
 12. Hossain, M. I., Islam, R., Mimi, S., **Zilhas Ahmed Jewel** & Haider, U. (2020). Gut Microbiota: Succinct Overview of Impacts on Human Physique and Current Research Status with Future aspect. *International Journal of Advancement in Life Sciences Research*, 3(2), 1- 10. <https://doi.org/10.31632/ijalsr.20.v03i02.001>
 13. Fahad kahn, **Zilhas Ahmed Jewel**, Md, Tangid Nadeem, Pallobi Rani Ray, Md. Imran Hossain, Ashikur Rahman Swapon,(2022), "Concern Regarding Food Safety and Future Research Approaches in the case of Wheat in the context of Urbanization in Bangladeshi Diet, *Journal of Advances in Food Science & Technology* 9 (1):1-11. <https://doi.org/10.56557/jafsat/2022/v9i17490>.
 14. Sukanta Bala, AKM Tariqul Hasan, **Zilhas Ahmed Jewel** and Promita Sarker."Suicidal Ideation Percentage among University Students in Bangladesh", Vol.22, No.3, pp 50-54, *Int J Emerg Ment Health*, 2020:433. (<https://www.omicsonline.org/open-access/suicidal-ideation-percentage-among-university-students-in-bangladesh.pdf>) Impact factor: 1.37.
 15. **Zilhas Ahmed Jewel** Patwary, A., Maniruzzaman, S., Barua, R., & Begum, S. (2012). Physico-chemical and Genetic Analysis of Aromatic Rice (*Oryza sativa* L.) Germplasm. *The Agriculturists*, 9(1-2), 82–88. <https://doi.org/10.3329/agric.v9i1-2.9482>
 16. Barua, R., Bhuiya, M., Kabir, M., Maniruzzaman, S., & **Zilhas Ahmed Jewel**. (2012). Effects of Mimosa (*Mimosa invisa*) Compost and Phosphorus on the Yield and Yield Components of Lentil (*Lens culinaris* L.). *The Agriculturists*, 9(1-2), 63–72. <https://doi.org/10.3329/agric.v9i1-2.9480>
 17. S Moniruzzaman, T Akter, R Barua, **Zilhas Ahmed Jewel**, M S Islam, Effect of cut corm plant spacing on vase life of gladiolus, *Eco-friendly Agril. J.*4(12):7774-778, 2011.

Submitted:

1. A Review on Macroalgae-A Sustainable Source for Biofuel Production and Recent Advances in the Field of Genetic Engineering. (Environmental Progress and Sustainable Energy)
2. Fundamental and Applied Agriculture and entitled Agro-Morphological Characterization and Diversity Analysis of Rice Genotypes in Southern Area of Bangladesh (Manuscript Number: FAA-2025-03).
3. Immune responses of mango callus infected by *Agrobacterium tumefaciens* inhibited transformation, *Phytopathology Research - PHRE-D-25-00035*

Accepted:

1. Computational Transcriptomic and Comparative Genomic Analysis of dead box RNA Helicase gene AT2G45810 Expressed in Plants *Arabidopsis thaliana*.(HELIYON-D-24-26477R1Helicon)
2. A Review on Macroalgae-A Sustainable Source for Biofuel Production and Recent Advances in the Field of Genetic Engineering. (Environmental Progress and Sustainable Energy)

Experience of Research Conducted Fellowship

IRRI vs BSMRSTU Project: (Collaborating Scientists/Project Coordinator)

1. **Accelerated Genetic Gains in Rice Alliance**, PLA ID: C-2023-8, Agreement ID: A-2017-129
2. **Accelerated Genetic Gains in Rice Alliance**, PLA ID: C-2021-44, Agreement ID: A-2017-129
3. **Accelerated Genetic Gains in Rice Alliance**, PLA ID: C-2020-229, Agreement ID: A-2017-129
4. **SeedQUAL IDT WP4**, PLA ID: C-2022-134, Agreement ID: A-2021-136
5. **Accelerated Genetic Gains in Rice Alliance**, PLA ID: C-2021-169, Agreement ID: A-2017-129
6. **SeEDQUAL WP1 - Delivering genetic gain in farmer field/ Cereal seed systems**, PLA ID: C-2024-97, Agreement ID: A-2021-136
7. **SeEDQUAL WP1 - Delivering genetic gain in farmer field/ Cereal seed systems**, PLA ID: C-2023-72 Agreement ID :A-2021-136

University Project (BSMRSTU): (Principle Scientist/ Project Coordinator)

1. Factors affecting Agricultural Households Participation Decision of nonfarm activities in the Southwest Part of Bangladesh, BSMRSTU RC 24-108
2. Genomic selected population elevated night time temperature effects on rice production Subtitle: (a) Crop cafeteria evaluation of selected prominent rice genotypes in pot selected soil environment at BSMRSTU Subtitle: (b) Genotypic, hybridization and yield performance evaluation of Inbred and hybrid Maize at the sand clay mixed types of soil at in front of Administrative building field at BSMRSTU Subtitle: (c) Genotypic, hybridization and yield performance evaluation of Inbred and hybrid sunflower at the sand clay mixed types of soil at in front of Administrative building field at BSMRSTU Research Code-3631108
3. Elevated nighttime temperature effect on rice production RC-25-001.

Reference

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