

Md. Babul Akter, PhD
Senior Scientific Officer
Bangladesh Institute of Nuclear Agriculture (BINA)
Sub-station, Satkhira-9400, Bangladesh
Email: babul.akter@bina.gov.bd
Phone: +88-01712-770219

AREAS OF EXPERTISE/INTEREST

- Crop Physiology
- Breeding for Salinity Tolerance
- Morpho-molecular Diversity
- Map-based Cloning of a mutant gene

SUMMARY OF SKILLS AND QUALIFICATIONS

- Qualified and technically-proficient Research Scientist with about ten years of research experience in agricultural field (Crop Molecular Breeding and Physiology).
- Well experience in sophisticated research techniques and technologies: field research, greenhouse, growth chamber, molecular tools (DNA, RNA, qPCR), data analysis (MSTAT, NTSYS, SAS, Excel, Statistix10).
- Organized, able to plan oversee research projects from concepts to successful completion and knowledge dissemination.
- Capable to effectively communicate information and research findings to the scientific community, resource managers, stakeholders and the general public.
- Participating research activities in the farmers' field that established a linkage with farmers and facilitated technology transfer.
- Excellent organizational & time management skills; outstanding interpersonal skills; team builder and capable of working independently; flexible to work requirements; highly anxious for personal growth through professional development program.
- Eagerness to learn more as well as to strong Confidence to face challenges.

EDUCATIONAL QUALIFICATION

PhD in Crop Science and Biotechnology (Major: Crop Molecular Breeding) Seoul National University, Republic of Korea Thesis title: Map-based cloning of panicle apical abortion and dwarfing mutant genes in rice	2014
MS in Agriculture (Horticulture) Bangladesh Agricultural University, Bangladesh Thesis title: Effects of different levels of nitrogen on growth and yield of different cabbage variety	2006
BSc in Agriculture Bangladesh Agricultural University, Bangladesh Major subject studied: Agronomy, Genetics and plant breeding,	2004

Plant pathology, Entomology, Horticulture, Crop botany,
Biochemistry, Statistics

EMPLOYMENT HISTORY

Scientific Officer (Crop Physiology Division) Bangladesh Institute of Nuclear Agriculture (BINA), Mymensingh	Nov 2006- Nov 2018
Senior Scientific Officer (Crop Physiology Division) Bangladesh Institute of Nuclear Agriculture (BINA), Mymensingh	Dec 2018- Present

Current Research Program

1. Varietal improvement and evaluation of crop varieties/mutants based on morpho-physiological criteria
2. Mutation breeding for drought tolerance in rice for food security funded by **IAEA**

PUBLICATIONS

1. **M.B. Akter**, A. Mosab-Bin, M. Kamruzzaman, Reflinur, N. Nahar, M.S. Rana, M.I. Hoque, M.S. Islam. Morpho-molecular diversity study of rice cultivars in Bangladesh. 2021. Czech Journal of Genetics and Plant Breeding. <https://doi.org/10.17221/69/2021-CJGPB>
2. **M.B. Akter**, N. Nahar, M.S. Rana, M.N. Hasan and M.B. Rayhan. 2021. Nitrogen effect on the growth and yield contributing characters of Binadhan-19. Asian Journal of Crop, Soil Science and Plant Nutrition, 04 (02): 157-165. <https://doi.org/10.18801/ajcsp.040220.20>
3. M. Hasan, **M.B. Akter**, M. Karim, F. Yasmine and A.K. Hasan. 2020. Response of potassium nitrate on yield and yield contributing characters of boro rice cv. BRRI dhan28. International Journal of Multidisciplinary Perspectives, 01 (01): 05-13. <https://doi.org/10.18801/ijmp.010120.02>
4. S. Chowhan, M.I. Hoque, S.R. Ghosh, M. Islam and **M.B. Akter**. 2019. Effect of Variety and Seedling Number on the Growth and Yield of Boro Rice in Bangladesh. Journal of Experimental Agriculture International. 41 (6): 1-15. DOI: 10.9734/JEAI/2019/v41i630436
5. F. Ahmed, M.M.A. Mondal and **M.B. Akter**. 2019. Organic Fertilizers Effect on Potato (*Solanum tuberosum* L.) Tuber Production in Sandy Loam Soil. International Journal of Plant & Soil Science. 29(3): 1-11. DOI: 10.9734/IJPSS/2019/v29i330146
6. **M.B. Akter**, M.T. Islam, M.M.A. Mondal, M.I. Hoque, M. Kamruzzaman, M.H. Nafis, A. Sultana and M.S. Ali. 2019. Morpho-physiological Basis of Yield Performance of Early Maturing Rice Varieties in Bangladesh. Annual Research & Review in Biology. 32(5): 1-13. DOI: 10.9734/ARRB/2019/v32i530097
7. A. Sultana, M. Salim, M.A. Kader, **M.B. Akter**, M. Kamruzzaman and M.I. Hoque. 2019. Effect of Different Levels of Nitrogen & Phosphorus Fertilizer and Roguing on Seed Production of Rice in Bangladesh. International Journal of Plant & Soil Science. 27(4): 1-8. DOI: 10.9734/IJPSS/2019/v27i430084
8. M.H. Nafis, W. Afrin, M.A. Hossain, **M.B. Akter**, M.A.K. Azad, M.A. Hossain. 2018. Assessment of Genetic Variability for Short Duration and High Yielding NERICA Rice Mutant Lines. Sch. J. Agric. Vet. Sci. 5(5): 277-282. DOI: 10.21276/sjavs.2018.5.5.3

9. Reflinur, B. Kim, P. Lestari, **M.B. Akter** and H. J. Koh. 2018. Identification of QTLs Associated with indica-japonica Differentiation-Related Traits in Rice (*Oryza sativa* L.). *Plant Breed. Biotech.* 6(3):193-205. <https://doi.org/10.9787/PBB.2018.6.3.193>
10. M. A. Alam, Z. Ferdous, K. Islam, M. U. S. Khatun, **M.B. Akter**, U. K. Laily, M. Anwar and K. K. Sarker. 2017. Sustainable Water Management for Potato Production in Drought Prone Areas in Bangladesh. *Annual Research & Review in Biology*, 21(3): 1-9. DOI: 10.9734/ARRB/2017/37622
11. M. Anwar, Z. Ferdous, M.A. Sarker, A.K. Hasan, **M.B. Akter**, M.A. Zaman, Z. Haque and H. Ullah. 2017. Employment Generation, Increasing Productivity and Improving Food Security through Farming Systems Technologies in the *Monga* Regions of Bangladesh. *Annual Research & Review in Biology*, 16(6): 1-15. DOI: 10.9734/ARRB/2017/35645
12. M.Z. Islam, M.M.A. Mondal, **M.B. Akter**, M.N.N. Mazumder, M.H. Rani and M.O. Islam. 2017. Effect of foliar application of Miyobi on growth and bulb yield of onion. *Journal of Bioscience and Agriculture Research*, 15(01), 1231-1237. Cross ref: <https://doi.org/10.18801/jbar.150117.151>
13. M.A.A. Ibrahim, M.H. Rani, S.N. Begum, **M. B. Akter** and M.M. Islam. 2016. Performance of rice landraces under salt stress at the reproductive stage using SSR markers. *International Journal of Plant & Soil Science*. 13(2): 1-11. DOI: 10.9734/IJPSS/2016/27851
14. M.M.A. Mondal, **M. B. Akter**, M. H. Rahman and A. B. Puteh. 2016. Influence of Micronutrients and Manures on Growth and Yield of Garlic (*Allium sativum* L.) in Sandy Loam Soil. *International Journal of Plant & Soil Science*. 13(4): 1-8. DOI: 10.9734/IJPSS/2016/26528
15. M.T. Islam, M.M.A. Mondal, M.S. Rahman, S. Khanam, **M.B. Akter**, M.A. Haque and N.C. Dafadar. 2016. Effect of foliar application of chitosan on growth and yield in tomato, mungbean, maize and rice. *International Journal of Sustainable Crop Production*. 11(2): 7-17.
16. M. H. Rani, M. Kamruzzaman, A. M. A. Ghanim, M. A. K. Azad and **M. B. Akter**. 2016. Comparative effect of gamma and X-ray irradiations on some characters of rice seedlings of Ashfal and Binadhan-14. *Journal of Bioscience and Agriculture Research*, 08(02), 739-745. DOI: 10.18801/jbar.080216.88.
17. **M. B. Akter**, R. Piao, Reflinur, M.L.Rahman, Y. Lee, J. Seo, B. Kim and H. J. Koh. 2015. Characterizations and mapping of d13, a dwarfing mutant gene, in rice. *Genes & Genomics*. DOI 10.1007/s13258-015-0319-9.
18. **M. B. Akter**, R. Piao, B. Kim, Y. Lee, E. Koh, and H. J. Koh. 2014. Fine mapping and candidate gene analysis of a new mutant gene for panicle apical abortion in rice. *Euphytica*. DOI 10.1007/s10681-014-1074-8.
19. Reflinur, S-M. Jiang, B. Kim, S. Chu, Y. Bordiya, **M. B. Akter**, J. Lee and H. J. Koh. 2014. Analysis of segregation distortion and its relationship to hybrid barriers in rice. *Rice*. DOI: 10.1186/s12284-014-0003-8.
20. MH Zaman, JJ Adu-Gyamfi, S Linic, **MB Akter** and JL Arrillaga. 2013. Integrating soil water measurements with ¹³C and ¹⁸O isotopic tracers to evaluate wheat lines for tolerance to pre-and post-anthesis water stress. *J. Bangladesh Soc. Agric. Sci. Technol.* 10 (1&2): 9-14.
21. M. M. A. Mondal, M. A. Rahman, **M. B. Akter**, and M. S. A. Fakir. 2011. Effect of defoliation during reproductive stage on yield in mungbean. *Legume Research*. 34: 222-225.

22. M. M. A. Mondal, M. A. Rahman, **M. B. Akter**, and M. S. A. Fakir. 2011. Effect of foliar application of nitrogen and micronutrients on growth and yield in mungbean. *Legume Research*. 34: 266-271
23. M. M. A. Mondal, M. A. Islam, and **M. B. Akter**. 2009. Flower production and yield in mungbean genotypes. *Bangladesh Journal of Crop Science*, 20 (2): 181-185
24. M. M. A. Mondal, **M. B. Akter**, M. H. K. Howlader, F. Ahmed and M. M. Islam. 2008. Effect of spacing on the assimilate availability for productivity of modern rice varieties. *Bangladesh J. Prog. Sci. & Tech.* 6(1): 103-106
25. M.M.A. Mondal, **M.B. Akter**, F. Ahmed and R.K. Dutta. 2007. Evaluation of five advanced lentil mutants in relation to morphophysiological characters and yield. *Bangladesh J. Crop Sci.* 18(2): 367-372.
26. **M.B. Akter**, M. F. Mondal, M. K. Hasan and M. A. Islam. 2007. Effects of different levels of nitrogen on growth and yield of cabbage variety. *J. Bangladesh Soc. Agric. Sci. Technol.* Vol. 4 (1 & 2): 5-8.
27. M. A. K. Mojumdar, M. Z. Ferdous, A. K. Hasan and **M. B. Akter**. 2007. Effect of sowing date and variety on soybean seed yield. *Bangladesh J. Environ. Sci.* Vol. 13, No. 1, 81-84.
28. A.H. M. Razzaque, **M. B. Akter** and M. K. Roy. 2007. Effects of rooting medium on the success of stem cuttings of ornamental plants. *Bangladesh J. Prog. Sci. & Tech.* 5(2): 233-236.
29. A. H. M. Razzaque, **M. B. Akter** and M. K. Roy. 2007. Effect of IBA on propagation of *Ixora*, *Tanpura* and *Mussaenda* by stem cutting technique. *J. Bangladesh Soc. Agric. Sci. Technol.* Vol. 4 (1 & 2): 165-168
30. A. H. M. Razzaque, **M. B. Akter** and A. R. Mohanta. 2007. Effect of nitrogen on yield and yield attributes of winter tomato genotypes. *Bangladesh J. Prog. Sci. & Tech.* 5(2): 365-368.

BOOK CHAPTER

A Hossain, MA Syed, S Maitra, S Garai, M Mondal, **MB Akter**, M Rahman, N Alam, T Islam, M Skalicky, M Brestic, T Hossain. 2022. Genetic Regulation, Biosynthesis, and the roles of Osmoprotective Compounds in Abiotic Stress Tolerance in Plants. *Plant Abiotic Stress Physiology*, 1st Edition, Apple Academic Press, Ebook ISBN: 9781003180579

SELECTED CONFERENCE PRESENTATION

1. **M. B. Akter**, R. Piao, B. Kim, Y. Lee, E. Koh, and H. J. Koh. 2014. Fine mapping and candidate gene analysis of a new mutant gene for panicle apical abortion in rice. *Strategies on Genomics- assisted breeding and Seed biotechnology*, 5 July 2013, South Korea. [Oral]
2. **M. B. Akter**, R. Piao, B. Kim, Y. Lee and H. J. Koh. Characterizations and Fine Mapping of a mutant gene for panicle apical abortion in rice (*Oryza sativa* L.). 3rd International symposium on genomics of plant genetic resources. 16-19 April, 2013. Jeju, Korea [poster]
3. **M. B. Akter**, R. Piao, B. Kim, Y. Lee, E. Koh and H. J. Koh. Characterizations and Fine Mapping of a dwarf gene d13 in rice. *Plant and Animal Genome XXI*. 12-16 January, 2013. San Diego, CA, USA. [Poster]

ATTENDED SEMINAR/CONFERENCE/SYMPOSIUM

Plant and Animal Genome XXI. Travel award San Diego, CA, USA.	2013
3rd International Rice Congress travel award in Hanoi, Vietnam	2010
6 th International Symposium on Rice Functional Genomics travel award in Manila, Philippines	2009

CERTIFICATION

- Data Collection Using Hand Held Device for B4R System, IRRI, Philippines
- Use of Nuclear Techniques in plant soil system, UPM, Serdung, Malaysia
- Nuclear Techniques in agricultural research, CAAS-IEDA, Beijing, China
- Project Development and Management, BARC, Farmgate, Dhaka
- Use of Nuclear Techniques in Agriculture, Merit position second, BINA, Bangladesh
- Climate Smart Agriculture, National Agriculture Training Academy, Gazipur
- Use of fertilizer recommendation guide, BARC, Farmgate, Dhaka

PROFESSIONAL AFFILIATION

- Plant Breeding and Genetics Society of Bangladesh
- Bangladesh Institute of Nuclear Agriculture Scientists' Association (BINASA)
- Bangladesh Society for Horticultural Science
- Bangladesh Society for Organic Farming and Safe Food, Bangladesh
- Agriculturist Institution of Bangladesh