Curriculum Vitae

Name	:	**DR. KHANDAKAR MD. IFTEKHARUDDAULA**
Designation	:	Chief Scientific Officer
Father's name, occupation	:	Khandakar Jamiuddaula, B. A., Pay and Accounts Officer, WAPDA
Mother's name, occupation		Mrs. Husne Afza Banu, B. A., Teacher (Rtd.), Kushtia Girls Government School
Family		Wife: Mosammot Takbira Sultana Chaity, Masters in Political Science
		One Son: Khandakar Muhtasim Dowla
		And One daughter: Wasfia Jabin
		Only one Brother
		Name: Dr. Khandaker Rokonuddaula (Pallab)
		Father of two daughters
		MBBS and Diploma in Ultrasonography
Present Address	:	CSO and Head, Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur-1701
		Mobile: 01732 761 747
		Email : kiftekhar03@yahoo.com; kiftekhar1969@gmail.com ;
Permanent Address	:	42 No. Lutfar Munshi Street, Kuthipara, Kushtia-7000.
Date of Birth	:	10th of February, 1971.
Nationality	:	Bangladeshi
Institution	:	Bangladesh Rice Research Institute, Gazipur-1701
Date of Joining	:	20th of August, 1998.

Educational Qualification:

Name of the Examination	Board / University	Year Of Passing	Division / Class/grade	% Marks Obtained

Secondary School Certificate	Jessore	1987	First	67.9
Higher Secondary Certificate	Jessore	1989	First	65.2
Bachelor of Science in Agriculture	Bangladesh Agricultural University	1993	**First(3rd)**	64.8
MS in Genetics and Plant Breeding	Bangladesh Agricultural University	2003	**First (3.68 out of 4)**	90.5%
PhD in Genetics and Plant Breeding	Bangladesh Agricultural University	2010 (30 July)	Successfully completed	

Service Experience:

Position	Period		
	From	**To**	**Total Yr/Mo**
Scientific Officer, Plant Breeding Division, Bangladesh Rice Research Institute, R/S, Comilla-3500	20 August 1998	October 2003	5 years 1 month
Scientific Officer, Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur-1701	October 2003	30 May 2006	2 years 7 months
Senior Scientific Officer, Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur-1701	01 June 2006	12 January 2011	4 years 7 months
Principal Scientific Officer, Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur-1701	13 January 2011	31 October 2018	8 years 9 months
Chief Scientific Officer (current charge), Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur-1701	01 November 2018	20 November 2019	
Chief Scientific Officer, Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur-1701	21 November 2019	On-going	
Head, Plant Breeding Division, Bangladesh Rice Research Institute, Gazipur-1701	09 December 2018	On-going	

Formal Training:

(a) In Country (22):

Sl#	Organization	Year	Duration		Name of program
			Mos.	Days	
1.	BRRI	1998	2	0	Rice production, Communication and Office management
2.	BRRI	1999	0	4	Workshop-cum-training in Rice Breeding & Hybrid Rice Development (TCTTI Project)
3.	BRRI	2000	0	14	MIS Data capture training course at institute level
4.	AIS, Comilla	2001	0	2	Development Communication
5.	BARD, Comilla	2004	4	0	Foundation training course for NARS scientists

6.	BRDTI, Sylhet	2004	0	7	Rural development and poverty alleviation
7.	BRTC, Gazipur	2004	0	21	Special light driving training
8.	BARC & FAO	2009	0	5	Intellectual Property Rights
9.	BARC	2011	0	5	Project Development and Management
10.	BARD	2011	0	14	Administrative and Financial Management
11.	Engineering Staff College	2013	0	3	Public Procurement Management
12.	BRRI	2013	0	2	Digital ECNEC and Project Planning System Software
13.	Plant Breeding Division, BRRI (KOICA)	2014	0	25	Molecular Biology Application in Plant Breeding
14.	BRRI (TRB-BRRI Project)	2017	0	4	Design and Analysis of Breeding Trials
15.	BRRI (TRB-BRRI Project)	2017	0	2	Application of DryStore Technology on Rice Seed
16.	BRRI (TRB-BRRI Project)	2017	0	1	Maintenance and operation of RGA Greenhouse
17.	BRRI (TRB-BRRI Project)	2017	0	1	Hands-on Training on P-rep Design
18.	BRRI (TRB-BRRI Project)	2017	0	4	Hands on training on barcoding, data collection and post-harvest operations
19.	BRRI (TRB-BRRI Project)	2018	0	2	'Breeding for Online Data Management System' and 'Estimation of Genetic Gain of Breeding Lines Using R'
20.	BRRI (TRB-BRRI Project)	2018	0	5	'Breeding4Rice for Online Data Management System'
21.	BRRI (TRB-BRRI Project)	2018	0	3	Bioinformatics data management, TASSEL 5 software and leaf sampling logistics
22.	BRRI (TRB-BRRI Project)	2018	0	1	Statistical approach to genetic gain assessment using R/ASREML packages
23.	BRRI (TRB-BRRI Project)	2020	0	11	Application of Bioinformatics in Rice Improvement
24.	PIU-BARC, NATP Phase 2 Project	2022	0	5	Agricultural Policy and Strategy for Agricultural Transformation

(b) Abroad (7):

Sl#	Country	Year	Duration		Name of program
			Mos.	Days	
1.	Australia	1999	1	26	Plant Biotechnology
2.	Thailand	2003	0	5	ISTA/FAO/APAARI –Workshop on Electrophoretic and PCR based methods for Varietal Verification and GMO detection
3.	Philippines	2005	0	5	Introduction to The SAS System for Windows
4.	Philippines	2006	0	12	Increasing the Impact of Rice Breeding Programs
5.	Philippines	2006	0	1	Advanced Microsoft Office PowerPoint 2003
6.	Philippines	2007	0	24	English for Conversation Course for Rice Scientists
7.	USA	2013	0	12	Modeling Low Emission Development Strategies

PUBLICATIONS:

- No. of full paper as the Principal Author- 19
- No. of full paper as Co-Author- 55
- No. of Books/ Monographs/ Bulletins - 20
- No. of papers in the Seminar/ Symposium/ Workshop- 5
- No. of Abstract and Popular Acrticles-24

Totally 19 journal papers have Impact Factor and published in international peer-reviewed journal.

H-Index: 20, i-10- Index: 22

List of Publications (123)

A. Scientific Journal (74)

(I) **Full Paper (74)**

(a) Paper published in the Reputed International Journal (19)

(i) As Principal-author (6)

1. **Iftekharuddaula, K. M**, Khaleda Akter, M. S. Hassan and M. A. Badshah. 2002. Genotype-environment interaction in irrigated rice in Bangladesh. **Thai J. Agric. Sci.** 35 (3) : 229-236.
2. **Iftekharuddaula, K. M.**, M. A. Newaz, M. A. Salam, H. U. Ahmed, M. A. A. Mahbub, E. M. Septiningsih, B. C. Y. Collard, D. L. Sanchez, A. M. Pamplona and D. J. Mackill. 2011. Rapid and high-precision marker assisted backcrossing to introgress the *SUB1* QTL into BR11, the rainfed lowland rice mega variety of Bangladesh. **Euphytica.** 178: 93-97.
3. **Iftekharuddaula, K. M.**, M. A. Salam, M. A. Newaz, H. U. Ahmed, B. C. Y. Collard, E. M. Septiningsih, D. L. Sanchez, A. M. Pamplona and D. J. Mackill. 2012. Comparison of phenotypic versus marker-assisted background selection for the *SUB1* QTL during backcrossing in rice. **Breeding Science.** 62: 216–222.
4. **Iftekharuddaula, K. M.**, H. U. Ahmed, S. Ghosal, Z. R. Moni, A. Amin and M. S. Ali, 2015: Development of New Submergence Tolerant Rice Variety for Bangladesh Using Marker-Assisted Backcrossing. **Rice Sci. 22**(1): 16-26.
5. **Iftekharuddaula, K.M.**, S. Ghosal, Z. J. Gonzaga, A. Amin, H. N. Barman, R. Yasmeen, M. M. Haque, J. Carandang, B. C. Y. Collard and E. M. Septiningsih. 2015. Allelic diversity of newly characterized submergence-tolerant germplasm from Bangladesh. **Genetic Resources and Crop Evolution.** DOI 10.1007/s10722-015-0289-4.
6. **Iftekharuddaula, KM**, HU Ahmeda, Sharmistha Ghosala, Al Amin, ZR Monia, BP Ray, HN Barmana, MA Siddique, BCY Collard and EM Septiningsih. 2016. Development of early maturing submergence-tolerant rice varieties for Bangladesh. **Field Crops Research**. 190: 44-53.

(ii) As Co-author (13)

1. Rahman, M. M., M. G. Rasaul, M. A. Hossain, **K. M. Iftekharuddaula** and H. Hasegawa. 2012. Molecular Characterization and Genetic Diversity Analysis of Rice (*Oryza sativa* L.) using SSR Markers. **Journal of Crop Improvement.** 26(2): 244-257.
2. Collard, B.C.Y. E.M. Septiningsih, S.R. Das, J. J. Carandang, A. M. Pamplona, D. L. Sanchez, Y. Kato, G. Ye, J. N. Reddy, U. S. Singh, **K. M. Iftekharuddaula**, R. Venuprasad, C. N. Vera-cruz, D. J. Mackill and A. M. Ismail. 2013. Developing new flood-tolerant varieties at the international rice research institute (IRRI). **SABRAO Journal of Breeding and Genetics.** 45 (1): 42-56.

3. Haque, M. M., H. R. Pramanik, J. K. Biswas, **K. M. Iftekharuddaula** and M. Hasanuzzaman. 2015. Comparative performance of hybrid and elite inbred rice varieties with respect to their source-sink relationship. **The Scientific World Journal.** Volume 2015, Article ID 326802, 11pages, http://dx.doi.org/10.1155/2015/326802.

4. Syed MA, **KM Iftekharuddaula**, MAK Mian, MG Rasul, GKMM Rahmam, GM Panaullah, JG Lauren, JM Duxbury and PS Biswas. 2016. Main effect QTLs associated with arsenic phyto-toxicity tolerance at seedling stage in rice (*Oryza sativa* L.). **Euphytica**. DOI 10.1007/s10681-016-1683-5.

5. Moni ZR, MA Ali, MS Alam, MA Rahman, MR Bhuiyan,MS Mian, **KM Iftekharuddaula**, MA Latif and MAI Khan. 2016. Morphological and Genetical Variability among *Rhizoctonia solani* Isolates Causing Sheath Blight Disease of Rice. **Rice Science**. 23(1): 42-50.

6. Bertrand C.Y. Collard, Joseph Beredo, Bert Lenaerts, Rhylyx. Mendoza, Ronald Santelices, Vitaliano. Lopena, Holden Verdeprado, Chitra Raghavan, Glenn B. Gregorio, Leigh Vial, Matty Demont, **Khandakar M. Iftekharuddaula**, Mohammad Akhlasur. Rahman, Joshua N. Cobb, Mohammad Rafiqul Islam. 2017. Revisiting rice breeding methods – evaluating the use of rapid generation advance (RGA) for routine rice breeding. **Plant Production Science**. https://doi.org/ 10.1080/1343943X. 2017.1391705.

7. Sandhu, N., Subedi, S.R., Yadaw, R.B., Chaudhary, B., Prasai H., **Iftekharuddaula, K.**, Thanak, T., Thun, V., Battan, K.R., Ram, M., Venkateshwarlu, C., Lopena, V., Pablico P., Maturan, P.C., Sta. Cruz M.T., Raman, K.A., Collard, B. and Kumar, A. 2017. Root Traits Enhancing Rice Grain Yield under Alternate Wetting and Drying Condition. **Frontiers in Plant Science**. doi: 10.3389/fpls.2017.01879.

8. Dar, M.H., Zaidi, N.W., Waza, S.A., Verulkar, S.B., Ahmed, T., Singh, P.K., Roy, S.K.B, Chaudhary, B., Yadav, R., Islam, M.M., **Iftekharuddaula, K.M.**, Roy, J.K., Kathiresan, R.M., Singh, B.N., Singh, U.S. & Ismail, A.M.2018. No yield penalty under favorable conditions paving the way for successful adoption of flood tolerant rice. **Scientific Reports**. 8:9245. DOI: 10.1038/s41598-018-27648-y.

9. Syed, M. A., **K.M. Iftekharuddaula**, P.S. Biswas, N. Akter and M. Hossain. 2019. Assessment of Genetic Diversity in Arsenic Contaminated Rice Using SSR Markers. **Trends Applied Sci.** Res., 14 (3): 178-185.

10. Syed, M. A., **K. M. Iftekharuddaula**, M. G. Rasul, G. K. M. Mustafizur Rahmam, G. M. Panaullah, J. M. Duxbury, M. Hossain, P. S. Biswas. 2019. Development and Standardization of a Simple and Quick Screening Protocol for Arsenic Phyto-toxicity Tolerance at Seedling Stage in Rice. **Food Science and Technology**. 7(3): 31-40.

11. Sandhu N, Yadaw RB, Chaudhary B, Prasai H, **Iftekharuddaula K**, Venkateshwarlu C, Annamalai A, Xangsayasane P, Battan KR, Ram M, Cruz MTS, Pablico P, Maturan PC, Raman KA, Catolos M and Kumar A. 2019. Evaluating the Performance of Rice Genotypes for Improving Yield and Adaptability Under Direct Seeded Aerobic Cultivation Conditions. **Front. Plant Sci**. 10:159. doi: 10.3389/fpls.2019.00159.

12. Rahman, N. M. F., Malik, W. A., Kabir, M. S., Baten, M. A., Hossain, M. I., Paul, D. N. R., Ahmed, R., Biswas, P. S., Rahman, M. C., Rahman, M. S., **Iftekharuddaula, K. M.**, Hadasch, S., Schmidt, P., Islam, M. R., Rahman, M. A., Atlin, G. N., Piepho, H-P. 2023. 50 years of rice breeding in Bangladesh: genetic yield trends. Theoretical and Applied Genetics. 136:0. https://doi.org/10.1007/s00122-023-04260-x.

13. Biswas PS, MME Ahmed, W Afrin, A Rahman, AKM Shalahuddin, R Islam, F Akter, MA Syed, MRA Sarker, **KM Ifterkharuddaula** and MR Islam. 2023. Enhancing genetic gain through the application of genomic selection in developing irrigated rice for the favorable ecosystem in Bangladesh. Front. Genet. 14:1083221. doi: 10.3389/fgene.2023.1083221.

(b) Paper published in other International and National Journal (55)

(i) As Principal Author (13)

1. **Iftekharuddaula, K. M**, M. A. Badshah, M. S. Hassan, M. K. Bashar and Khaleda Akter. 2001. Genetic variability, character association and path analysis of yield components in irrigated rice (*Oryza sativa* L.). Bangladesh J. Pl. Breed. Genet. 14 (2) : 43-49.

2. **Iftekharuddaula, K. M.**, M. S. Hassan, M. J. Islam, M. A. Badshah, M. R. Islam and Khaleda Akter. 2001. Genetic evaluation and selection criteria of hybrid rice in irrigated ecosystem of Bangladesh. Pakistan Journal of Biological Sciences. 4 (7): 790-792.

3. **Iftekharuddaula, K. M**, Khaleda Akter, M. K. Bashar and M. R. Islam. 2002. Genetic parameters and cluster analysis of panicle traits in irrigated rice. Bangladesh J. Pl. Breed. Genet. 15 (1) : 49-55.

4. **Iftekharuddaula, K. M**, Khaleda Akter, M. S. Hassan, Kaniz Fatema and Adil Badshah. 2002. Genetic divergence, character association and selection criteria in irrigated rice. OnLine Journal of Biological Sciences. 2 (4) : 243-246.

5. **Iftekharuddaula, K. M.**, M. A. Salam, Khaleda Akter and M. K. Bashar. 2004. Combining ability of panicle characters in rice (*Oryza sativa* L.). Bangladesh J. Pl. Breed. Genet. 17(2) : 21-26.

6. **Iftekharuddaula, K. M.,** M. A. Salam, M. A. Newaz and Md. Enamul Haque. 2005. *Per Se* Performance, Specific Combining Ability, Heterosis and Interrelationships among them for Yield and Yield Components in Rice (*Oryza sativa* L.). Bulletin of the Institute of Tropical Agriculture, Kyushu University. 27 : 1-10.

7. **Iftekharuddaula, K. M.,** M. A. Newaz, M. A. Salam, and R. Yasmeen. 2007. General and specific combining ability effects for growth-physiological characters in an 8X8 half-diallel cross of rice. Intl. J. BioRes. 3(1): 37-44.

8. **Iftekharuddaula, K. M.,** M. A. Newaz, S. Khatun and M. S. Parveen. 2007. Genetic variability, character association and path coefficient analysis for physiological trait in a diallel cross of rice. Bangladesh Rice J. 12(1&2): 51-56.

9. **Iftekharuddaula, K. M.,** M. A. Newaz, S. Khatun and M. A. Hossain. 2008. Heterosis of yield and physiological characters in diallel cross of rice (*Oryza sativa* L.). Bangladesh J. Agric. 33(1): 51-60.

10. **Iftekharuddaula, K. M.**, M. A. Newaz, M. A. Salam[1] and Khaleda Akter. 2008. Genetic analysis for panicle characters in diallel cross of rice (*Oryza sativa* L.). Banglasdesh J. Agril. Res. 33 (3): 631-638.

11. **Iftekharuddaula, K. M.**, M. A. Newaz, P. S. Biswas and M. K. Bashar. 2008. Genetic components of grain characters in rice. Bangladesh J. Pl. Breed. Genet. 21(1): 36-41.

12. **Iftekharuddaula, K. M.**, M. A. Newaz, Khaleda Akter and M. A. Hossain. 2008. Genetic variability, character associations and path analysis for yield contributing characters in hybrid population of rice. Bangladesh Journal of Agriculture. 33(1): 39-44.

13. **Iftekharuddaula, K. M.**, M. A. Newaz, M. A. Salam and Khaleda Akter. 2008. Combining ability of Grain Characters in an 8X8 Diallel Cross of rice. SAARC Jn. of Agri. 6(1): 29-38.

(ii) As co-author (42)

1. M. R. Islam, **K. M. Iftekharuddaula,** Khaleda Akter, M. A. R. Bhuiyan and M. A. Salam. 2001. Genotype-location interaction and phenotypic stability of rainfed lowland rice genotypes. Bangladesh J. Pl. Breed. Genet. 14 (2): 21-26.

2. Khaleda Akter, M. K. Bashar, **K. M. Iftekharuddaula**, M. S. Ahmed and E. S. M. H. Rashid. 2002. Genetic diversity among irrigated traditional and modern rice germplasm. OnLine Journal of Biological Sciences. 2 (10): 659-661.

3. Bashar, M. K., Khaleda Akter, **K. M. Iftekharuddaula** and M. S. Ali. 2003. Genetics of leaf water potential and its relationship with drought avoidance components in rice (*Oryza sativa* L.). OnLine Journal of Biological Sciences. 3 (9): 760-765.

4. Khaleda Akter, **K. M. Iftekharuddaula**, M. K. Bashar and M. Z. A. Sarkar. 2004. Genetic variability, correlation and path analysis in irrigated hybrid rice. Journal of Subtropical Agricultural Research and Development. 2(1): 17-23.

5. M.S. Hossain, M. Khalequzzaman, O.I. Joarder, **K.M. Iftekharuddaula** and S.A. bakul. 2005. Genetic variability, character association and path analysis in rice genotypes. J. Bangladesh Soc. Agric. Sci. Technol. 2(3&4): 121-124.

6. Haque, M.E., **K.M. Iftekharuddaula** and M.S. Hawlader. 2005. Screening of rice germplasm against root characters related to drought tolerance in rice. Banglasdesh J. Agril. Res. 30(3): 373-383.

7. Pervin, M.S., R. Yasmeen, **K.M. Iftekharuddaula**, A. Islam and M.S. Islam. 2005. Effect of seedling age and depth of water on submergence tolerance of T. Aman rice varieties. Int. J. Sustain. Agril. Tech. 1(4): 1-7.

8. Pervin, M.S., R. Yasmeen, M.S. Islam and **K.M. Iftekharuddaula**. 2005. Growth behavior of plants as affected by N, P, K and S fertilization at post submergence during T. Aman season. Bangladesh J. Prog. Sci. & Tech. 3(1): 9-12.

9. Habib, S.A., **K.M. Iftekharuddaula**, M.K. Bashar, Khaleda Akter and M.K. Hossain. 2007. Genetic variation, correlation and selection indices in advanced breeding lines of rice (*Oryza sativa* L.). Bangladesh J. Pl. Breed. Genet. 20(1): 25-32.

10. Khaleda Akter, M. S. Ahmed, P. S. Biswas and **K. M. Iftekharuddaula**. 2007. Genetic diversity in irrigated rice. Bangladesh Rice J. 12(1&2): 79-83.

11. M.S. Hossain, O.I. Joarder, M. Rahman and **K.M. Iftekharuddaula**. 2007. Estimation of genetic parameters, character association and path analysis in wheat. Intl. J. BioRes. 2(4): 11-14.

12. Rashid, E.S.M.H., **K.M. Iftekharuddaula**, R. Yasmeen and A.M. Nurunnabi. 2007. Genetic parameter, character association and path coefficient analysis of hybrid population for grain characters in an 8-parent diallel population in rice. Intl. J. BioRes. 3(3): 8-13.

13. Hossain, M.Z., M.G. Rasul, M.S. Ali, **K.M. Iftekharuddaula** and M.A.K. Mian. 2007. Molecular characterization and genetic diversity in fine grain and aromatic landraces of rice (*Oryza sativa* L.) using microsatellite markers. Bangladesh J. Pl. Breed. Genet. 20(2): 01-10.

14. Khaleda Akter, M. K. Bashar, M. A. Hossain and **K. M. Iftekharuddaula**. 2008. Gene Action of Yield Contributing New Plant Type Traits in Rice (*Oryza sativa* L.). Genetics and Breeding. 37(1-2): 31-43.

15. Khatun, M., T. L. Aditya, M. A. Rahman, **K. M. Iftekharuddaula** and M. A. Salam. 2010. Stability Analysis of Premium Quality Rice Genotypes (*Oryza sativa* L.). Int. J. BioRes. 8(2): 1-5.

16. Hosan, S. M., N. Sultana, **K. M. Iftekharuddaula**, M. N. U. Ahmed and S. Mia. 2010. Genetic divergence in landraces of Bangladesh rice (*Oryza sativa* L.). The Agriculturists. 8(2): 28-34.

17. Sultana, N., S. M. H. A. Rabbi, **K. M. Iftekharuddaula**, L. Farzana and M. A. latif. 2010. Genetic variability, character association and path analysis of yield components in some landraces of rice (*Oryza sativa* L.). J. Bangladesh Soc. Agric. Sci. Technol. 7(1&2): 15-19.

18. Aditya, T.L., M.A. Salam, H.U. Ahmed, M. Khatun, A. A. Mahbub, A.K.G.M.E. Hoque, M. A. Kader, **K. M. Iftekharuddaula**, M. R. Islam and A. R. Bhuiyan. 2010. BRRI dhan49: A complementary variety to BR11 and supplementary variety to BRRI dhan32 in rainfed low land rice environment. Bangladesh Rice J. 15 (1): 57-61.

19. Ali, M. G., **K. M. Iftekharuddaula**, M. K. Hossain, M. E. Hoque, A. Ismail and D. Mackill. 2013. Performance of some promising rice genotypes under flood prone areas. Bangladesh Agron. J. 16(1): 23-28.

20. Ray, B. P., **K. M. Iftekharuddaula** and S. Ghosal. 2014. Marker Assisted Backcross for the development of submergence tolerant rice (*Oryza sativa* L.). J. Biol. Chem. Research. 31(1): 1-5.

21. Ray, B.P., **K.M. Iftekharuddaula** and M.S. mahfuz. 2014. Genetic evaluation and adaptability of submergence tolerant genotypes under flash flood condition. Int. J. Phar. & Biomedi. Rese. 1(1): 7-11.

22. Ara, A., Uddin, A. B. M. A., Iftekharuddaula, K.M., Saikat, M.M.H. and Khan, M.A.I. 2015. Introgression of Sub1 QTL into a rainfed lowland rice variety of Bangladesh using marker-assisted backcross approach. International Journal of Research. 2(5): 233-245.

23. Kulsum, M.U., Hasan, M.J., Haque, M.N., Uddin, M.S. and **Iftekharuddaula, K.M.** 2015. Effect of genotype-environment interaction on grain yield of exotic rice (*Oryza sativa* L.) hybrids. Bangladesh J. Bot. 44(4): 507-514.

24. Bari, M. N., N. Ahmed, S. S. Haque, M. F. Rabbi and K.M. Iftekharuddaula. 2015. Impact of Recommended Integrated Pest Management Practices for Rice Insect in Bangladesh. Bangladesh Rice J. 19(1):15-29.

25. MS Kabir, MU Salam, A Chowdhury, NMF Rahman, **KM Iftekharuddaula**, MS Rahman, MH Rashid, SS Dipti, A Islam, MA Latif, AKMS Islam, MM Hossain, B Nessa, TH Ansari, MA Ali and JK Biswas. 2016. Rice Vision for Bangladesh: 2050 and Beyond. Bangladesh Rice J. 19(2): 1-18.

26. M. S. Ahmed and **Khandakar Md. Iftekharuddaula**. 2017. Selection of Core Collection from Jesso-Balam Rice(Oryza sativa L.) Accessions Using Quantitative, Qualitative and Molecular Characters-A Review. The Agriculturists. 15 (1):170-181.

27. Kabir, M. E., **K. M. Iftekharuddaula**, M. A. I. Khan, M. A. K. Mian and N. A. Ivy. 2017. Marker assisted introgression of bacterial blight Resistant gene into submergence tolerance rice Variety BRRI dhan52. Bangladesh J. Agril. Res. 42(3): 403-411.

28. Akter, S., S. Pervin, **K M Iftekharuddaula**, A. Akter and R. Yasmeen. 2016. Characterization and Evaluation of Aerobic Rice Genotypes under Transplanted Condition. Bangladesh Rice J. 20 (1): 45-50, 2016.

29. Amin, A., **K.M. Iftekharuddaula**, A. Sarker, M.A. Kader, A.H. Talukder, T.L. Aditya, M.A. Ali, M.S. Kabir. 2018. Exploration of SNORKEL1 (SK1) and SNORKEL2 (SK2) QTLs in Deep Water Rice Germplasm Through Genotyping and In-silico Approach. American Journal of Plant Biology. 3(4):33-40. doi: 10.11648/j.ajpb.20180304.11.

30. Kulsum, M. U., **Iftekharuddaula, K. M.,** Hasan, M., Hasan, M. J., Amin, A., Rasul, M. G., Islam, M. M. and Karim, M. A. 2019. Evaluation of submergence tolerant rice genotypes through agronomic traits. Bangladesh J. Ecol. 1 (1): 17-22.

31. Kulsum, M. U., **Iftekharuddaula, K. M.**, Hasan, M., Hasan, M. J., Amin, A., Rasul, M. G., Islam, M. M. and Karim, M. A. 2019. Estimation of genetic variability, correlation and path coefficient analysis for evaluation of submergence tolerant rice genotypes. Bangladesh J. Ecol. 1 (1): 35-41.

32. Amin, A., **K.M. Iftekharuddaula**, A. Sarker, A. H. Talukder, S. Ghoshal, A. K. M. Shalahuddin, T. L. Aditya, M. A. Ali, B. Collard. 2019. Identification of Novel Submergence Tolerant Local Rice Cultivars of Bangladesh. International Journal of Genetics and Genomics. 6(4): 44-51.

33. Rahman, M., Quddus, M. R. & Jahan, N. & Rahman, M. & Sarker, M.R.A. & Hossain, H. & **Iftekharuddaula, K**. 2019. Field Rapid Generation Advance: An Effective Technique for Industrial Scale Rice Breeding Program. The Experiment. 47. 2659-2670.

34. Syed, M. A., **K.M. Iftehkaruddaula**, N. Akter and P.S. Biswas. 2019. Molecular Diversity Analysis of Some Selected BBRI Released Rice Varieties using SSR Markers. International Research Journal of Biological Sciences. 1 (2): 51-58.

35. Amin A., **Iftekharuddaula K.M.,** Sarker A., Ghoshal S., Aditya T.L., Talukder, A.H., Sabrin, F., Billah, M.M. and Collard, B. 2018. Introgression of *SUB1* QTL into BR22 Using Marker Assisted Backcrossing. Int J Plant Biol Res. 6(5): 1103.

36. Debsharma, S. K., Roy P. R., Begum R. A., Kundu P. K., Shalahuddin, A. K. M., **Iftekharuddaula, K.M.** 2020. Genotype-Environment Interaction and Stability for Yield of Inbred and Hybrid Rainfed Lowland Rice (*Oryza sativa* L.) Varieties in Bangladesh. North American Academic Research. 3(07): 223-233.

37. Quddus, M. R., M. A. Rahman, N. Jahan, S. K. Debsharma, R. F. Disha, M. M. Hasan, T. L. Aditya, **K.M. Iftekharuddaula**, B. C.Y. Collard. 2019. Estimating Pedigree-Based Breeding Values and Stability Parameters of Elite Rice Breeding Lines for Yield under Salt Stress during the Boro Season in Bangladesh. Plant Breed. Biotech. 7(3):257-271. https://doi.org/10.9787/PBB.2019.7.3.257.

38. Debsharma, S K, P R Roy, R A Begum, **K M Iftekharuddaula**. 2020. Elucidation of Genotype × Environment Interaction for Identification of Stable Genotypes to Grain Yield of Rice (Oryza sativa L.) Varieties in Bangladesh Rainfed Condition. Bangladesh Rice J. 24 (1) : 59-71, 2020, doi.org/10.3329/brj.v24i1.53240

39. S.K. Debsharma, P.R. Roy, R.A. Begum, **K.M. Iftekharuddaula**, K.K. Roy and M.Z. Hossain. 2020. Distinctness, Uniformity and Stability (DUS) characterization for BRRI developed rice varieties of Bangladesh. Int. J. Sustain. Crop Prod. 15(1):13-19.

40. Kader, M.K., A. K. M. Shalahuddin, T.K. Hore, R.R. Majumder, M.E. Haq, K. Fatema, P.S. Biswas and **K. M. Iftekharuddaula**. 2021. BRRI Dhan100: A Zinc Enriched Rice Variety Suitable for Irrigated Ecosystem in Bangladesh. APRJ, 8(1): 1-8, 2021; Article no. APRJ.69295.

41. Debsharma, S.K., M. A. Rahman, M. R. Quddus, H. Khatun, R. F. Disha, P. R. Roy, S. Ahmed, M. El-Sharnouby, **K. M. Iftekharuddaula**, S. Aloufi, F. M. Alzuaibr, M. Alqurashi, M. I. Sakran and M. S. Kabir. 2022. SNP Based Trait Characterization Detects Genetically Important and Stable Multiple Stress Tolerance Rice Genotypes in Salt-Stress Environments. Plants. *11*(9), 1150; https://doi.org/10.3390/plants11091150.

42. Kader, MA, AKM Shalahuddin, TK Hore, RR Majumder, SM Tariqul Islam, ME Haq, UR Shaha, Kaniz Fatema, PS Biswas and **KM Iftekharuddaula**.2023. BRRI Dhan102: An Irrigated Ecosystem-Friendly Zinc-Enriched Rice Variety for Bangladesh. Journal of Experimental Agriculture International. 45(4): 21-27.

B. Short Communication-Nil

C. Books/Bulletins (20)

(i) Books

As Editor (1)

1. Hossain MA, L. Hassan, **K.M. Iftekharuddaula**, A Kumar and R. Henry (Eds.). 2021. Molecular Breeding for Rice Abiotic Stress Tolerance and Nutritional Quality. John Wiley & Sons Ltd, The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK. P. 436.

***As Principal Author* (5)**

1. **Iftekharuddaula**, K. M. 2003. Genetic Analysis of Morpho-physiological Characters in Diallel Cross of Rice. M. S. Thesis in Genetics and Plant Breeding. Bangladesh Agriculture University, Mymensingh-2202.

2. **Iftekharuddaula**, **K. M.** 2010. Comparison of New Selection Strategies of Marker-Assisted Backcrossing for a Submergence Tolerant gene in Rice. A Ph.D. Dissertation in Genetics and Plant Breeding. Bangladesh Agriculture University, Mymensingh-2202.

3. **Iftekharuddaula, K. M.**, M. A. I. Khan. 2013. SPGR Sub-Project Completion Report on "Pyramiding bacterial blight resistant genes into the genetic background of BR11-derived submergence tolerant rice lines". BARC, Farmgate, Dhaka. 35P.

4. **Iftekharuddaula, K.M.** 2016. Development of rice varieties with submergence tolerance through Marker Assisted Backcrossing. Summary Report on Achievement of the 1st phase BAS-USDA Programme in Agricultural and Life Sciences Projects. Bangladesh Academy of Sciences, Dhaka.

5. **Iftekharuddaula, K.M.**, Al Amin, A.K.M. Shalahuddin, T. Halder, R. Yeasmeen, MA Hossain, TL Aditya, MA Ali and MS Kabir. 2018. Current scenarios, Progress and prospects of developing technologies for flood-tolerant rice in Bangladesh. In: Hasanuzzaman, M., Fujita, M., Nahar, K. and Biswas, J.K. (eds.). Advances in Rice Research for Abiotic Stress Tolerance. Andre Gerharc Wolff, Chennai, India. pp. 265-279.

***As Co-author* (11)**

6. Collard, B. C.Y., **K. M. Iftekharuddaula**, M. J. Thomson, AM Pamplona and DJ Mackill. 2008. An electronic manual on marker assisted backcrossing in rice: theory and applications. 1st edition. GCP Wiki, International Rice Research Institute, Manila, Philippines

   (http://mcclintock.generationcp.org/index.php?option=com_content&task=view&id=92&Itemid=114).

7. Hassan, M. S., M. J. Islam, M. R. Islam, **K. M. Iftekharuddaula** and M. A. Badshah. 2001. Prashikhan Manuel: Adhunik Dhan Chaser Kalakowshal. Bangladesh Rice Research Institute, Comilla.

8. Chowdhury, M.K.A., M.S. Hassan, N.C. Barma, S. Ali, **K.M. Iftekharuddaula**, M.S.I. Mamin, M. Nasim, B.C. Sen, M.A.H. Molla. 2013. Project Completion Report of AFACI Food Security Country Project: Development of Variety, Cropping System Research and Technology Transfer of Major Cereals for Sustainable Food Security in Bangladesh. Crops Division, BARC, Farmgate, Dhaka. 98p.

9. Kabir, M.J., **Iftekharuddaula, K.M.**, Aditya, T.L. and Kabir, M.S. 2018. Rice Technological Innovation and Value Chain Development in Bangladesh: Current Status and Future Directions. In: Pandey, P.R. and Bhandari, H. (eds.). Rice Technological Innovation and Value Chain Development in South Asia: Current Status and Future Directions. SAARC Agriculture Centre, p. 164.

10. Rahman, M.A., H. Khatun, M.R.A. Sarker, H. Hossain, M.R. Quddus, **K.M. Iftekharuddaula** and M.S. Kabir. 2021. Enhancing Abiotic Stress Tolerance to Develop Climate-Smart Rice Using Holistic Breeding Approach. In: Goyal, A.K. (Ed.). Cereal Grains – Volume 2. IntechOpen, London, UK. P 277. http: //dx.doi.org/10.5772/intechopen.100814.

11. Azim, T., Y.F. Chowdhury, G.M.N.A. Jewel, H. A. Hossain, M.A.A. Sarker, M.S. Rahman, R. Karim, Z.I., Seraj and **K.M. Iftekharuddaula**. 2021. DNA marker-assisted breeding for producing highly stress tolerant elite rice varieties for coastal Bangladesh by introgression of multiple salt tolerance loci (QTLs) into commercial cultivars (ID-010), Sub-project Completion Report. I-46p.

(ii) Bulletins (3)

As Co-author

9. Latif, M. A., **K. M. Iftekharuddaula** and M. Y. Ali. 2003. Rice Field Crab, *Somanniathelphusa sexpunctata*: a threat to rice production in Bangladesh. SAIC Newsletter. 13(3): 5.

*10. Mackill, D. J., A. M. Ismail, S. Heuer, E. Septiningsih, A. M. Pamplona, R. M. Rodriguez, C. N. Neeraja, D. Sanchez, **K. M. Iftekharuddaula** and G. Vergara. 2008. Breeding for Submergence Tolerance. Technical Bulletin No. 13. International Rice Research Institute, Los Banos, Philippines.

11. Nayak S, Habib MA, **Iftekharuddaula KM**, Kabir MH (Eds). 2022. National level result sharing and planning of head-to-head adaptive trials in Bangladesh. International Rice Research Institute (RRI) Workshop Report. Los Banos, Philippines. Available online at: http://books.irri.org/HHAT-Workshop-Report.pdf.

D. Seminar/Workshop/Symposium Proceedings (5)

*** International Proceedings**

***As Principal Author* (1)**

*1. **Iftekharuddaula KM**, MA Newaz, MA Salam, HU Ahmed, MAA Mahbub, EM Septiningsih, BCY Collard, DL Sanchez, AM Pamplona and DJ Mackill. 2009. Strategies to introgress q*SUB1* through marker-assisted backcrossing into BR11, a mega variety of Bangladesh for rainfed lowland. Paper published in the proceeding of the 14th Australasian Plant Breeding & 11th SABRAO Conference held at Cairns Convention Centre, Cairns, Tropical North Queensland, Australia on 10 – 14 August 2009. Vol. 41, Special Supplement August 2009.

***As Co-author* (2)**

2. Salam, M. A., S. Khatun, A. W. Julfiqur, H. U. Ahmed, M. R. Islam, M. E. Haque, T. L. Aditya, M. Akhlasur Rahman, **K. M. Iftekharuddaula**, M. M. Hossain and S. K. Zaman. 2005. Promising Rice Genotypes for Different Eco-systems of Bangladesh. In: Proceedings of Twentieth National Workshop on Rice Research and Extension in Bangladesh held on 19-21 April, 2004, Bangladesh Rice Research Institute, Gazipur.

3. Haque, A. K. G. M. E., T. L. Aditya, A. S. M. Masuduzzaman, **K. M. Iftekharuddaula**, M. R. Islam and M. A. Salam. 2010. Climate Change and Stress Tolerant Rice: Current Status and Potential. In: Paper published in the proceedings of the regional seminar organized by BACE-ICDPAP held on 16-17th June, 2010 at Dhaka. pp 74-80.

4. Nayak S, MA Habib, **KM Iftekharuddaula**, MS Kabir (Eds). 2022. National level result sharing and planning of head-to-head adaptive trials in Bangladesh. International Rice Research Institute (RRI) Workshop Report. Los Banos, Philippines. Available online at: http://books.irri.org/HHAT-Workshop-Report.pdf.

E. Abstract/Poster/Popular articles (24)

***International abstract/poster**

***As Principal author* (11)**

1. **Iftekharuddaula, K. M.** and Khaleda Akter. 2005. Genetically Modified Crops: Benefits and Risks. A popular article published in Observer Magazine on Friday, March 18, 2005.

2. **Iftekharuddaula**, K. M., H. U. Ahmed and M. A. Salam. 2008. Introgression of Sub1 QTL in rice for submergence prone environment. An Abstract published in the proceedings of International Conference on Global Climate Change and its effects on Agriculture at Dhaka, 25-30 August, 2008.

3. **Iftekharuddaula, K. M.**, M. A. Newaz, M. A. Salam, R. A. Sarker, M. A. A. Mahbub, H. U. Ahmed and D. J. Mackill. 2009. Genetic Analysis and Phenotypic Performance of Submergence Tolerant Rice Genotypes Developed through Marker-Assisted Backcrossing. Abstract published in the souvenir of International Conference on Plant Breeding and Seed for Food Security held on 10-12 march 2009 at BARC, Farmgate, Dhaka.

4. **Iftekharuddaula, K. M.**, M. A. Salam and D. J. Mackill. 2009. Breeding for Submergence Tolerance in Rice: Present and Past Scenario. Abstract published in the Souvenir of International Conference on Plant Breeding and Seed for Food Security, held at BARC, Farmgate, Dhaka on 10-12 March 2009.

*5. **Iftekharuddaula, K.,** S. Ghosal, E. Hoque, J. Ferdous, R. Yasmeen, Z. R. Moni, E. M. Septiningsih. 2013. Haplotype diversity of some new submergence tolerant germplasm and introgression of SUB1 QTL into three rainfed lowland rice varieties of Bangladesh. Abstract published in the 7th International Rice Genetics Symposium at Manila, Philippines held on 5-8 November 2013.

6. **Iftekharuddaula, K.M.**, Ghosal, S., Sarker, M.R.A. and Aditya, T.L. 2014. Development of short duration submergence tolerant rice varieties through marker assisted breeding. An abstract published in Rice Research Abstract 2014. Bangladesh Rice Research Institute, Gazipur-1701. p24.

7. **Iftekharuddaula, K.M.**, Rahman, M.A., Khatun, M., Kader, M.A., Anisuzzaman, M., Aditya, T.L., Amin, A., Islam, M.R., Atlin, G.N. and Ali, M.A. 2017. Principle and practice of transforming rice breeding concept at BRRI. Poster presented in the Workshop on 'Cutting edge rice breeding approaches' on 23-24 October 2017, ACI Center, Dhaka.

8. **Iftekharuddaula, K.M.**, Amin, A., Shalahuddin, A.K.M., Ara, A., Hoque, M.E., Islam, M.S., Ray, B.P., Shahriar, S.M., Miah, M.S. and Aditya, T.L. 2016. Development of BRRI dhan44-Sub1 and BRRI dhan49-Sub1 and their Phnotypic Adaptability. An abstract published in 5th National Conference and International Agricultural Conference, Dhaka. p63.

9. **Iftekharuddaula, K.M.** and Sharmistha Ghosal. BRRI dhan51-Flash Flooding Tolerant Rice variety. Plant Breeding Division, BRRI, Gazipur-1701.

10. **Iftekharuddaula, K.M.** and Sharmistha Ghosal. BRRI dhan52-Flash Flooding Tolerant Rice variety. Plant Breeding Division, BRRI, Gazipur-1701.

11. **Iftekharuddaula, K.M.** Towards Development of Disease Resistant cum Flash Flood Tolerant Rice variety. BARC, Farmgate, Dhaka-1215.

***As Co-author* (13)**

12. Khaleda Akter and **K. M. Iftekharuddaula**. 2005. Prospects and Problems of Nif Gene Transfer in Crop Plants. A popular article published in Observer Magazine on Friday, May 27, 2005.

13. Biswas, P.S., M.A. Salam, **K.M. Iftekharuddaula** and A.K. G. Enamul Haque. 2007. BRRI dhan45: A potential short duration boro rice variety for escaping flash flood in haor areas of Bangladesh. An abstract published in the souvenir of 7th Biennial Conference, 26 may, 2007, Plant Breeding and Genetics Society of Bangladesh.

14. Ali, M.S., **K.M. Iftekharuddaula**, S. Sultana, J. Ferdous, M.E. Hoque and M.S. Islam. 2007. Genetic potentials of some wide-cross progenies. An abstract published in the souvenir of 7th Biennial Conference, 26 may, 2007, Plant Breeding and Genetics Society of Bangladesh.

15. Latif, M.A., M.R.B. Talukdar, M.M. Rahman, **K.M. Iftekharuddaula**, MR. Islam, M.E. Haque and M.A.T. Mia. 2008. Biodiversity of ufra and blast resistant genotypes using VNTR-PCR and SSR-PCR DNA fingerprints. An abstract published in the International Biotechnology Conference 2008, 7-8 June, Dhaka.

16. Hossain, M.Z., M.G. Rasul, M.S. Ali, **K.M. Iftekharuddaula** and M.A.K. Mian. 2008. Molecular characterization and genetic diversity in fine grain and aromatic landraces of rice (*Oryza sativa* L.) using microsatellite markers. An abstract published in the International Biotechnology Conference 2008, 7-8 June, Dhaka.

17. Sultana, N., H.A. Rabbi, E.A. Hoque, **K.M. Iftekharuddaula**, H.U. Ahmed and M.S. Ali. 2008. DNA fingerprinting and genetic diversity analysis of 47 BRRI-released rice varieties using SSR markers. An abstract published in the International Biotechnology Conference 2008, 7-8 June, Dhaka.

*18. Septiningsih E.M., A.M. Pamplona, D.L. Sanchez, K. **Iftekharuddaula**, A.S.M. Masuduzzaman, G. Vergara, S. Singh, T.T.M. Dang, R. Maghirang-Rodriguez, C.N. Neeraja and D. J. Mackill. 2008. The *Sub1* gene and its implications in developing submergence-tolerant rice cultivars. *In*

Abstracts of the 5th International Crop Science Congress and Exhibition, April 13–18, Jeju, Korea. 5th ICSC Organizing Committee, Seoul, Korea, p 177.

*19. M. A. Salam and **K. M. Iftekharuddaula**. 2009. Positive Effect of Sub1 QTL in BR11. Poster presented in the Sixth International Rice Genetics Symposium held in Manila, Philippines, 16-19 November, 2009.

20. Rahman, M.A., **Iftekharuddaula,** K.M., Khatun, M., Kader, M.A., Anisuzzaman, M., Aditya, T.L., Quddus, M.R. Amin, A., Islam, M.R., Atlin, G.N. and Ali, M.A. 2017. Field Rapid Generation Advance (FRGA): an appropriate tool for step change breeding in rice variety development. Poster presented in the Workshop on 'Cutting edge rice breeding approaches' on 23-24 October 2017, ACI Center, Dhaka.

21. Syed, M.A., **Iftekharuddaula, K.M.**, Biswas, P.S, and Rahman, M. 2014. Genetic diversity of some BBRI developed rice varieties using SSR markers. An abstract published in Rice Research Abstract 2014. Bangladesh Rice Research Institute, Gazipur-1701. p28.

22. Ara, A., **Iftekharuddaula, K.M.**, Saikat M.M.H. 2014. Introgression of SUB1 QTL into BRRI dhan49 Using Marker Assisted Backcross Technique. An abstract published in Rice Research Abstract 2014. Bangladesh Rice Research Institute, Gazipur-1701. p31.

23. Barman, H.N., Halder, T., **Iftekharuddaula, K.M.** and Yasmeen, R. 2014. Investigation of new sources of submergence tolerance from diverse Bangladeshi rice germplasms. An abstract published in Rice Research Abstract 2014. Bangladesh Rice Research Institute, Gazipur-1701. p42.

24. Haque, S.S. Bari, M.N.M. Rabbi, F. Ahmed, N. and **Iftekharuddaula, K.M.** 2014. Validation of BRRI Recommended Practices for Insect Pest Management. An abstract published in Rice Research Abstract 2014. Bangladesh Rice Research Institute, Gazipur-1701. p74.

e) Thesis/Dissertation supervised (7)

MS

1. Amin, A. 2013. Marker Assisted Backcrossing Approach to introgress *SUB1* QTL into BRRI dhan39. A dissertation submitted in the department of Biotechnology and Genetic Engineering of MBSTU, Tangail-1902, December, 2013.

2. Ara, A. 2012. Introgression of *SUB1* QTL into BRRI dhan49 using Marker Assisted Backcrossing Technique. An MS dissertation submitted in the department of Genetics and Plant Breeding of BSMRAU, Gazipur-1706, Winter, 2012.

3. Islam, K. 2012. Marker-Assisted Breeding for introgression of flash flooding tolerant QTL *SUB1* into BRRI dhan33. An MS dissertation submitted in the department of Genetics and Plant Breeding of BSMRAU, Gazipur-1706, Winter, 2012.

4. Kabir, M.E. 2012. Marker Assisted Breeding for Introgression of Bacterial Blight resistant genes into BRRI dhan52 (*Oryza sativa* L.). An MS dissertation submitted in the department of Genetics and Plant Breeding of BSMRAU, Gazipur-1706, Winter, 2012.

5. Bashar, K. K. 2014. Morphological and Molecular Characterization of Some Selected Aromatic Rice. An MS dissertation to be submitted in the department of Genetics and Plant Breeding, BSMRAU, Gazipur-1706.

6. Sudipto, D. 2015. Haplotype diversity and deployment of molecular markers for the improvement of submergence tolerance in rice. An MS dissertation to be submitted in the department of Genetics and Plant Breeding, BSMRAU, Summar 2015, Gazipur-1706.

PhD

1. Syed, M.A. 2014. Identification of QTL for arsenic phytotoxicity tolerance in rice (*Oryza sativa*). A PhD dissertation to be submitted in the department of Genetics and Plant Breeding, BSMRAU, Gazipur-1706.
2. Kulsum, U.M. 2019. Exploitation and introgression of submergence tolerance in component lines hybrid rice. A PhD dissertation to be submitted in the department of Genetics and Plant Breeding, BSMRAU, Gazipur-1706.

THESIS TITLE

MS: Genetic Analysis of Morpho-physiological Characters in Diallel Cross of Rice
PhD: Comparison of New Selection Strategies of Marker-Assisted Backcrossing for a Submergence Tolerant Gene in Rice

LIST OF THE RESEARCH ACHIEVEMENTS

(I) List of technology developed:

i) Participated in the development of BRRI hybrid dhan1 at BRRI, Comilla part
ii) Participated in the development of BRRI dhan45 (BR5877-21-2-3)
iii) Developed three flood tolerant rice varieties BRRI dhan51, BRRI dhan52, BRRI dhan79
iv. Introgression of flash flooding tolerant QTL *SUB1* into five RLR varieties viz. BR22, BRRI dhan33, BRRI dhan39, BRRI dhan44 and BRRI dhan49
v. 12 varieties (BRRI dhan90, BRRI dhan91, BRRI dhan93, BRRI dhan94, BRRI dhan95, BRRI dhan97, BRRI dhan98, BRRI dhan99, BRRI dhan100, BRRI dhan101, BRRI dhan102, BRRI dhan104, BRRI dhan105, BRRI dhan106) were released as Head of Plant Breeding Division

LIST OF THE OUTSTANDING ACHIEVEMENTS

SUBJECT	REMARKS
A. Award received	
(i) BARC Chairman's Award with First Position	11th Foundation Training Course, BARD, Comilla
(ii) Won best poster award in the downstream research category in Philippines	Sanchez, D.L., A.M. Pamplona, E.M. Septiningsih, R.M. Rodriguez, C. Neeraja, **K. Iftekharuddaula**, S. Singh, G.V. Vergara, S. Heuer, A.M. Ismail and D.J. Mackill. 2008. Conversion of rice mega varieties to submergence-tolerant rice lines with the sub1 locus. Poster presented at the 38th crop science society of Philippines, 12-16 May, 2008, Iloilo city, Philippines.
(iii) CSRL-Oxfam Food and Agriculture Award 2011	Given by CSRL-Oxfam on 13-15 September 2011 at CIRDAP Auditorium, DHaka
(iv) PBGSB Young Scientist Award 2011	Given by Plant Breeding and Genetics Society of Bangladesh
(v) BRRI Award 2014	Given by Director General, BRRI in 2014
(vi) Bangabandhu National Agricultural Gold Medal Award 1422 (Bangla)	Given to Plant Breeding Division
(vii) First Position Award 2021 for APA implementation	Given to Plant Breeding Division
C. Outstanding Research Contribution	

(i) Served as a resource person for the GCP Training Workshop on Marker-Assisted Breeding for Bangladesh held from 18 to 27 November, 2008, at BRRI, Gazipur	
(ii) Presented divisional seminar paper on "Marker-assisted backcross breeding for Sub1-QTL in BR11, the mega variety of Bangladesh'' given at PBGB Division, IRRI, **Philippines** on 28 March, 2007	
(iii) Presented a seminar on "Hybrid Rice Seed Production and its Prospects" at Chittagong Divisional Seed Technology Seminar held in 14th June, 2001 at Chittagong	
(iv) Presented a seminar paper on "Genetically Modified Crops: Present status, benefits, risks and regulatory status aspects" in Thursday seminar of BRRI on 17 March, 2005.	
(v) Presented a seminar paper on "Development of flash flood tolerant BR11-Sub1 through marker-assisted backcross breeding in rice" in Thursday seminar of BRRI on 21August, 2008.	
(vi) Presented a seminar paper on "Comparison of marker-assisted background selection with conventional phenotypic selection in backcross breeding of rice" in Thursday seminar of BRRI on 23 October, 2008.	
(vii) Attended site visit and review meeting of the BMZ funded project "From Genes to Farmers Field" in **India** and Bangladesh during 1-8 November, 2008 and presented a paper on project completion report	
(viii) Attended End-of project meeting and synthesis workshop of the Project on "Development of technologies to harness the productivity of salt-affected areas of the Indo-Gangetic, Mekong and the Nile river basins", IRRI, **Philippines**, 2-4 December, 2008 and presented a paper on project activities	
(ix) Participated third annual review and planning meeting on the project "Developing and disseminating water-saving rice technologies in South Asia" to be held on 16-20 February, 2009 at IRRI, **Philippines**	
(x) Reviewer of the Journal "Eco-friendly Agriculture", "International Journal of Bioresearch" and SABRAO	
(xi) Attended International Conference on "Global Climate Change and its effects on Agriculture" held on 25-30 August, 2008 at Dhaka, Bangladesh	
(xii) Presented a seminar on "Validating Efficiency of Recombinant Selection and Development of Backcross Recombinant Lines through Marker-Assisted Breeding in Rice" at BRRI, Gazipur on 21st January, 2010	

(xiii) Attended 14th Australian Plant Breeding and SABRAO Conference at Cairns, **Australia** on 10-14 August, 2009	
(xiv) Attended completion workshop of the ADB-funded project: Developing and Disseminating Water-Saving Rice Technologies in South Asia" at Kathmandu, **Nepal** during 16-17 December, 2009	
(xv) Attended submergence and salinity outputs and breeding networks meetings and a workshop on PVS in Lucknow, **India** during 9-11 March, 2010.	
(xv) Attended Annual Review and Planning Workshop of the BMGF funded project "Stress Tolerant Rice for Africa and South Asia (STRASA) on 9-11 April 2013 at New Delhi, **India**	
(xvi) Study tour on "Agriculture and Climate Change" in **Thailand** during 02-07 June 2013	
(xvii) Participated in "the 7th International Rice Genetics Symposium (RG7))" in **Philippines** during 05-07 November 2013	
(xviii) Attended workshop on "Rice Breeders Expert Elicitation" in **Philippines** during 20-21 November 2014	
(xix) Attended inception meeting of the 2nd phase of ADB Water Saving Project in **Nepal** during 08-11 December 2014 (xx) Attended experience sharing exposure visit in IRRI, **Philippines** for having experience on TRB-IRRI project during 10-15 April 2016.	
(xxi) Attended Annual Review And Planning Meeting of STRASA project in New Delhi, **India** during 30 April to 02 May 2017	
(xxii) Attended Workshop On 'Transformative Rice Breeding: An Initiative to Modernize Breeding' in ICRISAT, Hyderabad, **India** during 26-27 October 2017	
(xxiii) Attended 6th National Workshop of Bioinformatics for Sustainable Development in Agriculture, Health and Environment at BRRI, Bangladesh during 13-14 December, 2017	
(xxiv) Attended Annual Review And Planning Meeting of STRASA project in New Delhi, **India** during 30 April to 03 May 2018	
(xxv) Attended TRB Workshop at IGKV, Raipur, **India** during 08-10 October 2018	
(xxvi) Study tour on 'Transforming Rice Breeding' at **Philippines** during 21-27 July 2019	
(xxvii) Served as a resource person in the training workshop on 'Application of Bioinformatics in Rice Improvement' during 14-24 January 2020 at BRRI, Gazipur	
(xxviii) Attended COP-26 at Glasgow, **UK** during 04-12 November 2021.	

(xxix) International Conference on Biodiversity, Food-security, and Sustainability & Climate Change' - icbfscc-2023 at Jorhat, Assam, **India** during 25-28 April 2023	
B. Outstanding performance	
(i) First position with Distinction in Rice Production, Communication and Office Management Training	Held in BRRI, Gazipur
(ii) Highest Grade Point with First Class in MS in Genetics and Plant Breeding	On-Deputation from BAU, Mymensingh
(iii) First class with Third Position in B. Sc. Ag. examination	Bangladesh Agricultural University, Mymensingh

List of Project Activities:

1. Principal Investigator of the Project "Stress Tolerant Rice for the Poor Farmers in South Asia and Africa (STRASA)" (Sub-Component: Submergence) funded by BMGF
2. Principal Investigator of the Project "Development and Dissemination of Water Saving Rice Technologies in South Asia" funded by ADB
3. Principal Investigator of the Project "Improvement of rice varieties/breeding lines for low water availability in South and Southeast Asia" funded by UKM, Malaysia
4. Principal Investigator of the Project "Pyramiding Bacterial Blight Resistant Genes into the Genetic Background of BR11-Derived Submergence Tolerant Rice Lines" funded by GOB and WB
5. Principal Investigator of the Project "Development of Rice Varieties with Enhanced Submergence Tolerance through Marker Assisted Breeding" funded by USDA
6. Project Manager of "Integrated Agricultural Productivity Project-BRRI Component" funded by GOB and GAFSP.
7. Acting as Collaborative Research Fellow under TRB-BRRI Project from 01 February 2016 to 30 Nov 2019.
8. Acting as Coordinator of AGGRi Alliance project funded by IRRI
9. Acting as Coordinator of NATP2 Project 'DNA marker-assisted breeding for producing highly stress tolerant elite rice varieties for coastal Bangladesh by introgression of multiple salt tolerance loci (QTLs) into commercial cultivars'
10. Acting as Member Secretary of BRRI-TRB Phase 2 Project.

Computer literacy and software proficiency: Microsoft Office, Windows, Photo-editing, Conventional and Molecular Biometrical soft-wares viz. Power Marker 3.25, GGT 2.0, NTSYSPC2.2, QGENE, QTL Cartographer, Map Manager QTX, AlphaEaseFC5.0, Flapjack, Tassel-5, Galaxy Pipeline etc.

Language Proficiency:
1. Bengali (Mother Language)
2. English (Excellent in speaking, writing, and reading)

Membership of Professional Societies:
1. Member, Agriculturist Institution of Bangladesh
2. Member, Plant Breeding and Genetics Society of Bangladesh
3. Member, SABRAO
4. Member BRRISA

References:

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(Khandakar Md. Iftekharuddaula)