

Biodata/CV of MOHAMMOD HOSSAIN

1. **Name** : MOHAMMOD HOSSAIN
2. **Father's name** : Md. Abdul Mannan
3. **Mother's name** : Minuara Begum
4. **wife's name** : Ayesha Siddiqua
5. **Gender** : Male
6. **Designation/Position** : Principal Scientific Officer (PSO)
7. **Affiliation/Institution** : Bangladesh Rice Research Institute (BRRI)
8. **Date of joining in the present position** : 14.12.2014
9. **Date of first joining in service** : 20.08.1998 (as Scientific Officer at BRRI)
10. **Date of birth** : 20.11.1970
11. **Educational Qualification** :

| Name of the Degree | Class/Grade | Board/University | Year of passing |
|--------------------|-------------------|---------------------------|---------------------|
| Ph.D. | Pass | BAU, Bangladesh | 2015 |
| M.Sc. | Great Distinction | Ghent University, Belgium | 2010 |
| M.S. | First | BAU, Bangladesh | 1998 |
| B.Sc. Ag. | First | BAU, Bangladesh | 1992 (held in 1996) |
| H.S.C. | First | Rajshahi, Bangladesh | 1988 |
| S.S.C. | First | Rajshahi, Bangladesh | 1986 |

S.S.C=Secondary School Certificate; H.S.C=Higher Secondary Certificate; B.Sc.Ag=Bachelor of Science in Agriculture; BAU=Bangladesh Agricultural University

M.S. Thesis

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| Promoter/Supervisor | Professor Dr. Muyeen Uddin Ahmed |
| Title | A study on the control of root-knot nematode (<i>Meloidogyne javanica</i>) of wheat |
| Year | 1998 |
| University, Country | Bangladesh Agricultural University, Bangladesh |

Abstract: Furadan5G (carbofuran), leaf extracts of dhokalmi (*Ipomoea fistulosa*), azolla (*Azolla pinnata*) and neem (*Azadirachta indica*) along with an untreated control were tested to control root-knot (*Meloidogyne javanica*) disease in five cultivars of wheat viz. Kanchan, Barkat, Akbar, Agrahani and Sawgat. Furadan 5G and neem leaf extract gave comparatively better response in plant growth characters like root length, plant weight, ear weight, number of grains and weight of grains with corresponding lower galling incidence. Dhokalmi and azolla also showed better effect over control. Kanchan was found to be susceptible in reaction to *M. javanicai*. Barkat, Akbar and Agrahani gave moderately susceptible reaction, while Sawgat was found to be moderately resistant.

M.Sc. Thesis

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| Promoter | Professor Dr. Godelieve Gheysen |
| Title | The role of Gibberellin in the response of rice to <i>Meloidogyne graminicola</i> and <i>Hirschmanniella oryzae</i> infection |
| Year | 2010 |
| University, Country | University Gent, Belgium |

Abstract: Upon pathogen attack, the plant defense response is mediated by a set of connected signal transduction pathways. Experiments were conducted to observe the role of plant hormone, in particular gibberellin (GA), in the response of rice to infection by the sedentary endoparasitic nematode *Meloidogyne graminicola* and the migratory endoparasitic nematode *Hirschmanniella oryzae*. Exogenous application of GA was done several times on Nipponbare and GA might have a negative effect on defence in Nipponbare against *M. graminicola*. On the other hand an inhibitory effect to *M. graminicola* in Taichung 65 was found when GA was applied exogenously. There was significant effect of GA in reducing infection in Nipponbare against *H. oryzae* but the experiment was not repeated to confirm this result. A significantly higher number of *H. oryzae* per plant was found in GA deficient mutant *waitoC* compared to WT and a lower number in GA insensitive mutant *gid1-3* plants. Experiments with *M. graminicola* showed that galling was significantly and reproducibly lower in mutants, whether it was GA insensitive or GA deficient, than in wild type (Taichung 65). There were even significantly lower galls in these GA deficient mutants after GA treatment than in non-treated mutant plants. There was no difference in the expression of GA signalling gene *Osgid1-3* after *M. graminicola* infection in Taichung 65, neither in root tip nor leaf tissue. The expression of GA signalling gene *Osgid1-7* was significantly higher only in whole root at 2 dpi but not in leaves or root tips. Even this gene was not differentially expressed in root and leaf tissues at later stage (6 dpi) of infection. The nematode inhibited biosynthesis of *OsGA20ox* in leaves at 2 dpi and, in both of leaves and roots at 6 dpi. The GA response gene AK073385 was also less expressed in root tip at 6 dpi. These might help *M. graminicola* to continue their infection in Taichung 65.

Ph.D. Thesis

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| Promoter/Supervisor | Professor Dr. M. Delwar Hossain |
| Title | Identification of existing races of <i>Pyricularia grisea</i> in rice in Bangladesh using monogenic lines of rice |
| Year | 2015 |
| University, Country | Bangladesh Agricultural University, Bangladesh |

Abstract: Blast caused by *Pyricularia grisea* (Cooke) Sacc is one of the major diseases of rice in Bangladesh. To study the epidemiology of blast disease, genetic variability of *P. grisea* and PCR-based screening for blast resistant genes three experiments were conducted at BRRI during 2010-2013. Incidence and severity of blast disease of rice was recorded in ten agro-ecological zones (AEZ1, AEZ2, AEZ9, AEZ11, AEZ12, AEZ13, AEZ19, AEZ20, AEZ23 and AEZ28) of Bangladesh during boro (irrigated) and transplanted aman (rainfed) seasons. Disease incidence and severity was higher in irrigated ecosystem (boro) (21.19%) than in rainfed ecosystem (aman) (11.98%) regardless of locations (AEZs). It was as high as 68.7% in Jhalak hybrid rice followed by BRRI dhan47 (58.2%), BRRI dhan29 (39.8%), BRRI dhan28 (20.3%) during boro and in BRRI dhan34 (59.8%) during aman. Yield loss was estimated from survey data on neck blast infection. Maximum yield loss was noted in AEZ9 for both seasons. Percent yield loss was higher in all the locations for boro season (irrigated ecosystem) compared to aman season (rainfed ecosystem). In the crop sequence1 (CS-1= Crop cycle with one rice followed by fallow/other crops) disease incidence was 16.7% and in crop sequence2 (CS-2= Crop cycle with two rice followed by fallow/other crops) it was 31.9%. Most popularly adopted boro rice was BRRI dhan28 (29.6%) followed by BRRI dhan29 (25.9%) and aman rice was BRRI dhan34 (22.9%). A total of 139 isolates representing 8 AEZs (AEZ1, AEZ2, AEZ9, AEZ11, AEZ13, AEZ19, AEZ23 and AEZ28) of Bangladesh were characterized for their pathogenecities using 26 differential varieties (DVs) targeting 23 resistant genes namely, *Pish*, *Pib*, *Pit*, *Pia*, *Pii*, *Pi3*, *Pi5*, *Pik-s*, *Pik-m*, *Pi1(t)*, *Pik-h*, *Pik*, *Pik-p*, *Pi7(t)*, *Pi9*, *Piz*, *Piz-5(pi-2(t))*, *Piz-t*, *Pita-2*, *Pi12(t)*, *Pita= Pi4(t)*, *Pi19* and *Pi20* including a susceptible check LTH. Isolates clarified on MLs through pathogenecity test indicated that *pi9*, *pish*, *pita* and *pita2* were the major genes responsible for blast resistance in Bangladesh. Among them *Pi9*, *Pish* showed resistance frequencies of 90% and above while *Pita* and *Pita-2* showed 80-87% against all blast isolates. These blast isolates were categorized into 112 races based on the reaction patterns against DVs. Twenty five isolates were found suitable with high differentiating ability of 23 resistant genes and they had good sporulation ability. The monogenic lines as DVs and the preliminary selected 25 blast isolates could be used as the first differential system in Bangladesh, which can characterize the resistance of rice cultivars. All the five pathotypes viz. U, i, k, z and ta were identified in the isolates. Each pathotype was further separated into 13, 8, 46, 13 and 37 groups respectively for U, i, k, z and ta. Of them seven types, U63, i0, i7, k177, z00, z04 and ta403 were basically dominant and commonly found in all eight AEZs. The computations from distance matrix gave hierarchical clustering among 139 blast isolates and grouped them into five distinct clusters. The inter-cluster distance was maximum between cluster I and cluster V ($D^2 = 5.51$). Minimum inter-cluster distance was observed between cluster III and cluster IV (2.32) which indicated that the isolates of these clusters were genetically closer. On the other hand, these two clusters maintained maximum distance from cluster V. One hundred forty four plant materials were classified into 10 cultivar groups (CG) based on their reaction patterns to four distinct blast isolates, H-11-64, H-1-8, H-1-1 and H-11-67. The reaction patterns of plant materials to these four standard blast isolates indicated presence of *Pish*, *Pi9*, *Pita-2* and *Pita* genes and their combination in the genetic background of tested plant materials. Gene specific primer 195R-1/195F-1, Pita440 (YL153)/Pita440 (YL154), OSM89 and AOL45/AOL48 were used to identify *Pi9*, *Pita*, *Pita-2* and *Pish* genes, respectively through PCR-based assay. Plant materials, H13, H23, H25, H35, H47, H49, H136, H138 harbored all three genes, *pita*, *pita2* and *pish* in their genetic background. The *pi9* gene together with *Pita-2* was detected in local rice cultivar H100 and H129 which was confirmed by DNA analysis in PCR assay. These materials could be used in gene pyramiding in promising high yielding cultivar for durable blast resistance.

12. Field of specialization: Plant Pathology (Molecular Techniques)

Description: Soil fauna and flora; Fungi, bacteria, nematode, virus, mycoplasma related disease of crop and management; Seed health for crop management; Development Integrated Nutrient Management options for delivery; Molecular Techniques: Extraction of DNA from hosts and pathogens, Degradient Gel Electrophoresis (DGGE), AFLP, VNTR, SSR PCR, q-PCR, RT-PCR; Application of modern molecular biotechnological tools for plant pathogens diversity and diagnostic;

13. Training (In service)/ Scientific/scholarly studies and/or experience

In Country training:

| Organization | Year | Duration | | Name of the Programme |
|--------------|------|----------|-----|--|
| | | Month | Day | |
| BRRI | 1998 | 2 | 0 | Rice production, communication and office management |
| BARD | 2000 | 3 | 15 | Foundation Training |
| BARD | 2000 | 0 | 28 | Training on Motor Driving. |
| BARD | 2000 | 0 | 28 | Computer Application Course on MS Word, MS Excel, MS Power Point, SPSS and IRRISTAT. |
| BRRI | 2001 | 0 | 3 | Identification, sampling and data collection on RSB Disease Complex |
| BRRI | 2002 | 0 | 3 | Breeder seed production and preservation technique of rice |
| BRRI | 2002 | 0 | 28 | Introductory course in molecular biology |
| BRRI | 2006 | 0 | 5 | Hybrid rice development and seed production |
| BRRI | 2012 | 0 | 7 | Theory and practice of molecular breeding in rice |
| BRRI | 2012 | 0 | 6 | Theoretical and applied molecular breeding |
| NATA | 2018 | 0 | 5 | Modern Financial Management |
| BRRI | 2018 | 0 | 5 | Public Service Innovation |

BRRI=Bangladesh Rice Research Institute; BARD; Bangladesh Academy for Rural Development; NATA=National Agricultural Training Academy

Training Abroad: Scientific/scholarly studies and/or experience outside homeland (other than that mentioned in the diplomas)

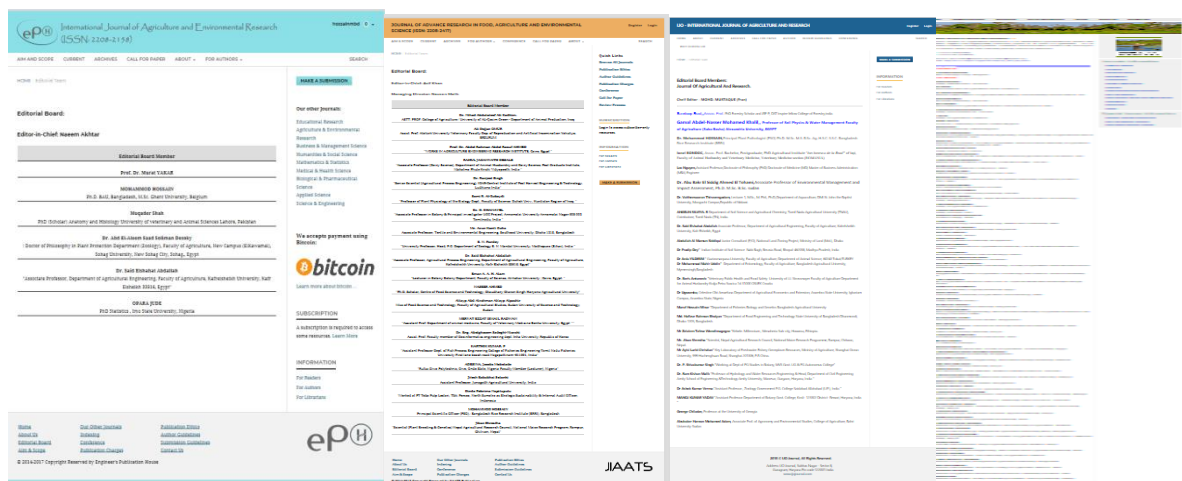
| Organization, Country, Fund | Year, Duration (week) | Name of the research or study programme (and description) |
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| International Rice Research Institute (IRRI), Philippines, funded by IRRI | 1999 (6) | Rice seed health for crop management (Description: Fungi, bacteria and nematodes, those are carried by rice seed were identified. Differences in severity of those pathogens in seeds of different rice varieties were observed.) |
| International Rice Research Institute (IRRI), Philippines, funded by IRRI | 2001 (4) | Development Integrated Nutrient Management options for delivery (Description: Nutrients for rice and their management were studied. Different nutrient management options were developed by the participants and presented.) |
| CAB International, UK, funded by DFID, UK | 2002 (8) | Training on Molecular Techniques (Description: Rice seed borne bacteria were identified by fatty acid analysis in gas chromatography. DNA from fungal and bacterial pathogens was extracted. Degradient Gel Electrophoresis (DGGE) for those identified bacteria and AFLP-agarose gel electrophoresis for fungal pathogens were performed.) |
| Warwick HRI, University of Warwick, UK, funded by DFID, UK | 2004-2005 (26) | Application of modern molecular biotechnological tools for fungal pathogens diversity and diagnostic (Description: The presence of Rhizoctonia oryzae, R. oryzae sativae and R. solani cause sheath blight disease complex in rice in Bangladesh was confirmed by DNA analysis (diagnostic PCR). Genetic diversity of 68 isolates of R. oryzae sativae, collected from different parts of Bangladesh was recorded by using DNA fingerprints (AFLP and SSR) and 9 different clusters were observed at 90% probability. Rice blast pathogen, Magnaporthe grisea was separated according to their mating type by DNA analysis.) |
| Ghent University, Belgium | 2010 (2) | Low Countries Study |

14. Job Experience:

| Position* | Period | | Place/Location | Total Year/Month |
|--|------------|------------|--------------------------------|--------------------------|
| | From | To | | |
| Scientific Officer | 20.08.1998 | 08.06.2002 | BRRI, Rajshahi, Bangladesh | 3-yr/10-mo |
| Scientific Officer | 09.06.2002 | 31.05.2006 | BRRI, Gazipur, Bangladesh | 4-yr/0-mo |
| Senior Scientific Officer | 01.06.2006 | 13.12.2014 | BRRI, Gazipur, Bangladesh | 8-yr/6-mo |
| Principal Scientific Officer | 14.12.2014 | 27.01.2015 | BRRI, Gazipur, Bangladesh | 0-yr/2-mo |
| Principal Scientific Officer | 28.01.2015 | 29.01.2018 | BRRI, Barisal, Bangladesh | 3-yr/1-mo |
| Principal Scientific Officer & Head | 30.01.2018 | 22.07.2018 | BRRI, Barisal, Bangladesh | 7-mo |
| Principal Scientific Officer | 23.07.2018 | Continue | BRRI, Barisal, Bangladesh | |
| Part time lecturer, RAC, Rajshahi and later under RU, Rajshahi | 11-04-1999 | 2002 | RAC & RU, Rajshahi, Bangladesh | Around two and half year |

* RAC = Rajshahi Agricultural College; RU = Rajshahi University (all in Bangladesh); SO to PSO is senior job position

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|---|---|
| Editorial Board Member of research journal | <ul style="list-style-type: none"> (i) International Journal of Agriculture and Environmental Research (ISSN: 2208-2158) (ii) Journal of Advance Research in Food, Agriculture and Environmental science (ISSN: 2208-2417) (iii) Universal Journal of Agricultural Research (ISSN: 2332-2268 Print and 2332-2284 Online) (iv) Asian Journal of Research in Crop Science (ISSN: 2581-7167) |
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15. Publication

LIST OF PUBLICATIONS

| Sl | Publications | Co/PI |
|--|---|--------|
| Paper published in Peer Reviewed Reputed Inter/national Journal | | |
| 39 | Latif MA, Uddin MB, Rashid MM, Hossain M , Akter S, Jahan QSA, Hossain MS, Ali MA, Hossain MA. 2021. Rice Bakanae Disease: Yield Loss and Management Issues in Bangladesh. Food Science and Technology, 9(1): 7-16, http://www.hrpub.org ; DOI: 10.13189/fst.2021.090102 | Co-PI* |
| 38 | Md. Abu Syed, K. M. Iftekharuddaula, Md. Golam Rasu, G. K. M. Mustafizur Rahmam, Golam M. Panaullah, John M. Duxbury, Mohammad Hossain, Partha 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, http://www.hrpub.org ; DOI: 10.13189/fst.2019.070302 | Co-PI |
| 37 | Md Abu Syed, Khandakar Md Iftekharuddaula, Partha Sarathi Biswas, Nasira Akter and Mohammad Hossain . (2019). Assessment of Genetic Diversity in Arsenic Contaminated Rice Using SSR Markers. Trends Applied Sci. Res., 14 (3): 178-185. DOI: 10.3923/tasr.2019.178.185 | Co-PI |
| 36 | Lander BAUTERS, Mohammad HOSSAIN , Kamrun NAHAR and Godelieve GHEYSEN. (2018). Gibberellin reduces the susceptibility of rice, <i>Oryza sativa</i> , to the migratory nematode <i>Hirschmanniella oryzae</i> . Nematology 20 (7): 703–709. DOI: https://doi.org/10.1163/15685411-00003198 | Co-PI |
| 35 | M T Khatun, M A Latif, M M Rahman, M Hossain , T H Ansari, B Nessa, M A I Khan, M A Ali and M M Hanafi. (2017). Recovering Ability of Upland and Rainfed Lowland Rice Varieties against Rice Tungro Disease. Bangladesh Rice J. 21 (1): 91-100. | Co-PI |
| 34 | Md Hasibur Rahaman Hera, Mohammad Hossain , Alok Kumar Paul. (2018). Effect of Foliar Zinc Spray on Growth and Yield of Heat Tolerant Wheat Under Water Stress. International Journal of Biological and Environmental Engineering 2018; 1(1): 10-16. http://www.aascit.org/journal/ijbee | Co-PI |
| 33 | Mohammad Hossain , Md Ansar Ali, Mohammad Delwar Hossain, Md Abu Taher Mia. (2018). Detection of Blast Resistant Gene in Rice by Host-pathogen Interaction and DNA-Marker. Universal Journal of Agricultural Research 6(1): 23-30. DOI: 10.13189/ujar.2018.060104 | PI* |
| 32 | Mohammad Hossain , Md Ansar Ali and Mohammad Delwar Hossain. (2017). Virulence analysis of <i>Pyricularia grisea</i> on rice monogenic lines detected blast R-gene in Bangladesh. The Experiment, 43(4), 2516-2528. | PI |
| 31 | Mohammad Hossain , Surapareddy Sreenivasaprasad, Muthu Meena, Nitya Ranjan Sharma. (2017). Morphological and Genetical Study on <i>Rhizoctonia</i> Sheath Disease Complex of Rice in Bangladesh. Universal Journal of Agricultural Research, 5(6): 344-349. DOI: 10.13189/ujar.2017.050605 | PI |
| 30 | Mohammad Hossain , Md Ansar Ali, Mohammad Delwar Hossain. (2017). Occurrence of Blast Disease in Rice in Bangladesh. American Journal of Agricultural Science, 4(4): 74-80. http://www.aascit.org/journal/ajas | PI |
| 29 | Mohammad Hossain , Surapareddy Sreenivasaprasad, Muthu Meena, Md Abu Taher Mia. (2017). A PCR-Based Analysis of Genetic Diversity of <i>Rhizoctonia Oryzae-Sativae</i> in Bangladesh. International Journal of Agricultural Sciences and Natural Resources, 4(3): 15-21. http://www.aascit.org/journal/ijasnr | PI |
| 28 | Mohammad Hossain , Maurice Moens , Nancy De Sutter (2016). Nematode Feeding Types in Different Soil Habitats and Subsequent Study in Maize Field. Universal Journal of Agricultural Research, 4(5), 204 - 210. doi: 10.13189/ujar.2016.040506. | PI |
| 27 | Takan, J.P, Chipili, J, Muthumeenakshi, S, Talbot, N.J, Manyasa, E.O, Bandyopadhyay, R, Sere, Y, Nutsugah, S.K, Talhinhas, P, Hossain, M , Brown, A.E, Sreenivasaprasad, S. (2012) " Magnaporthe oryzae populations adapted to finger millet and rice exhibit distinctive patterns of genetic diversity, | Co-PI |

| SI | Publications | Co/PI |
|---|--|-------|
| | sexuality and host interaction", <i>Molecular Biotechnology</i> , 50 (2), pp.145-158.. DOI: 10.1007/s12033-011-9429-z | |
| 26 | Hosen, M. J., M. Hossain and <i>et. al.</i> 2011. Effect of Bacterivorous and Predatory Nematodes on Macroalgal Detritus Decomposition. <i>Proceedings of the Pakistan Academy of Sciences</i> , 48 (3): 137-142. | Co-PI |
| 25 | Latif, M. A., M. A. Ali, S. Akter, M. Hossain , Q. S. Jahan, M. S. Kabir, N. R. Sharma, M. M. Rahman and M. A. T. Mia. 2009. Screening of genotypes, organic amendments and antagonistic bacteria for the management of sheath blight disease of rice. <i>Eco-friendly Agril. J.</i> 2 (7): 706-712. | Co-PI |
| 24 | Hossain, M. , M. M. Kamal, M.A. Ali and M. A.T. Mia. 2008: Evaluation of methods and primers to identify genetic variability of <i>Fusarium moniliforme</i> . <i>Bangladesh Journal of Plant Pathology</i> , 24 (1 & 2):1-6 | PI |
| 23 | Hossain M. , M. M. Kamal, M. A. Mazid and M. M. Rashid. 2007. Reduction of parasitic nematode by soil solarization in transplanted Aman rice-wheat system. <i>Bangladesh Journal of Agricultural Research</i> , 32 (4): 533-540. | PI |
| 22 | Kamal, M. M., M. A. Tia, M. Hossain and N. R. Sharma. 2007. Diversity of the rice brown spot pathogen, <i>Bipolaris oryzae</i> , in Bangladesh assessed by genetic fingerprint analysis. <i>Bangladesh J. Plant Pathol.</i> 23 (1 & 2): 63-68. | Co-PI |
| 21 | Haque, M. F., B. Karmakar, M. Hossain , S. Parveen and M. R. Islam. 2006. Effect of leaf curl disease on growth and yield of different cultivars of tomato. <i>Intl. J. BioRes.</i> 1(4): 26-30. | Co-PI |
| 20 | Azad, A. K. M., M. M. Kamal, S. H. Howlader, M. Hossain and A. M. Akhanda. 2005. Morphology of six isolates of <i>Colletotrichum</i> species and their host range. <i>Bangladesh J. Plant Pathol.</i> 21 (1 & 2): 71-76. | Co-PI |
| 19 | Rahman, S. M., M. M. Kamal, M. Hossain and M. A. Ali. 2005. Morphological changes of bunchy top infected banana plant. <i>Bangladesh J. Plant Pathol.</i> 21 (1 & 2): 43-48. | Co-PI |
| 18 | Hossain M. , M. A. Mazid, B. Karmakar, M. M. Kamal, M. Sh. Islam, M. A. Ali and M. A. Zami. 2004. Agronomic management of hybrid rice for better yield. <i>Bangladesh Agronomy Journal</i> , 10 (1 & 2): 23-30. | PI |
| 17 | Latif, M. A., M. R. Islam, M. Y. Ali, M. Hossain and M. L. Rahman. 2004. Efficacy of three nematicides for the control of ufra disease of rice. <i>Journal of Agricultural Science and Technology</i> , 5 (1 & 2): 8-12. | Co-PI |
| 16 | Padgham J. L., Duxbury J. M., Mazid A. M., Abawi G. S. and Hossain M. 2004. Yield loss caused by <i>Meloidogyne graminicola</i> on lowland rainfed rice in Bangladesh. <i>Journal of nematology</i> , 6(1): 42-48. | Co-PI |
| 15 | Hossain, M. , M. A. Mazid, M. A. Kader, M. M. Kamal, M.A.T. Mia and I. U. Mollah. 2003. Effect of soil solarization and nematicide on soil parasitic nematode in direct seeded rice wheat system. <i>The Agriculturists</i> , 1(1): 47 | PI |
| 14 | Kamal, M. M., M. Hossain , M. Sh. Islam and M. Moens. 2003. Survey of plant parasitic nematodes in nursery stock of Belgium. <i>Bangladesh Journal of Zoology</i> , 31 (2): 177-183. | Co-PI |
| 13 | Kader, M. A., M. A. mazid, M. K. Bashar, M. Hossain and A. W. Julfikar. 2003. Effect of application of GA ₃ on CMS seed production in rice (<i>Oryza sativa</i> L.). <i>Bangladesh J. Pl. Breed. Genet.</i> 16 (2): 45-50. | Co-PI |
| 12 | Hossain, M. I., M. A. Mazid, M. Hossain , M. R. Uddin and A. K. M. Hafizur Rahman. 2003. Agronomic response of late transplanted photosensitive aman rice (BR22) to different levels of nitrogen and spacing. <i>Bangladesh J. Agril. Sci.</i> 30 (1): 29-35. | Co-PI |
| 11 | Hossain, M. , Conrad Stevens, M. A. Taher Mia, M. M. Kamal, Sarah Elliot and Steven Wayne. 2003. Identification of rice seed associated bacteria and molecular standardization using Denaturing Gradient Gel Electrophoresis. <i>Bangladesh J.Plant Pathol.</i> 19 (1 & 2): 39 | PI |
| 10 | Kader M. A., M. A. Mazid, B. Karmakar, M. Hossain and A. W. Julfikar. 2002. Synchronization in flowering of parental lines of hybrid rice by phosphorus fertilizer. <i>J. Bio-Sci.</i> 10: 65-69. | Co-PI |
| 9 | Hossain, M. , M. U. Ahmad, N. Ahmed, M. Abul Hossain and M.A.Alim. 2002. A study on control of root-knot (<i>Meloidogyne javanica</i>) of wheat. <i>Indian Agriculturist</i> , 46 (1 & 2): 121 -128 | PI |
| 8 | Hossain, M. , M.A.Mazid, M.A.Begum, M.A.Kader and B.Sikdar. 2001. Effect of variety and seedling age on the yield of hybrid rice. <i>Bangladesh J. genet. Biotechnol.</i> 2 (1 & 2): 09-14. | PI |
| 7 | Hossain, M. and M. A. T. Mia. 2001. Management of sheath blight disease of rice under farmer's field condition. <i>Bangladesh J.Plant Pathol.</i> 17 (1 & 2): 13-16. | PI |
| 6 | Karmakar, B., M.A.Kader, B.Sikdar and M. Hossain . 2001. Agronomic response of hybrid and inbred rice to nitrogen fertilizer. <i>J. Bio-Sci.</i> 9: 31-38. | Co-PI |
| 5 | Mazid M.A., M. Hossain , M.A.Hamid Miah and B. Karmakar. 2001. Vegetative propagation of hybrid rice as a seed saving device. <i>Bangladesh J. genet. Biotechnol.</i> 2 (1 & 2): 01-07. | Co-PI |
| 4 | Hossain, M. Abul, M. Hossain and M.I.Hossain. 2000. Performance of water soaking seeds on the duration and yield of groundnut (<i>Arachis hypogaea</i>). <i>J. Bio-Sci.</i> 8: 13-16. | Co-PI |
| Article Published as Conference/workshop Paper | | |
| 3 | Kamal M. M. and M. Hossain . 2007. Use of biotechnology and development of transgenics for crop disease management. Bakr, M. A., H. U. Ahmed, and M. A. W. Mian. (eds). 2007. Proceedings of the national workshop on "Strategic Intervention on Plant Pathological Research in Bangladesh" 11-12 February 2007, BARI (Bangladesh Agricultural Research Institute), Joydebpur, Gazipur, 344 pp. | Co-PI |
| 2 | Mia, M. A. T., M. Hossain , M. M. Rahman, Saidur Rahman and Jinnat Ara. 2004. Emerging technology to combat rice pests and diseases. Proceedings of the workshop on "Modern rice cultivation in Bangladesh" 19-21 April, 2004. Published by Director General (DG), BRRI (Bangladesh Rice Research Institute), Publication no. 159 (September, 2006), Joydebpur, Gazipur, 360 pp. | Co-PI |

| SI | Publications | Co/PI |
|---|---|-------|
| 1 | Mazid, M. A., M. Hossain, A.W. Julfikuar and M. A. Hamid Miah. 2002. Hybrid rice seed production: new technique and approach. A.W. Julfikuar, M. Mandal and M. S. Islam (eds). 2002. Proceedings on the workshop on “Hybrid Rice in Bangladesh: Progress and future strategies” 5-6 January, 2002. BRRI (Bangladesh Rice Research Institute) Publication no. 138, Joydebpur, Gazipur, 75pp. | Co-PI |
| Books as Principal/Co-Author | | |
| 2 | Ali MA, Ahmed HU, Ansari TH, Hossain M and Kabir Enamul. 2014. Identification of existing races of <i>Pyricularia grisea</i> and gene pyramiding for durable blast resistance in rice. NATP-Phage-1 project report, PIU-BARC, BARC Complex, Farmgate, Dhaka-1215. | |
| 1 | Hossain, M., and Gheysen, G. (2010). The role of gibberellin in the response of rice to <i>Meloidogyne graminicola</i> and <i>Hirschmanniella oryzae</i> infection. M.Sc. Thesis on Erasmus Mundus: European Master of Science in Nematology. University of Ghent, Belgium, pp29. https://lib.ugent.be/catalog/rug01:001458687 | |
| Monograph as Principal/Co-Author | | |
| 2 | Hossain, M.A., Mia, M. A. T., Hossain, M. and Latif M. A. 2007. Improvement of farmers’ saved rice seed project. A report on Agricultural Technology Transfer (ATT) Project. Submitted to Bangladesh Agricultural Research Council. New Airport Road, Dhaka 1215. | |
| 1 | Hossain, M.A., Sharma, N.R., Kamal, M.M., Jahan, Q.S.A., Kabir, M.S. and Hossain, M. 2006. Dissemination of integrated disease management practices through farmers’ participatory field trial project. A training report on Agricultural Technology Transfer (ATT) Project. Submitted to Bangladesh Agricultural Research Council. New Airport Road, Dhaka 1215. | |
| Bulletin as Principal/Co-Author | | |
| 9 | Rashid MM, Khan FH, Nandi P, Sultana A, Hossain M, Mian S, Khan MAI, Latif MA. 2020. Management of blast disease of rice in Cumilla region in field condition during Boro season (Leaflet). DOI: 10.13140/RG.2.2.32525.05608 | |
| 8 | Md. Mamunur Rashid, Mohammad Hossain, Mohammad Ashik Iqbal Khan Khan et al. 2020. Management technology of rice tungro disease in Cumilla region. BRRI Publication No. 306. | |
| 7 | Md. Mamunur Rashid, Mohammad Hossain, Latif M. A. et.al. 2020. Management of blast disease of aromatic rice in Cumilla region during T. Aman season. DOI: 10.13140/RG.2.2.32525.05608 | |
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| 5 | Hossain, M. A., Hossain, M., Maniruzzaman, S., Hera, Md. and Kundu, P. (2017). Boro rice cultivation in greater Barisal region (in Bengali). Published by Bangladesh Rice Research Institute, Regional Station, Barisal. https://www.researchgate.net/publication/334494301 | |
| 4 | Hossain, M. A., Hossain, M., Kabir, M., Syed, A., Hera, Md. and Kundu, P. (2019). Cultivation technology of BRRI dhan76 and BRRI dhan77 for non-saline tidal region (In Bengali). Published by Bangladesh Rice Research Institute, Regional Station, Barisal. https://www.researchgate.net/publication/334480858 | |
| 3 | Sharma, N. R., Rahman, M. M. and Hossain, M. 2003. Rhizoctonia sheath disease complex of rice. Output of the project ID R7778, Crop Protection Programme, DFID, UK and Published by Plant Pathology Division, BRRI, Gazipur, Bangladesh. | |
| 2 | Stevens, C., Kamal, M.M., Mian, M.S., Hossain, M. and Mia, M.A.T. 2003. Using Molecular Biology to study Plant Pathology. Presented in ‘Communication Fair 2003’. Developed and Published by Steps Towards Development, Dhaka, Bangladesh. | |
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| Seminar/Workshop/Symposium proceedings/Abstract/Popular article as Principal/Co-Author | | |
| 1 | BRRI. 1999. Annual Report of Bangladesh Rice Research Institute 1998-1999, BRRI, Gazipur-1701, Bangladesh. | |
| 2 | BRRI. 2000. Annual Report of Bangladesh Rice Research Institute 1999-2000, BRRI, Gazipur-1701, Bangladesh. | |
| 3 | Anonymous. 2001. Annual Report of Bangladesh Rice Research Institute 2000-2001, BRRI, Gazipur-1701, Bangladesh. | |
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| 6 | Hossain, M. and Mia, M.A.T. 2003. Management of sheath blight disease of rice in Farmer’s field. A paper presented in the Thursday seminar held on April 10, 2003 at BRRI, Gazipur, Bangladesh. | |
| 7 | Mia, M.A.T., C. Stevens, M.M. Kamal, M. Hossain, M.S. Mian, S. Rahman and J.A. Begum 2003. Storage experiment and molecular activities at BRRI. A paper presented in the Review and Planning Workshop of Rice Seed Health Improvement Sub-Project held during April 22-23, 2003 at BRRI, Gazipur, Bangladesh. | |
| 8 | Anonymous. 2004. Annual Report of Bangladesh Rice Research Institute 2003-2004, BRRI, Gazipur-1701, Bangladesh. | |
| 9 | Hossain, M., C. Stevens, M.M. Kamal and M.A.T. Mia 2004. Molecular methods for identifying rice seed borne pathogen. A paper presented in the Thursday seminar held on February 26, 2004 at BRRI, Gazipur, Bangladesh. | |
| 10 | Hossain, M., C. Stevens, M.A.T. Mia and M.M. Kamal 2004. Standardization of DNA fingerprinting methods to identify genetic variability of <i>Fusarium moniliforme</i> . Abstract published in the 6 th Biennial conference of | |

| SI | Publications | Co/PI |
|----|---|-------|
| | Bangladesh Phytppathological Society held on July 29, 2004 at BARI, Gazipur, Bangladesh. | |
| 11 | Rahman, M.S., M.M. Kamal, M. Hossain and M.A. Ali 2004. Changes in morphology of bunchy top infected banana plant. Abstract published in the 6 th Biennial conference of Bangladesh Phytppathological Society held on July 29, 2004 at BARI, Gazipur, Bangladesh. | |
| 12 | Azad, A.K.M., M.M. Kamal, S.H. Howlader, M. Hossain and A.M. Akanda 2004. Colletotrichum species in Gazipur district and their host range. Abstract published in the 6 th Biennial conference of Bangladesh Phytppathological Society held on July 29, 2004 at BARI, Gazipur, Bangladesh. | |
| 13 | Anonymous. 2005. Annual Report of Bangladesh Rice Research Institute 2004-2005, BRRI, Gazipur-1701, Bangladesh. | |
| 14 | Latif, M.A., M.S. Mian, M.M. Kamal, M.S. Kabir, M. Hossain, S. Akter, M.A.T. Mia, M.M. Rahman, M.A. Hossain and M.A. Nahar 2005. Effect of three organic amendments in controlling sheath blight disease of rice. Abstract presented in the workshop on Validation and Promotion of sheath blight disease management held on December 11, 2005 at BRRI, Gazipur | |
| 15 | Kabir MS, Hossain MA, Akter S, Latif MA, Hossain M and Mia MAT. Efficacy of organic amendment in controlling sheath blight disease of rice. Abstract published in the 6 th Biennial conference of Bangladesh Phytppathological Society held on July 29, 2004 at BARI, Gazipur | |
| 16 | Latif, M.A., M.S. Mian, M.M. Kamal, M.S. Kabir, M. Hossain, S. Akter, M.A.T. Mia, M.M. Rahman, M.A. Hossain and M.A. Nahar 2005. Efficacy of two biocontrol agents in controlling sheath blight disease of rice. Abstract presented in the workshop on Validation and Promotion of sheath blight disease management held on December 11, 2005 at BRRI, Gazipur | |
| 17 | Anonymous. 2006. Annual Report of Bangladesh Rice Research Institute 2005-2006, BRRI, Gazipur-1701, Bangladesh. | |
| 18 | Hossain, M. 2006. Dhaner Kholpora Rog Domon. Published in Krisi Katha, September-October, 2006 by ACI, Dhaka, Bangladesh. | |
| 19 | Anonymous. 2007. Annual Report of Bangladesh Rice Research Institute 2006-2007, BRRI, Gazipur-1701, Bangladesh. | |
| 20 | Hossain, M., Sreenivasaprasad, S., Meena, M. and Mia, M.A.T. 2007. Molecular study on <i>Rhizoctonia</i> sheath blight disease complex in Bangladesh. A paper presented in the Thursday seminar held on May 03, 2007 at BRRI, Gazipur | |
| 21 | Anonymous. 2008. Annual Report of Bangladesh Rice Research Institute 2007-2008, BRRI, Gazipur-1701, Bangladesh. | |
| 22 | Anonymous. 2009. Annual Report of Bangladesh Rice Research Institute 2008-2009, BRRI, Gazipur-1701, Bangladesh. | |
| 23 | Anonymous. 2010. Annual Report of Bangladesh Rice Research Institute 2009-2010, BRRI, Gazipur-1701, Bangladesh. | |
| 24 | M.Hossain, M. A. Ali and M. D. Hossain (2015). Identification of existing races of <i>pyricularia grisea</i> in rice in Bangladesh using monogenic lines of rice. M A Saleque, M A Kashem, M A Ali and M S Kabir (eds). 2015. Rice Research Abstracts 2014. Bangladesh Rice Research Institute, Gazipur 1701, Bangladesh, 119 pp. | |

*PI= Principal Investigator; Co-PI= Co-investigator

16. Research achievements/Contribution –

(i) Research Program developed/Supervised/Executed/Technology developed

a. List of Research Program Developed

| Sl. | Name of Research Program/Project Developed |
|-----|---|
| 1. | Management of root-knot (<i>Meloidogyne javanica</i>) of wheat. (MS study) |
| 2. | Management of brown spot and grain spot of rice |
| 3. | LCC based nitrogen management under Rice-Chickpea system in rainfed lowland ecosystem (RLRRC project) |
| 4. | Identification of <i>Rhizoctonia</i> spp. in sheath blight disease complex and diversity study of <i>Rhizoctonia oryzae sativae</i> causing aggregated sheath spot in rice (Sheath blight project-DFID, UK) |
| 5. | Survey and monitoring of sheath blight diseases in Bangladesh (Sheath blight project-DFID, UK) |
| 6. | Integrated management of sheath blight disease of rice under farmer's field condition (RLRRC project) |
| 7. | Agronomic management (spacing, seedling age and planting time) of hybrid rice for better yield. |
| 8. | Interaction effect of variety and seedling age on the yield of hybrid rice. |
| 9. | Reduction of parasitic nematode by soil solarization in transplanted Aman rice-wheat system. |
| 10. | Methods for DNA fingerprinting to differentiate seed borne fungi of rice (PETRRA project) |
| 11. | Evaluation of methods and primers to identify genetic variability of <i>Fusarium moniliforme</i> (PETRRA project) |
| 12. | Identification of rice seed bacteria by using denaturing gradient gel electrophoresis (PETRRA project) |
| 13. | Yield loss caused by <i>Meloidogyne graminicola</i> on lowland rainfed rice in Bangladesh. |
| 14. | Effect of soil solarization and nematicide on soil parasitic nematode in direct seeded rice wheat system. |
| 15. | Chemical control of sheath blight disease of rice |
| 16. | Survey of plant parasitic nematodes in nursery stock of Belgium (M.Sc. Study) |
| 17. | Role of plant hormones on the infection process of nematodes in rice (M.Sc. study) |

| Sl. | Name of Research Program/Project Developed |
|-----|---|
| 18. | Effect of Bacterivorous and Predatory Nematodes on Macroalgal Detritus Decomposition (M.Sc. study) |
| 19. | Survey and Epidemiology of blast disease in Bangladesh (PhD research) |
| 20. | Identification of pathotypic variability of <i>pyricularia grisea</i> using monogenic lines of rice collected from IRRI (PhD research) |
| 21. | Screening of rice germplasms for detection of resistant genes (<i>Pish, Pita, Pi9, Pita-2, Pib</i>) using specific primers (PhD research) |
| 22. | Survey and monitoring of rice diseases in Bangladesh |
| 23. | Identification of climatic factors responsible for disease and insect outbreak and their appropriate management in southern region of Barisal |

(b) List of Research Program Supervised

| Sl. | Name of Research Program Project Supervised |
|-----|---|
| 1. | Yield loss caused by <i>Meloidogyne graminicola</i> on lowland rainfed rice in Bangladesh |
| 2. | Genetic diversity of <i>Phomopsis vexans</i> by VNTR-PCR |
| 3. | Genetic variability in bringal by VNTR-PCR |
| 4. | Efficiency of different extraction techniques of nematodes (Students in Belgium, MSc programme) |
| 5. | Observation of nematode feeding types and age structures in different habitats (Students in Belgium, MSc programme) |
| 6. | Rearing of insect larvae (<i>Galleria mellonella</i>) to observe the interaction of entomopathogenic nematode (<i>Heterorhabditis</i> spp.) (Students in Belgium, MSc programme) |
| 7. | Agronomic response of late transplanted photosensitive aman rice (BR22) to different levels of nitrogen and spacing (WRC, Rajshahi) |
| 8. | Survey of rice sheath blight disease in Bangladesh (Students, RU, Rajshahi) |
| 9. | On-Station trial for hybrid rice IR69690H (BRRI Hybrid dhan1) |
| 10. | Regional yield trial for hybrid rice from different GOs and NGOs |
| 11. | Proposed variety adaptive research trial for BR5969-3-2 (BRRI dhan39) |
| 12. | Effect of Bacterivorous and Predatory Nematodes on Macroalgal Detritus Decomposition (MSc, Belgium) |
| 13. | Agronomic response of hybrid and inbred rice to nitrogen fertilizer |
| 14. | Agronomic response of late transplanted photosensitive aman rice (BR22) to different levels of nitrogen and spacing |
| 15. | Efficacy of organic amendment in controlling sheath blight disease of rice |

(c) List of Research Program Executed

| Sl. | Name of Research Program/Project executed |
|-----|--|
| 1. | Management of root-knot (<i>Meloidogyne javanica</i>) of wheat. |
| 2. | Management of brown spot and grain spot of rice |
| 3. | LCC based nitrogen management under Rice-Chickpea system in rainfed lowland ecosystem (RLRRC project) |
| 4. | Identification of <i>Rhizoctonia</i> spp. in sheath blight disease complex and diversity study of <i>Rhizoctonia oryzae sativae</i> causing aggregated sheath spot in rice |
| 5. | Survey and monitoring of sheath blight diseases in Bangladesh |
| 6. | Integrated management of sheath blight disease of rice under farmer's field condition |
| 7. | Agronomic management (spacing, seedling age and planting time) of hybrid rice for better yield. |
| 8. | Interaction effect of variety and seedling age on the yield of hybrid rice. |
| 9. | Reduction of parasitic nematode by soil solarization in transplanted Aman rice-wheat system. |
| 10. | Methods for DNA fingerprinting to differentiate seed borne fungi of rice |
| 11. | Evaluation of methods and primers to identify genetic variability of <i>Fusarium moniliforme</i> |
| 12. | Identification of rice seed bacteria by using denaturing gradient gel electrophoresis |
| 13. | Yield loss caused by <i>Meloidogyne graminicola</i> on lowland rainfed rice in Bangladesh. |
| 14. | Effect of soil solarization and nematicide on soil parasitic nematode in direct seeded rice wheat system. |
| 15. | Chemical control of sheath blight disease of rice |
| 16. | Survey of plant parasitic nematodes in nursery stock of Belgium |
| 17. | Role of plant hormones on the infection process of nematodes in rice |
| 18. | Effect of Bacterivorous and Predatory Nematodes on Macroalgal Detritus Decomposition |
| 19. | Survey and Epidemiology of blast disease in Bangladesh |
| 20. | Identification of pathotypic variability of <i>pyricularia grisea</i> using monogenic lines of rice collected from IRRI |
| 21. | Screening of genotypes, organic amendments and antagonistic bacteria for the management of sheath blight disease of rice. |
| 22. | Survey and monitoring of rice diseases in Bangladesh |

| Sl. | Name of Research Program/Project executed |
|-----|--|
| 23. | Vegetative propagation of hybrid rice as a seed saving device. Hybrid rice seed production: new technique and approach. A Proceeding paper on Hybrid Rice in Bangladesh |

(d) List of Technology developed

| Sl. | Technology developed |
|-----|--|
| 1. | Contribution towards the development of BRRRI Hybrid dhan1* (BRRRI, 2000) |
| 2. | Contribution towards the development of Rice-Chickpea cropping pattern under rainfed lowland ecosystem (RLRRC Project) (BRRRI, 2000) |
| 3. | Integrated management of sheath blight disease of rice. (Hossain and Mia, 2001) |
| 4. | Vegetative propagation of Hybrid rice as a seed saving device (Mazid <i>et al.</i> , 2001) |
| 5. | Seed treatment with neem extract significantly reduced galling incidence caused by <i>Meloidogyne javanica</i> in wheat and increased yield (MS thesis, Hossain <i>et al.</i> , 2002) |
| 6. | Contribution towards the development of Rice-Wheat-Mungbean cropping pattern under rainfed lowland ecosystem (RLRRC Project) (Anonymous, 2002) |
| 7. | Contribution towards the development of BRRRI dhan42 (Anonymous,2003) |
| 8. | Contribution towards the development of BRRRI dhan43 (Anonymous,2003) |
| 9. | Soil solarization significantly reduced soil parasitic nematode in rice field (Hossain <i>et al.</i> , 2003 and 2007) |
| 10. | Rice yield at farmers level increased by 10-12% due to improvement of farmers saved seed (PETRRA Project) (Anonymous, 2003) |
| 11. | Primer AFLP-C showed maximum FPTs of <i>Fusarium moniliforme</i> which would be used to identify genetic variability of <i>Fusarium moniliforme</i> in Bangladesh (Hossain <i>et al.</i> , 2008) |
| 12. | Contribution towards the identification of <i>Pi9</i> , <i>Pish</i> , <i>Pita</i> and <i>Pita2</i> as major blast resistant genes for Bangladesh which are using in gene pyramiding program (NATP-project/PhD research) (Hossain, 2014, Hossain <i>et al.</i> , 2017a & b) |
| 13. | Contribution towards the development of BRRRI dhan75 (Anonymous, 2015) |
| 14. | Contribution towards the development of BRRRI dhan76 (Anonymous, 2015) |
| 15. | Contribution towards the development of BRRRI dhan77 (Anonymous, 2015) |
| 16. | Contribution towards the development of BRRRI dhan78 (Anonymous, 2016) |
| 17. | Contribution towards the development of BRRRI dhan86 (Anonymous, 2017) |

*BRRRI dhan means rice variety developed by Bangladesh Rice Research Institute, Bangladesh

(ii) Outstanding/Notable Research Contribution/Award/Honors Received/MS/PhD Thesis Supervised/Patent Registered

| | |
|--|---|
| a) Outstanding performance: | (i) Received certificate on outstanding contribution to innovation in rice research suitable for the resource-poor farmers of Bangladesh from PETRRA project. (ii) Received GREAT DISTINCTION Certificate in Erasmus Mundus: European Master of Science in Nematology Degree from University of Gent, Belgium |
| b) Notable Research Contribution/Project Investigator: | (i) Prepared action plan for “Dissemination of Integrated Disease Management (IDM) through farmers’ participatory trial” (ii) Principal Investigator of “Improvement of Farmers’ Saved Rice Seed Project”. Agricultural Technology Transfer (ATT) Project, BARC, Farmgate, Dhaka, 2007. (iii) Co-Principal Investigator of “Identification of climatic factors responsible for disease and insect outbreak and their appropriate management in southern region of Barisal”. NATP-2 (CRG 698), BARC, Farmgate, Dhaka, 2017-19. |
| c) Award/Honors Received: | (i) FIRST CHAIRMAN’S AWARD received in Foundation Training. Funded by BARC and organized by Bangladesh Academy for Rural Development, Bangladesh (ii) Received DISTINCTION Certificate in Rice seed health for crop management training from IRRI, Philippines (iii) Received SECOND POSITION Certificate in Theoretical and Applied Molecular Breeding training under NATP <i>Saltol-Sub1</i> Project |
| d) MS/PhD Thesis Supervised: | (i) “Analysis of adaptation of the land races influenced by physical and chemical factors and selection for better yield in sesame (<i>Sesamum indicum</i> L.)” |
| e) Patent: | None |
| f) Participation in technology transfer system, monitoring and evaluation | (i) Attended Radio-Talks on different technology developed by BRRRI as a speaker (ii) Acted as a regular resource person of different training courses conducted by Training Division and Regional station, BRRRI, and occasional resource person in training program of other Government and Non-Government organizations (iii) Field evaluation of hybrid rice trial of different companies |

| | |
|--|---|
| g) Member of scientific/professional organization | (i) Krishibid Institution Bangladesh (KIB) – Life member (ii) Bangladesh Psychopathological Society – Life Member (iii) Bangladesh Botanical Society – General Member (iv) Bangladesh Rice Research Institute Scientists Association (BRRISA) – Member |
| h) Editorial Board Member of research journal | (i) International Journal of Agriculture and Environmental Research (ISSN: 2208-2158) (ii) Journal of Advance Research in Food, Agriculture and Environmental science (ISSN: 2208-2417) (iii) Universal Journal of Agricultural Research (ISSN: 2332-2268 Print and 2332-2284 Online) |
| (iv) Others | (i) Reviewed research papers for different inter/national journals (ii) Managed research station/division (iii) Participated in National/International workshop/symposium (iv) Attended in field day program (v) Attended visitors from different organizations (vi) Visited farmers fields to solve their problems (vii) Member in evaluation committee for recruitment (viii) Member in variety evaluation committee (ix) Acted as assistant presiding officer in Municipal election 2004 (x) Acted as a member in different committee |
| (v) Website/URL | http://www.aascit.org/membership/mhossain http://livedna.org/880.13256 http://www.researcherid.com/rid/B-4185-2018 |
| (vi) Orcid ID | https://orcid.org/0000-0002-9943-6351 |
| (vii) Researcher ID: | B-4185-2018 (Provided by Thomson Reuters) |

17. Referee:

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06.07.2021

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