

Enclosure 3

Brochure

International Workshop on

Genome editing for the development of climate resilient novel blast resistant wheat variety

Organized by

Department of Biotechnology, Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Gazipur, Bangladesh

Date

25 February 2019

Venue

Seminar Room of IQAC, BSMRAU, Gazipur 1706, Bangladesh

Organizing Committee of the Workshop

Chief Patron

Prof. Dr. Giashuddin Miah, Vice-Chancellor, Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Gazipur, Bangladesh

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Chair of Organizing Committee

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Members of Organizing Committee

Prof. M.A. Mannan Akanda, Professor (retired), Department of Plant Pathology, BSMRAU

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Prof. Md. Ashrafal Haque, Head, Department of Biotechnology, BSMRAU, Bangladesh

Prof. M. Mahbubur Rahman, Department of Biotechnology, BSMRAU, Bangladesh

Dr. Dipali Rani Gupta, Department of Biotechnology, BSMRAU, Bangladesh

Dr. Shah M. Naimul Islam, Department of Biotechnology, BSMRAU, Bangladesh

Musrat Zahan Surovy, Department of Biotechnology, BSMRAU, Bangladesh

Background and aim of the workshop

Blast is a worrisome plant disease of 50 species of grasses including two major food crops, rice and wheat. Caused by a specific pathotype of a filamentous and heterothallic ascomycete fungus, *M. oryzae Triticum* (MoT) pathotype, wheat blast was first emerged in Paraná state of Brazil in 1985 through host jump from a local grass and then spread to 3 million hectares of wheat growing countries of South America. Wheat blast was first spotted in 8 districts of Bangladesh in 2016 and devastated more than 15,000 hectares of crop with yield losses up to 100%. In a rapid response, we (31 researchers from 4 continents) applied field pathogenomics and open data sharing approaches and determined the genetic identity and origin of the disease within weeks as a lineage of South American *M. oryzae*, suggesting that it was introduced from South America (*BMC Biol*, 2016, **14**:84). In last two years (2017 & 2018), wheat blast was detected in 8 new districts of Bangladesh and suspected to spread in neighbouring West Bengal of India. Genetic resources for the resistance breeding are limited and fungicide application is ineffective. Application of novel approaches are needed to tackle this enemy of food security of 300 million undernourished people of South Asia and whose inhabitants consume over 100 million tons of wheat each year.

Recently, genome editing through CRISPR-Cas9 (Clustered Regularly Interspaced Short Palindromic Repeats – CRISPR associated protein 9) is a revolutionary technology to edit gene(s) or nucleotides of any organism to add or delete any trait(s) in a convenient way. It is emerged as a powerful tool for the development of novel crop variety resilient to global climate change including development of disease resistant crop variety. Genome editing of the *S*-genes in wheat by using CRISPR/Cas9 technique seemed to be effective in developing new durable blast-resistant wheat varieties. Therefore, this workshop aimed to offer hands-on training to 45 young researchers of Bangladesh on a frontier technology, plant genome editing by two world authorities from UK.

The participants (ca. 45) of the workshop include young faculty members, researchers, and graduate students from BSMRAU, other public universities (BAU, DU, SAU etc.) and research institutes (BARI, BWMRI, BRRI, BINA, BADC, NIB, BARC) particularly institutes under the national agricultural research system (NARS). It is expected that the hands-on training of Bangladeshi young scholars by world leading expert on genome editing would lead a group of skilled manpower to address new challenges in agriculture including wheat blast through utilizing genome editing of plants.

Registration

Deadline for registration: February 10, 2019

Registration fee: Not required.

Interested candidates are advised to send their brief CV (max 2-pages) with a cover letter to the Chairman (e-mail: tofazzalislam@yahoo.com) of the organizing committee through the head of their organization.

For any queries regarding the workshop, please send e-mail to tofazzalislam@yahoo.com or contact with Mrs. Musrat Zahan Surovy (Cell No. 01712283114 or e-mail: mz_surovy@yahoo.com)