Biotechnology Division

BARI Head Office, Gazipur

Activities

1. Activities of Biotechnology division involve tissue culture, molecular genetics and genetic engineering research in crop plants. A modern laboratory facility including a state-of-art laboratory and class II greenhouse have been established with the help of government (GOB) funding.

2. Different protocol for plantlets production of high value crops namely Banana, Jackfruit, Pineapple, Papaya, Coconut, Grape, Malta, Brinjal, Teasel gourd, Okra, Sweet gourd, Ginger, Watermelon, Chrysanthemum, Rose, Tuberose, Orchid, Gladiolus, Strawberry and Potato have been developed through tissue culture techniques.

3. Regeneration protocol of Okra, Sweet gourd, Chilli, Chickpea etc. for future genetic transformation are going on.

4. Scientists of the division have developed the capability for building gene constructs in-house with marker and reporter genes. The newly constructed vectors are being tested with BARI tomato varieties and plants have been transformed successfully with the GUS reporter gene. Transformation protocols for other crops are also being developed. Considering the devastating effect of Tomato Leaf Curl Virus (ToLCV) on tomato, experiments have been undertaken for the precise diagnosis of the virus at molecular level and ultimately to develop virus resistant transgenic varieties. Sequencing of 32 isolates of ToLCV has been completed.

5. Assessment of stress –tolerance attributes in wheat and marker assisted transfer of salt tolerance genes in wheat are being carried out.

6. *Agrobacterium* - mediated genetic transformation protocol for potato and tomato have been developed and development of protocol for brinjal is going on.

7. Biotechnology division is also introducing bio-engineered crops with the collaboration of ABSP II, a USAID project. *Cry1Ac* gene was introgressed into nine popular brinjal varieties of Bangladesh. Brinjal fruit and shoot borer resistant brinjal varieties BARI Bt begun 1, BARI Bt begun 2, BARI Bt begun3 and BARI Bt begun 4 have been released in 2013 and another five are in pipeline. By introducing of Bt brinjal, Bangladesh became the 29th country in the world cultivating GM crop

commercially. RB gene from wild potato variety is introgressed in our two popular potato varieties Cardinal and Diamant to develop late blight resistance. Confined field trial of these two lines is being conducted at the different locations.

Contact:

Mst. Dilafroza Khanam
Chief Scientific Officer (CC)
Phone: 02-49270073
Cell: 01931-124138
E-mail: cso.biotech@bari.gov.bd