Poster Session | Crop Genetics and Physiology | P4: Poster Session

[P4] Crop Genetics and Physiology
Thu. Sep 9, 2021 12:15 PM - 2:00 PM Room 4 (Poster) (Crop Genetics and Physiology)

1:15 PM - 2:00 PM

[P4-14]Assessment of Genetic Diversity and Relatedness in Citrus Fruits Using RAPD Markers

*Nominated for Presentation Awards

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Citrus fruits are the most economically important fruit crops widely cultivated in subtropical and tropical regions of the world including Bangladesh. They comprise one of the largest fruit crops in the world. In order to have comprehensive information about the extent of genetic variability between and within various Citrus species, a combined approach involving morphological, and molecular approaches were adopted. Genetic diversity and inter-relationship among thirty one citrus fruits were analysed by using morphological characters as per the descriptors (Biodiversity International, Rome, Italy) and RAPD markers. Out of twenty five morphological traits studied, the analysis of variance for the quantitative traits revealed statistically significant differences for the fourteen characters studied among tested genotypes. Total twenty six random markers were used in molecular study, which produced 261 bands, of which 257 were polymorphic. The size of the amplified products ranged from 150-3352 bp with an average of 3-15 bands per primer. A pair-wise similarity value between cultivars ranged from 0.08 to 0.56. A dendrogram generated based on UPGMA discriminated all the cultivars into two Major clusters. It was revealed that the first main cluster consists with orange and malta. The other main cluster in turn divided into two sub-clusters, the first sub-cluster was formed with lemon while the second sub cluster consisted with jambura (pomelo) and satkara (Citrus macroptera). These results suggest that RAPD based markers are useful for genetic characterization of Citrus Fruits and useful in germplasm classification and introgression studies.