



# 75<sup>th</sup> Plenary Meeting of the INTERNATIONAL COTTON ADVISORY COMMITTEE

## MINUTES FIRST OPEN SESSION Sustaining Cotton Growth: Incorporating Climate Dynamics

9:00 hr. Monday, November 1, 2016

In the Chair, Mr. Abdul Rahim Soomro, Secretary, Department of Industries, Sindh, Pakistan

The CHAIR welcomed all delegates to Pakistan on his own behalf and hoped that they were enjoying the hospitality of people and the Government of Pakistan. He invited Dr. Tanwir Malik of the University of Agriculture, Faisalabad, Pakistan to make his presentation on development of varieties resistant to drought as well as waterlogged conditions.

Dr. Malik stated that environmental changes are now occurring at a faster pace and agricultural research has to cope with the changes that are hard to forecast. He emphasized the importance of not only facing drought conditions but also waterlogged situations that often become a problem in the southern part of the province of Punjab, Pakistan. Draining water to avoid losses is not the solution and, unfortunately, no research is going on in this field. Dr. Malik proposed using hydroponic culture for screening cotton under simulated drought as well as waterlogged conditions. He presented illustrations of experiments he had conducted to simulate drought and waterlogged conditions for screening breeding materials. Stopping air circulation to exposed roots for one or two days suffocates the plants and creates waterlogged conditions. Cell membrane stability is another important criterion for screening plants under water stress (water deficit and waterlogging/excessive water). Cell membrane stability will prove that the tested genotype is tolerant to water stress. DNA was extracted and SSR primers (3000) were used to screen the contrasting parents and the F<sub>2</sub> population. 146 primers were polymorphic between the parents. Dr. Malik reported that his work has proved that the DNA marker (380b) on chromosome A1 using the primer NAU-6790 was linked to cell membrane stability. Instead of whole DNA, the identified DNA marker could be used to screen cotton genotypes resistant to water deficit conditions.

Mr. Abeyemi Fahala, Permanent Secretary of the African Cotton Association divided his presentation into three sections: the African Cotton Association and its activities; African cotton and its marketing; and the impact of climate change on cotton. He thanked the ICAC and the Government of Pakistan for the opportunity to make a presentation to the 75<sup>th</sup> Plenary Meeting of the ICAC. The African Cotton Association was established in 2002 with headquarters in Benin. The Association has three categories of members: active/founding members, associate members and corresponding members. The Association has an open door policy and welcomes more members. Mr. Fahala presented numerous qualities of cotton produced in Africa and the work done by the African Cotton Association to promote marketing of African cotton at the international level. He referred to the 2015 United Nations Climate Change Conference, COP 21 or CMP 11, which was held in Paris, France, which had produced sound recommendations to contain/reduce the process of climate change. The rise in temperature must be contained to 2.8-3.0 degrees Celsius by the year 2100. An alliance of partners was necessary to achieve these objectives. However, he also added that least developed countries have their own limitations to comply with recommendations made at the conference. Citing the example of Chad, where numerous initiatives have been undertaken, Mr. Fahala stated that progress and achievements are possible to be attained provided serious and collaborative efforts are made to tackle the climate change problem. Mr. Fahala's full

paper is available on the ICAC web page.

During the question and answer session, Ms. Annie Zidana, of Malawi, asked if there were additional methods other than hydroponic culture to screen varieties for drought and waterlogged conditions. Dr. Malik replied that hydroponic culture is the most reliable method to screen genotypes, although other methods are available. Dr. Saghir Ahmed of Pakistan added that pollen viability could also be used for screening genotypes for drought.

Mr. Ansou Badji of Senegal asked about diversification in the uses of cotton in Africa and collaboration with the research community for facing the changing conditions. Mr. Fahala replied that the African Cotton Association is doing its best to make use of expertise of the research community in the region. He also added that certain issues have to be resolved at the national level within countries.

In his summary, the CHAIRMAN also drew the attention of participants to the high cost of production, which is a major concern for the farming community. The meeting was closed at 10:28 am.