



# **61st Plenary Meeting of the INTERNATIONAL COTTON ADVISORY COMMITTEE**

## **Report of the Chairman of the Committee on Cotton Production (Third Open Session)**

**Mohamed El-Moghazy  
(Presented by Hussein Yehia Awad)**

Mr. Chairman, ladies and gentlemen, the Committee on Cotton Production Research of the ICAC met during the Third Open Session held yesterday. We discussed a number of issues very important to the cotton industry. We had 10 papers from seven countries, and many other countries participated in the discussion and contributed to the meeting.

Low cotton prices have affected production of quality cotton while the demand for quality cotton has increased during the same time. A focus on Bt varieties, climatic changes and subsidies have also contributed to lower quality. According to Mr. Marion Rodriguez Rico of Colombia, a number of fiber quality characters have improved over the years, but low prices have affected area, and the number of farmers growing cotton has drastically been reduced in his country.

Ladies and gentlemen there is a lot of controversy, particularly in Europe, on the use of genetically engineered cotton, which is now commercially grown in seven countries in the world. Egypt has developed abiotic stresses resistant transgenic cotton and is close to its commercialization. Future plans include improving fiber length and strength through genetic engineering. According to Dr. Osama Momtaz of Egypt, the National Biosafety Committee has been established in the country, and all other regulatory requirements have been completed. Giza 86 and Giza 87 have been transformed and are ready to be used. According to Mr. Neal Gillen of the American Cotton Shippers Association, the criticism in Europe about transgenic products including cotton is driven by misinformation and hyperbole rather than the "sound science" which has proved no negative effects on the environment. The transgenic cotton and herbicide resistant cottons have two major advantages in the form of higher yield and low cost which has convinced growers to produce such varieties. He concluded that transgenic cottons have been fully accepted in the international cotton trade.

Egypt has formed a joint venture with Monsanto for developing transgenic varieties, but the cost of transgenic seed to farmers is not known yet. During the discussion, it was observed that there will be a need to control other insects not targeted by the Bt gene but even then Bt cotton could form a better component of the IPM practices.

Australia is the highest, or the 2<sup>nd</sup> highest, yielding country in the world. The average yield has increased at the rate of 23 kg/ha per year since 1964/65. Mr. Ralph Schulz  of the Australian Cotton Research and Development Corporation said that strategic planning is the key to success and future directions must measure the performance of research. The

Australian cotton industry has also made significant progress in environmental safety by reducing pesticide use and river water contamination, adopting Best Management Practices and improving production practices like water use, 'Ingard' cotton and minimum tillage. However, there is a need to control production costs.

Dr. Dean Joubert of South Africa emphasized the importance of an interdisciplinary approach for producing quality cotton. He observed that 50% of the contribution to fiber quality is based on the genetic ability of the plant, 20% on the pest damage, 18% on agronomic management practices and 12% on the effect of diseases. The contribution of various factors/inputs in the production of quality fiber may vary among countries and even within countries, as do production practices. It was observed that quality improvement cannot be left to breeders to develop such varieties but has to be achieved through better management practices.

Dr. Erfan Rashed of the Cotton Arbitration and Testing General Organization of Egypt stated that quality testing requires measuring good parameters as well as those parameters that have negative impacts on quality like trash, short fiber content and contamination. He reviewed the system followed in Egypt to produce the best quality cotton in the world. "Farfara" a special manual operation used to blend and produce uniform bales for export is still followed in Egypt.

Different classing and grading systems are used in the world and the need to adopt a uniform method in the world was discussed. The Universal Cotton Standards exist, and standards boxes are updated every two years but it is up to countries to adopt the standards or continue following their own standards. Dr. Rashed suggested establishing uniform standards on moisture and trash that are acceptable to all segments of the industry. He also proposed to introduce a quality assessment system whereby a ranking, or number of points, could be marked for each property based on its importance for the industry.

Dr. Mostafa Mohamed Kamal from the Cotton Research Institute, Egypt explained the need and methodology used in classification of cotton. He suggested that in order to eliminate the factor of human error, instrument testing should be encouraged. The current manual classification systems around the world give approximation of degree of cleanliness, brightness or darkness of its color. These systems in no way provide information on the spinning ability of cotton. Dr. Kamal observed that classification of cotton by grade has a value in the pricing system but we must measure more precisely such fiber quality characteristics that reflect its true spinning value.

Dr. M. Abdul Rehman of Egypt critically reviewed the role of various fiber quality parameters in the spinning performance of cotton. He observed that longer fibers sacrifice minimum strength and produce lesser end breakage, thus resulting in a stronger yarn. Fiber strength is important because it is directly related to yarn strength, which is a combined and true expression of the total of all fiber properties. In addition to processing conditions, fiber fineness, maturity, length uniformity and short fiber content determine yarn evenness.

Mr. Chairman, ladies and gentlemen, no matter how best-quality cotton may be produced and how it may be tested and classed, the processing of cotton after picking has a significant impact on the ultimate quality of cotton delivered to the mill for spinning. Dr. Urania Kechagia of Greece stated that a series of decisions have effects on quality starting from variety selection, a combination of agronomic practices, moisture condition at the time of harvesting, etc., but she emphasized seedcotton handling and ginning. Micronaire is one character which is not affected by ginning. Dr. Kechagia made a number of suggestions for the maintenance of quality during processing.

Many fiber quality testing methods used in the world are not perfect and need improvement. This is what was observed in the paper presented by Dr. Iwona Frydrych from Poland. HVI measurement of strength, short fiber content and color need to be improved. The stickiness data by the Stickiness Contamination Tester and high speed H2SD, both developed by CIRAD, do not correlate with Minicard. However, the work from Sudan does not support such a conclusion. The work done under a CFC/ICAC project in Sudan and France has shown that suitable mixes of cotton can be produced for spinning sticky cotton without problems. However, the preparation of such mixes will depend on spinning conditions, including humidity and temperature. None of the available methods provide information on the reasons for stickiness. Dr. Frydrych also suggested that the industry should measure additional characters that are not currently measured, and it should develop portable fiber testing equipment. Repeatability and reproducibility are important under all conditions.

Mr. Chairman, ladies and gentlemen, the Committee on Cotton Production Research of the ICAC decided to hold the next technical seminar in 2003 on the topic 'Effect of Advances in Processing Techniques on Demand for Quality Cotton.'

The Committee on Cotton Production Research of the ICAC also reviewed preparations for the World Cotton Research Conference-3 to be held in Cape Town, South Africa from March 9-13, 2003. ICAC member governments and the private sector are urged to encourage and support researchers in their countries to attend WCRC-3.

Thank you Mr. Chairman.