

ICAC - Press Release- November 2nd, 2016

Researchers Present Ways in Which to Reduce the Usage of Water in Cotton Production

Islamabad, Pakistan, November 2, 2016 – The growth of population and the economy are putting ever more pressure on the use of water in agriculture in general and in cotton cultivation in particular. This issue was discussed by a panel of researchers and scientists during the Third Open Session of the 75th Plenary Meeting of the International Cotton Advisory Committee (ICAC), entitled “Reducing the Water Footprint of Cotton.”

Globally, 71% of water withdrawals are used in agriculture, while in Pakistan (where cotton is the predominant crop) this figure reaches 94%, so this is a pressing issue.

Dr. S. Hassan Ahmed, of Sudan, presented various methods to reduce water usage in irrigated conditions: performance of a critical assessment of performance of the irrigation system; implantation of new irrigation systems; reduction of conveyance losses; implementation of precision agriculture (water management); use of deficit irrigation; optimization of irrigation through irrigation scheduling models; use of in-situ rain water harvesting and conservation tillage techniques; maximization of yield per unit water used (optimum agronomic practices); breeding for high-yielding drought-resistant varieties; and genetic engineering. He emphasized that free or nominal water prices do not encourage efficient water use and that water should be priced according to volume (quantity) applied and not area.

Arif Makhdum, of the WWF, Pakistan, presented information on the Sustainable Agriculture Program, which is being implemented in Pakistan's seven regions, with 92,350 farmers engaged in five projects in an area of 355,600 hectares. In Pakistan, cotton is 100% irrigated and surface or ground water is estimated to account for 56% of the total water footprint. The water footprint assessment helped in identifying potential and important cotton production zones and indicating ways to increase water use efficiency, while reducing contaminants in water caused by fertilizer/pesticide applications. These programs resulted in a 25% reduction in water usage, a 31% reduction in pesticide use, 27% less synthetic fertilizer use and an increase in net profit of 24%.

Danilar Andakulov, of Helvetas, Kyrgyzstan, reported on the implementation of six projects in four countries (India, Pakistan, Kyrgyzstan and Tajikistan) in rice and cotton. Technologies promoted in project countries include using short furrows, irrigating every second furrow, alternating furrow irrigation, laser leveling of furrows, and soil humidity measurement. Improved methods of irrigation have resulted in 33% less of water use and 35% better yield compared with traditional methods. Innovative methods of irrigation led to substantially higher income per hectare of production.

These practical examples showed that the water footprint of cotton can be significantly reduced, while improving the income of farmers.