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The First International Conference on Science, Industry and Trade of Cotton

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The First International Conference on Science, Industry and Trade of Cotton held October 2-4, 2012 in Gorgan, Iran. We received 295 papers on different conference topics which 254 papers accepted for oral and poster presentation and 41 papers rejected. Conference secretariat received papers from USA, French, India, Greece, Czech Republic, Kyrgyzstan, Tajikistan, Uzbekistan and Pakistan.



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ICAC meet discusses sustainability in cotton value chain

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The 71st Plenary Meeting of the International Cotton Advisory Committee (ICAC), held October 7-12, 2012 in the Swiss city of Interlaken. The theme of the meeting was "shaping sustainability in the cotton value chain".

A major topic of concern at the Plenary was the threat of a further loss of cotton's market share to competing fibers – manufacturing capacity in polyester, already the dominant fiber, is set to increase. ICAC's Plenary Statement endorsed the rule of law in trade matters, both in relation to the Doha Trade Round (in which cotton has a privileged position), and as far as the sanctity of cotton contracts is concerned. Governments were enjoined to promote effective enforcement of arbitration awards, the number of which has increased dramatically, as a result of recent market volatility.



The Statement embraced the technical aspects of ICAC's work, which likewise formed an important part of the Plenary's proceedings. These included a Round Table on Biotechnology in cotton, a presentation on the work of ICAC's Expert Panel on cotton's Social, Environmental and Economic Performance, and an entire session devoted to technical matters. Next year's Technical Seminar will address the problem of stagnating yields.

Representatives from 4 INCANA country members participated in the 71st ICAC meeting including Iran, Pakistan, India and Kazakhstan.

On the sideline of the meeting, Dr. Ghorban Ali Roshani, Director of Cotton Research Institute of Iran (CRII), held working meeting by representatives

from different countries including Switzerland, Italy, Greece, Austria, Kazakhstan, Pakistan ,.. about bilateral collaboration. On October 11, Dr. Roshani invited to Panel and discussed about theme of the 72nd meeting which will be held in Columbia.

India: Accidental New Variety Boasts Highest Recorded Boll Size

By: Times of India

Although the Central Institute for Cotton Research (CICR) admits that it could take another 2 to 3 years before the variety is released, The Times of India reports that the discovery could "revolutionize cotton farming."

Keshav Kranthi, the CICR director who shared the results of the four-year project, says, "This appears to be an extremely promising experiment in cotton as it may increase output by 1.5 times per boll. At present, the maximum known boll weight in any public sector variety is 5.8 gm. However, the boll weight of the genetic stock developed by CICR scientists ranges from 5.9 to 7.9 grams. I was amazed to see such a huge boll weighing nearly 8 gm." P K Chakrabarty, a principal biotechnology scientist and head of crop development at CICR, explains the happy accident, saying that his intention going into the experiment was to develop a resistance to bacterial blight, a common North Indian leaf disease. To do this, Chakrabarty crossed Acala 44-B1 with Ganganagar ageti to get an F1 generation plant. The hybrid plants produced from the cross had extraordinarily large boll sizes, excellent opening of the cotton bolls and non-spreading, and sturdy stems- characteristics that were not visible in either of the parents. Upon discovering these things, Chakrabarty states that he abandoned his previous study and began covering the flowers and bolls to prevent cross pollination and improve the characteristics he had stumbled upon. "Luckily, after four years of repeating this experiment, I could stabilize these

qualities in my F4 generation. I am sure by 2014 I will have a new variety ready in the F6 generation," Chakrabarty said.

Chakrabarty says that once field studies begin, he expects a 2- to 3-folds jump to 2,500 to 3,000 per hectare. Also other parameters like fiber strength and length will be studied in the coming years."I am really excited. I am waiting for the day CICR will release the variety. When this happens it will be the first such public sector variety in the country. At present there are just one or two varieties in the private sector that claim to have a boll weight of 6 to 6.5 grams," said Kranthi.

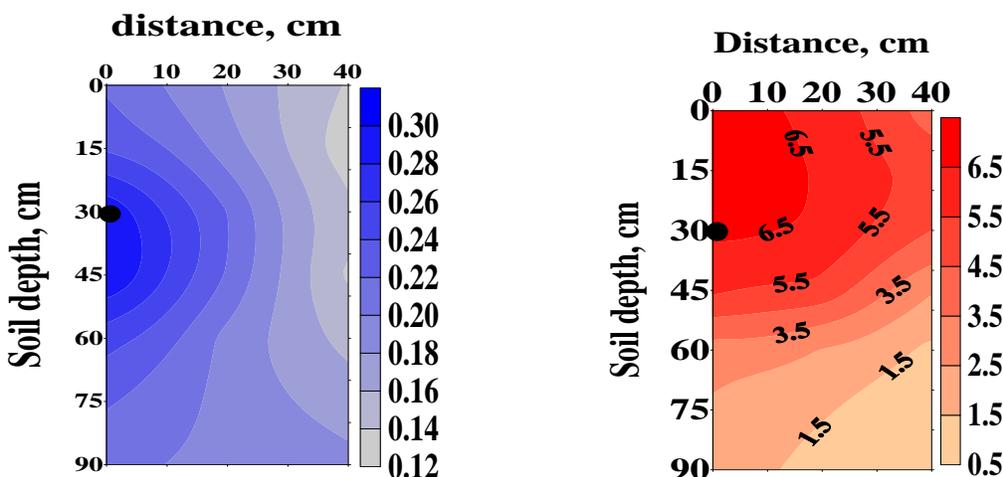
Simulation of soil water and salt distribution in cotton using the Hydrus-2D model

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Increasing salinity is a significant factor affecting the future agricultural productivity in semiarid irrigated region of the world. Information about soil water and salt distribution in the soil profile under saline water irrigation is essential for design and management of subsurface drip irrigation. The knowledge can be obtained by conducting field experiments or through model prediction. Simulated results from model must be compared with observed results from field experiment to establish their validity. In this research, the Windows-based computer software package Hydrus-2D, which numerically simulates water and solute movement in two-dimensional, variably-saturated porous media, was used to evaluate the distribution of soil water and electrical conductivity around the dripper in a loamy soil. Cotton (*Gossypium hirsutum*) irrigated by saline water from 2 to 11 dS m⁻¹ during 2009 and 2010 year in the field of Indian Agricultural Research Institute (IARI), New Delhi. Drip irrigation was installed at the soil surface, 15 and 30 cm below the soil surface. The results have shown that

correspondence between simulations and observations for soil water distribution was good. The values of AE, RMSE and E varied from -0.014 to -0.002, 0.003 to 0.015 and -1.376 to 0.940, respectively for different irrigation systems. The results of electrical conductivity simulation during crop growth stages and before monsoon rainfall was not good. The model is able to satisfactory predict leaching of soil salts after monsoon rainfall (boll opening of cotton) and also at the harvest time. Most of the salts were leached from root zone after monsoon in all irrigation systems and soil salinity was at the good range for cotton crop.



Pharmentical Function of Cotton

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Cotton is a perennial shrub, Gossypium genus and malvacea familg, which is cultivated in tropical region in more than fifty countries of the world. In this genus, cotton plants with gossypol have black lysogene glands on stems leaves and seeds. About fifty species of Gossypium have this polyphenol alhdyd compound. That is manufactured from hemigossypul though free

radicals coupling reaction. This reaction produced two enantiomers positive gossypol and negative gossypol.

Negative gossypol prevents from cancer cells growing up which is anti aids (HIV-).gossypol protects cotton from insects and pathogens.

In pharmacy, extraction compounds from leaf and root is used for wound treatment, pregnancy nausea, high blood pressure, stimulation of monthly period, substitution with antifungal medicines that have that have alkaloid and bleeding prevention. Degree of steamed cotton root is 1-3 cup daily.

Angola to Begin Producing Cotton

By: ICAC

Within a decade, ICAC Secretariat predicts Africa will annually produce 2 million tons of cotton; Angola to contribute to that number.

Hanil Angola Engineering and the Angolan National Private Investment Agency (ANIP) signed a contract making it possible to start producing cotton in the Kwanza Sul province.

Hanil Engineering, a subsidiary of South Korea's Hanil Engineering and Construction, specializes in maintaining and assembling irrigation equipment. This equipment is paramount to Angola's success in the industry. The purchase of Hanil's products was made possible thanks to a loan from the Export/Import Bank of South Korea for the amount of \$31.4 million, part of which will be used to build an irrigation system covering 5,000 hectares of Kwanza Sul.

Terry Townsend, executive director of the International Cotton Advisory Committee, comments on the move, saying, "During the Portuguese Colonial period, Angola produced about 30,000 tons of cotton, but production during recent decades has been almost nil. The Government of Angola has an interest in reviving cotton production as an engine of development in rural areas, and Angola has areas where cotton could potentially be grown."

Townsend adds, however, that Angolais unlikely to become a top producer of cotton any time soon. "The upper bound on potential production for that amount of irrigated land would be around 5,000 tons of cotton lint," he explains.

Nevertheless, he emphasizes that Africa as a whole has great agronomic potential to increase yields and expand area -- the caveat being that the area is dependent on improvements in the general economic situation, which is necessary so the government can focus spending on research, education, and rural infrastructure such as roads and storage facilities. "The ICAC Secretariat forecasts that production in Africa will return to 2 million tons by the end of this decade, a volume not seen in more than five years," Townsend says. Angola's irrigation system may just be a drop in the bucket towards that number, but it is a step in the right direction.

Golestan, Early mature cotton variety in I.R.Iran

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Golestan is the name of CRI-862-259 cotton variety, which originated from foreign germplasm by mass-pedigree breeding method. Primary yield test conducted after quarantine test (1996) and CRI-862-259 was candidate as a high yielding and earliness genotype in 1997-98. Breeding programs were undertaking 2001 until 2004 in Hashemabad cotton research station, Gorgan. Some agronomic and qualitative characters improved during selection program. Adaptability and yield stability experiments at nine locations for two years (2005-2006)



indicated the general and specific adaptability for CRI-862-259 (Golestan) variety as compared to other. In addition, this variety has showed more significant yield and earliness than commercial varieties at most locations as well as small leaf, more boll and standard qualitative characteristics. The seed cotton yield in double cropping experiments (after canola harvesting) and extensional experiment was more than sahel cultivar (check). The results showed that the CRI-862-259 (Golestan variety) is an earliness genotype with high yield potential and desired adaptability. Early maturity and small plant type will provide escape of pest damage and increasing plant density. This cultivar will be suitable for common agronomic and double cropping (planting after canola or wheat harvesting) systems in Golestan, North Khorasan, Ardebil and Fars provinces.

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