TECHNICAL INFORMATION SECTION

SUSTAINABLE COTTON PRODUCTION

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TECHNICAL INFORMATION SECTION

Objectives:

1. Provide update on cotton production research
2. Provide information pertaining to cotton research programs
3. Develop lines of communications among researchers
4. Supervise Common Fund for Commodities funded projects

TECHNICAL INFORMATION SECTION

1. Provide update on cotton production research:
   - *THE ICAC RECORDER*
     - Quarterly
     - Published in English, French and Spanish
       - March 2006
         1. Insecticides and their use on cotton
         2. Cotton contamination and its elimination
         3. The first year commercial performance of WideStrike biotech cotton
         4. Short notes

TECHNICAL INFORMATION SECTION

1. Provide update on cotton production research:
   - Review articles
     - Biotechnology of cotton - 1992
     - Short fiber content and uniformity index - 1993
     - Insecticide resistance - 1999
     - Biotechnology in cotton research and production - 2006
     - Environmental impact of cotton production - 2007

TECHNICAL INFORMATION SECTION

1. Provide update on cotton production research:
   - Technical Seminar
     - 2004 - How to improve yields and reduce pesticide use
     - 2005 - Rapid instrument testing of cotton: opportunity for breeders and other segments of the industry, and need for uniform definitions
     - 2006 - Improving Sustainability: Biotechnology and Crop Management (Brazil, September 14, 2006)

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2. Provide information pertaining to cotton research programs
   - *Cotton Production Practices - 2005*
   - *Cost of Production of Raw Cotton - 2004*
   - *Current Research Projects in Cotton – 2003*

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3. Develop lines of communications among researchers

Regional Cooperation

I. Latin American Association for Cotton Research and Development – ALIDA

II. Interregional Cooperative Network on Cotton for the Mediterranean and Middle East Regions

III. Southern Eastern African Cotton Forum

IV. Asian Cotton Research and Development Network

TECHNICAL INFORMATION SECTION

3. Develop lines of communications among researchers

World Cotton Research Conferences

WCRC – 1	Brisbane, Australia, 1994
WCRC – 2	Athens, Greece, 1998
WCRC – 3	Cape Town, South Africa March 9-13, 2003
WCRC - 4	September 10-14, 2007 Lubbock, Texas (http://www.icac.org)

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4. Supervise Common Fund for Commodities funded projects

ICAC serves as a supervisory body for CFC projects

SUATAINABLE COTTON PRODUCTION

WHAT IS SUSTAINABLE PRODUCTION?

Definition

UN - World Commission on Environment and Development - 1987

"Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

WHAT IS SUSTAINABLE PRODUCTION?

UN - World Commission on Environment and Development -1987

1. UN Conference on Environment and Development *(Rio de Janeiro, Brazil, June 1992)*
2. World Summit on Sustainable Development *(Johannesburg, South Africa, August/Sept 2002*

Result:

Governments recognized the need to direct national and international plans and policies to ensure that all economic decisions took environmental impacts fully into account

ALTERNATE NAMES

Biological production/Organic production
Low-input production
Integrated crop management system
Biodynamic production
Bio-intensive production
Conservation tillage
Zero tillage
Regenerative production

Conservation tillage is most popular

SUSTAINABLE COTTON PRODUCTION

COTTON - Model crop for sustainable production

Almost all cotton in the world is sprayed with insecticides

Heaviest consumer of agro-chemicals particularly pesticides

PESTICIDE USE ON COTTON - 2004

Pesticides	9%
Insecticides	19%

PESTICIDE SALES - 2004

Chemical Group	All Crops	Cotton
	(Million US$)	
Herbicides	14,849	777 (5%)
Insecticides	8,635	1,618 (19%)
Fungicides	7,296	70 (1%)
Others	1,569	280 (18%)
Total	32,349	2,745 (9%)

FIVE PILLARS OF SUSTAINABILITY

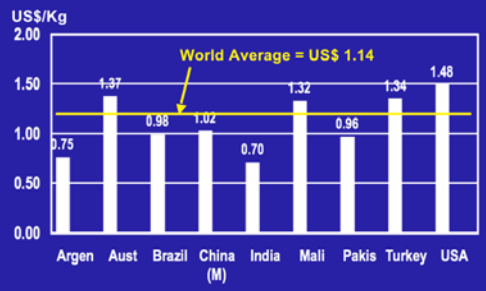
Background

- Sustainability does not always mean higher yields
- Sustainability does not always mean lower costs
- Sustainability is an integrated approach in cotton, from production to marketing and processing.

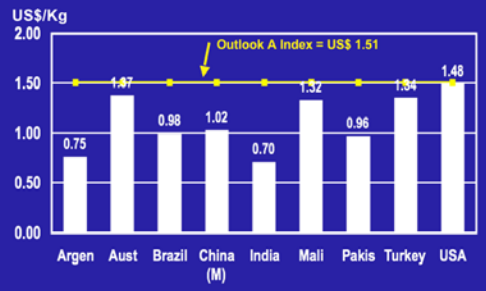
FIVE PILLARS OF SUSTAINABILITY

1. Habitat management
   (Cotton is a farming system, cotton to others and others to cotton)
2. Crop attributes
   (Varieties, seed, planting, etc.)
3. Plant growth and input use
   (Fertilizers, irrigation and physiology)
4. Integrated pest management
   (Minimum use of pesticides)
5. Economic pillar
   (Quality, marketing and processing)

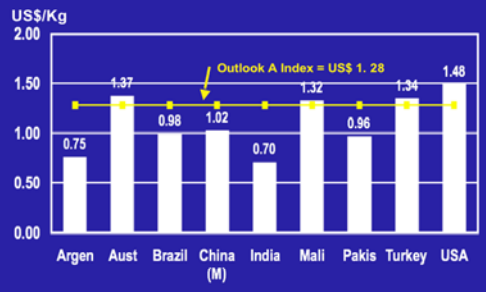
ECONOMIC SUSTAINABILITY - 2003/04



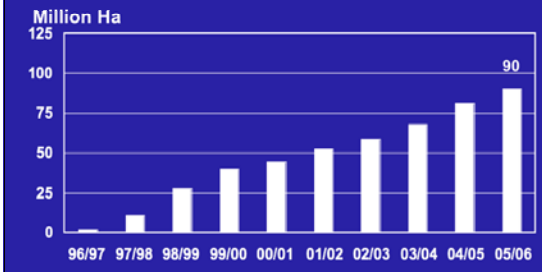
ECONOMIC SUSTAINABILITY - 2003/04



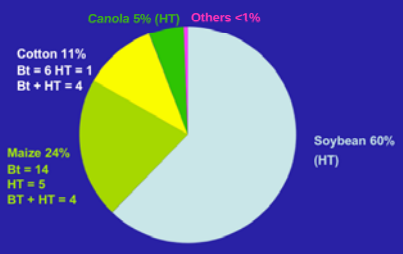
ECONOMIC SUSTAINABILITY (2005/06)



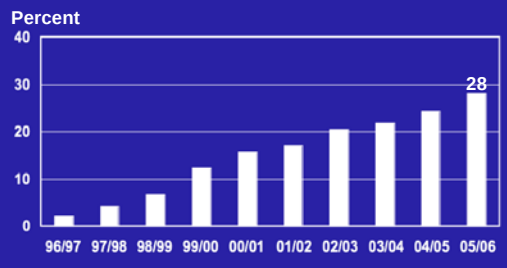
BIOTECH CROPS AREA - WORLD



TRANSGENIC CROPS AREA 2005/06



BIOTECH COTTON AREA - WORLD



BIOTECH COTTON - 2005/06

World Area	28%
World Production	37%
World Exports	38%

BIOTECH COTTON VS SUSTAINABILITY

Economic sustainability

Yes and No

BIOTECH COTTON VS SUSTAINABILITY

Environmental sustainability

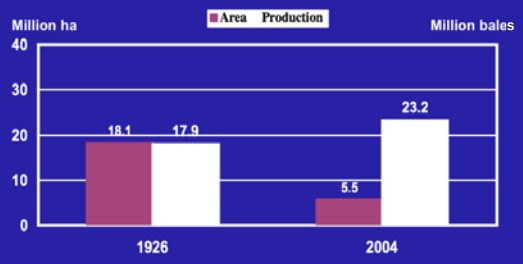
Yes

ORGANIC COTTON & SUSTAINABILITY

- Reducing input costs drives many producer decisions.
- Conventional and organic production can co-exist. Profitability will drive decisions in the global supply chain.
- We must correctly understand *sustainability* and keep that at center of any discussion.
  - Organic is NOT equivalent to sustainable.
  - Sustainable is NOT equivalent to subsistence farming.
  - Sustainability is equivalent to

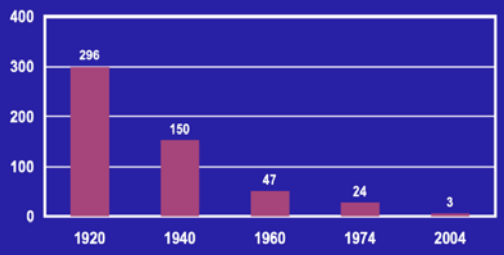
FUTURE and LONG TERM PROFITIBILITY

LAND USE IN THE USA



(Data: Courtesy of Roy Cantrell, Cotton Incorporated)

MAN HOURS PER BALE IN THE USA



US Dept. of Commerce and USDA, NASS, Ag Census Data
(Roy Cantrell, Cotton Incorporated)

SUSTAINABILITY AND WATER USE

Australia	227 kg lint/mega liter
Egypt	136 kg lint/mega liter
Pakistan	50 kg lint/mega liter

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