Committee of Home Textiles Producers

January 11, 2014

12:00 - 13:30 hrs.
Room: Apropos, Hall 3.C, West
Exhibition Ground Messe Frankfurt
Frankfurt / Germany

Minutes

Participants

Austria
Dieter EICHINGER (Lenzing AG)
Daniela CAFUTA (Lenzing AG)

France
Benoit HACOT (F.F.I.L.C.)
Hubert DU POTET (F.F.I.L.C.)

Germany
Fritz A. GROBIEN (Albrecht, Müller-Pearse, c/o Bremer Baumwollbörse)
Stefan SCHMIDT (IVGT)

India
Siddharta RAJAGOPAL (Texprocil)
K.V. SRINIVASAN (Premier Mills Pvt. Ltd.)

Pakistan
Altan Gul MUHAMMAD (Yunus Textile Mills Ltd.)
Bashir H. ALI MOHAMMAD (Gul Ahmed Textile Mills Ltd.)

Press
Robin ANSON (Textiles Intelligence Ltd.)

Switzerland
Giuseppe GHERZI (Gherzi Textil Organisation)

Turkey
Hasim BÜYÜKBALCI (Tetsiad)
Nihan Yelutas TUZEL (Tetsiad)
Attla BULUT (Tetsiad)

USA
Kevin LATNER (Cotton Council International)
Marc A. LEWKOWITZ (Supima)
Jonathan R. SIMON (1888 Mills, LLC)

ITMF
Christian P. SCHINDLER

In the Chair
Benoit HACOT
1. Opening Remarks

The meeting was opened by Mr. Benoit Hacot with a few introductory remarks. He thanked everybody for having joined the meeting which was the 5th meeting of the Committee during Heimtextil in Frankfurt, the first having taken place in 2010.

2. Presentation by Mr. Fritz Grobien, President, Bremer Baumwollbörse

Mr. Grobien gave a presentation with the title “World Cotton Situation” with a special focus on China’s cotton policy and the repercussion for the global cotton industry (see attached document no. 1).

In the following Q & A various aspects were discussed. It was stated that the role of India as the second biggest cotton producer and a surplus (export) country is important but that China’s huge cotton reserves of more than 10 million tons (approx. 40% of global cotton consumption of 25 million tons and more than China’s annual cotton consumption of approx. 8 million tons) are currently the most important factor in the global cotton markets. It was commented that the China cotton policy is not sustainable and will need to change in the future. For the season 2014/2015 the necessary policy changes will need to be announced before farmers decide which crops to produce which is usually in March. The hope and expectation was expressed that any change of the Chinese cotton policy will be a cautious and gradual in order to avoid cotton prices to fluctuate strongly.

It was also discussed how the market for Extra-Long Staple Cotton will develop in this context. The opinion was expressed that currently prices for ELS are too low compared to competing food crops. This results in decreasing production of ELS. The competition between cotton and food crops can be illustrated with the situation in the San Joaquin Valley in California where cotton is competing with 200 alternative (food) crops. As long as food crops are paying better production of Pima cotton will not increase.

It was also discussed why cotton consumption fell in recent years from approx. 26.5 million tons before the global financial and economic crisis in 2006/2007 to approx. 23.5 million tons in 2012/2013. The Committee agreed that this reduction in cotton consumption was partly due to the crisis and a weak global economy that has not yet recovered fully. In addition, high and volatile cotton prices – especially in 2010/2011 – have led to a substation of cotton by relatively cheaper fibres, especially polyester. Also cellulosic fibres have benefited from high and volatile cotton prices.

3. Presentation by Mr. Giuseppe Gherzi, Managing Partner, Gherzi Textil Organisation

Mr. Gherzi gave a presentation with the title “Global Trends in Home Textiles” (see attached document no. 2).

Mr. Gherzi showed a slide for 2012 that showed that apparel products are still by far the largest segment (USD 1’200 bn), followed by home textiles (USD 170 bn) and Technical Textiles (USD 160 bn). While the turnover of all segments will grow in the future, the segment of technical textiles is expected to show the fastest growth.

According to Mr. Gherzi an important trend factor are colors that are changing much faster than in the past.
He also showed that Bangladesh has become an important producer in the recent past, not only of apparel but also of some home textile products. A cost benchmark shows that investments in the entire textile supply chain are an option. While the EU is already a significant market for textile products from Bangladesh due to the GSP+ status (GSP = Generalized System of Preferences) granted by the EU, the US market is dominated by other countries like China, India, Pakistan and Turkey.

During the discussion it was discussed among other topics whether Bangladesh that is very cost competitive in textile production (yarn to finished fabric) compared to countries like China, Egypt, India, Indonesia, Pakistan and Turkey will be able to materialize on these advantages. It was agreed that it is much more difficult to grow fast in textiles than in apparel as investments for textile production are much higher than for apparel production. The other countries benefit from an integrated supply chains. In addition, the problems in Bangladesh with social compliances are significant and are not attracting potential investors.

It was also discussed whether and how Pakistan will benefit from the granted GSP+ status. The opinion was expressed that Pakistan will certainly benefit from these tariff reductions but more in the segment of apparel than in home textiles.

4. **Sustainable Textiles Coalition (STC)**

Mr. Altaf Gul Muhammad from Yunus Textile Mills (Pakistan) who is a member of the Sustainable Textiles Coalition (STC) gave a presentation of STC’s structure, objectives and activities (see attached document no. 3).

STC was launched in 2013 with the intention to work together with the already existing “Sustainable Apparel Coalition” (SAC) in order to develop an environmental index for home textiles measuring and evaluating textile products sustainability performance. The objective is to include all major stakeholders of the home textile supply chain in an effort to accelerate environmental and social improvement on a pre-competitive level. Companies should benefit from shared investments and reduced costs by defining and measuring environment and social performance with credible, practical and universal standards and tools. The SAC has developed the so called Higg-Index (a collection of assessment tools that standardize the measurement of the environmental and social impacts across the product lifecycle and throughout the value chain.

5. **Next Meeting**

It was agreed that the Committee should meet again on the occasion of the ITMF Annual Conference 2014 (October 16-18, 2014) in Beijing/China.

It was also agreed that the Committee should meet again during Heimtextil 2015 in Frankfurt/Germany on Thursday, January 15, 2015 late afternoon/early evening (approx. between 17:30 and 19:30 hrs.).

Furthermore, it was suggested that the Committee should consider meeting in New York/USA during the Home Textile Market Week (March 24-27, 2014). The Secretariat was asked to discuss with Committee members where and when such a meeting could take place.
6. **Presentation by Mr. Kevin Latner, Executive Director, Cotton Council International**

Mr. Latner presented “Cotton Leads”, a program that is committed to responsibly-produced cotton (see document no. 4). It is a program that builds “upon core principles that are consistent with sustainability, the use of best practices and traceability in the supply chain”. Currently the program comprises US and Australian upland and pima cotton and does not differentiate between conventionally and organically grown cottons. Cotton Leads is representing 17% of global cotton production.

January 2014
World Cotton Situation

ITMF Home Textile Producers Committee
January 11, 2014

Fritz Grobien, President Bremen Cotton Exchange
Cotton as a Natural Resource

- **Cotton**: 80%
- **Wool**: 4%
- **Flax**: 3%
- **Jute & Hard**: 13%
- **Silk**: 0.1%

Source: ICAC

ITMF Home Textile Producers Committee
January 11, 2014
Cotton as a Natural Resource

2012

Cellulosic 4%

Non-Cell. Staple 19%

Cotton 29%

Non-Cell. Fill 41%

Wool 1%

Other Natural 6%

Source: ICAC

ITMF Home Textile Producers Committee
January 11, 2014
World Fibre Production

Million Tonnes

- **Cotton**: 23 M.t.
- **Wool**: 1 M.t.
- **Non-Cell.**: 51 M.t.
- **Cell.**: 5 M.t.

Source: ICAC

ITMF Home Textile Producers Committee
January 11, 2014
Cotton Production

Million tons

ITMF Home Textile Producers Committee
January 11, 2014
Global Cotton Yields per Hectare

Kilograms per Hectare

50/51 60/61 70/71 80/81 90/91 00/01 10/11

ITMF Home Textile Producers Committee
January 11, 2014
Main Consumers

Million Tons

- China: 8.0
- India: 5.0
- Pakistan: 2.5
- Turkey: 1.4
- Brazil: 0.9
- Bangladesh: 0.9
- USA: 0.8

2012/13 vs 2013/14

ITMF Home Textile Producers Committee
January 11, 2014
World Cotton Exports

Season 2013/14

<table>
<thead>
<tr>
<th>Country</th>
<th>Million Metric Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>2.24</td>
</tr>
<tr>
<td>India</td>
<td>1.33</td>
</tr>
<tr>
<td>Australia</td>
<td>1.00</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.78</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>0.68</td>
</tr>
</tbody>
</table>

2013/14 8.48
2012/13 10.00
World Cotton Imports
Season 2013/14

China: 3.14
East Asia & Australia: 2.32
Bangladesh: 0.85
Europe & Turkey: 0.74
Indonesia: 0.67

Million Metric Tons

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013/14</td>
<td>8.48</td>
</tr>
<tr>
<td>2012/13</td>
<td>9.71</td>
</tr>
</tbody>
</table>
Prices -
Cotlook A and Bremen CIF

Cts/lb


ITMF Home Textile Producers Committee
January 11, 2014
CHINA

Stockpiling system to end
Almost 60 percent of worldwide stocks

New: direct subsidies

Long Term Impact?

Reduced Chinese imports
Pressure on prices

Short Term Impact:
Firm Prices
32nd International Cotton Conference

BREMEN 2014

GET MORE INFORMATION

Bremer Baumwollbörse
Wachtstraße 17-24
28195 Bremen
Germany
Phone +49 (421) 33 970-0
Fax +49 (421) 33 970-33
info@baumwollboerse.de
www.baumwollboerse.de

Faserinstitut Bremen e. V.
Am Biologischen Garten 2
28359 Bremen
Germany
Phone +49 (421) 218-68 650
Fax +49 (421) 218-68 710
conference@faserinstitut.de
www.faserinstitut.de

COTTON FOR PEOPLE NEEDS AND SOLUTIONS

INTERNATIONAL Cotton CONFERENCE BREMEN 2014

19th - 21st March
Global Trends in Home Textiles

prepared by

Gherzi Textil Organisation
Gessnerallee 28
8001 Zürich, Switzerland
Tel: +41 44 2196000
info@gherzi.com

12th January 2014
# Gherzi: Integrated Consulting

**Offices:** Zürich, Milano, Krefeld, Istanbul, Cairo, Mumbai

<table>
<thead>
<tr>
<th>Management Organisation</th>
<th>Corporate Finance</th>
<th>Engineering &amp; Logistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restructuring and Turn-around</td>
<td></td>
<td>HUGO BOSS</td>
</tr>
<tr>
<td>Strategy</td>
<td></td>
<td>SEFAR</td>
</tr>
<tr>
<td>Market Studies</td>
<td></td>
<td>MONOTEX</td>
</tr>
<tr>
<td>Supply Chain</td>
<td>M &amp; A</td>
<td>SWISS ARMY</td>
</tr>
<tr>
<td>Operational Improvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Development</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Worldwide textile added value chain (2012 – mn t)

Fiber Consumption (for textile applications)

**Filament (+tapes) 33 mn t**
- Polyester (22.0)
- Polyamid (3.0)
- Polypropylen (4.5)
- Viscose (0.4)
- Inorganic (1.2)
- Organic (0.7)
- Silk (0.1)

**Short staple fibers 3.5 mn t**
- Wool, Acrylic, Jute, Linen, Coco, Sisal, etc

**Long staple 6.1 mn t**
- Polyester (22.0)
- Polyamid (3.0)
- Polypropylen (4.5)
- Viscose (0.4)
- Inorganic (1.2)
- Organic (0.7)
- Silk (0.1)

Fiber Consumption

**Short staple spinning 39 mn t**
- OE 9 mn rotors → 10 mn t yarn
- Ring 240 mn spindles → 28 mn t yarn
- Air Jet → 0.8 mn t yarn

**Long staple spinning 15 mn sp → 5.8 mn t**

Yarn / Filament

**Filament (+tapes) 33 mn t**

Textile surfaces

- **Traditional Tex.** (Woven, Knits, Rachel) Hometex & Garments 59 mn t

- **Trad. Tech. Tex.** (Woven, Knits, Braided) 10.8 mn t

- **Prepreg - Composites 3.5 mn t**¹
  - only fibers (no PU, PVC matrix)

- **Nonwoven 7.5 mn t**

Finishing & Garmenting

- 5-10% waste

Garments 1'200 bn $
- (ladies 650 bn $)

Hometex 170 bn $
- (US : 23 bn $)

Market

- Garments 1'200 bn $
- Hometex 170 bn $
- Tech. Tex. 160 bn $(roll goods)

- out of which
  - Composites 55 bn $
  - Nonwoven 33 bn $

Source: Gherzi

~5% waste

84 mn t

81 mn t

76 mn t

> 1’500 bn $
**Producer ↔ Markets**

<table>
<thead>
<tr>
<th>Production focus</th>
<th>Fashion / Quality</th>
<th>Basic / Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal, Italy, Turkey, etc</td>
<td>Italy, Switzerland, Japan, South Corea, Russia, US</td>
<td>Turkey, Pakistan, India, China, etc</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Market</th>
<th>Fashion / Quality</th>
<th>Basic / Quality</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Fabric trends</th>
<th>- Yarn dyed fabrics (since a couple of years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Elaborated fabric (not only designs) construction</td>
</tr>
<tr>
<td></td>
<td>- Jacquard</td>
</tr>
<tr>
<td></td>
<td>- Fine cotton yarns</td>
</tr>
</tbody>
</table>

Source: Industry
Source: The Relationship Between Color Cycles in Home Furnishings and Apparel, 2010
## Cost benchmark

India, Bangladesh, Indonesia, Egypt, China, Pakistan and Turkey

<table>
<thead>
<tr>
<th>Yarn Type</th>
<th>India</th>
<th>Bangladesh</th>
<th>Indonesia</th>
<th>Egypt</th>
<th>China</th>
<th>Pakistan</th>
<th>Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 K</td>
<td>J 34 - 100% 76.47</td>
<td>(SLM), 1-2/32nd inch at 80.54</td>
<td>(SLM), 1-2/32nd inch at 80.54</td>
<td>Giza at 123 cts less subsidy 28 cts (95 cts)</td>
<td>T427 = (293.00) 60%+(SLM) 1-2/32nd inch 80.54 at 40%</td>
<td>Punjab PK 1467 1-1/16&quot; at 74.91</td>
<td>(SLM), 1-2/32nd inch at 80.54</td>
</tr>
</tbody>
</table>

Abbreviations’:
K – Carded
## Yarn 20/1 Carded Ring on Cones for Weaving (US$ Cents Per Kg.)

<table>
<thead>
<tr>
<th>Cost parameter</th>
<th>India</th>
<th>Bangladesh</th>
<th>Indonesia</th>
<th>Egypt</th>
<th>China</th>
<th>Pakistan</th>
<th>Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost of raw cotton</strong></td>
<td>175.3</td>
<td>%</td>
<td>177.5</td>
<td>%</td>
<td>177.5</td>
<td>%</td>
<td>177.5</td>
</tr>
<tr>
<td><strong>Clean cotton cost</strong></td>
<td>199.2</td>
<td>81.1</td>
<td>201.7</td>
<td>85.6</td>
<td>204.7</td>
<td>81.1</td>
<td>237.9</td>
</tr>
<tr>
<td><strong>Consumables stores &amp; spares</strong></td>
<td>4.4</td>
<td>1.79</td>
<td>5.5</td>
<td>2.33</td>
<td>5.5</td>
<td>2.21</td>
<td>5.5</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>27.6</td>
<td>11.2</td>
<td>16.5</td>
<td>7.0</td>
<td>19.8</td>
<td>7.97</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>Wages variable and fix</strong></td>
<td>8.4</td>
<td>3.40</td>
<td>6.0</td>
<td>2.54</td>
<td>15.6</td>
<td>6.26</td>
<td>14.9</td>
</tr>
<tr>
<td><strong>Packing</strong></td>
<td>6.0</td>
<td>2.44</td>
<td>6.0</td>
<td>2.55</td>
<td>6.0</td>
<td>2.41</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>Conversion cost</strong></td>
<td>46.4</td>
<td>18.89</td>
<td>34.0</td>
<td>14.42</td>
<td>46.9</td>
<td>18.85</td>
<td>35.2</td>
</tr>
<tr>
<td><strong>Cost of yarn</strong></td>
<td>245.6</td>
<td>100</td>
<td>235.7</td>
<td>100</td>
<td>248.6</td>
<td>100</td>
<td>273.1</td>
</tr>
<tr>
<td><strong>Index</strong></td>
<td>100</td>
<td></td>
<td>96</td>
<td></td>
<td>101</td>
<td></td>
<td>111</td>
</tr>
</tbody>
</table>

**Excluding waste revenue**

Source: Gherzi analysis

**2012**
## Fabric
Grey Cotton Sheeting, 20/1 K x 20/1 K / 60 x 60, 114” Grey Width (US$ Cents/ lm)

<table>
<thead>
<tr>
<th>Cost parameter</th>
<th>India</th>
<th>Bangladesh</th>
<th>Indonesia</th>
<th>Egypt</th>
<th>China</th>
<th>Pakistan</th>
<th>Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conversion cost</strong></td>
<td>$cent/ lm</td>
<td>%</td>
<td>$cent/ lm</td>
<td>%</td>
<td>$cent/ lm</td>
<td>%</td>
<td>$cent/ lm</td>
</tr>
<tr>
<td>Sizing chemicals</td>
<td>3.69 $0.369</td>
<td>12.50%</td>
<td>4.00 $0.400</td>
<td>18.56%</td>
<td>3.79 $0.379</td>
<td>13.88%</td>
<td>4.00 $0.400</td>
</tr>
<tr>
<td>Consumable &amp; spares</td>
<td>2.05 $0.205</td>
<td>6.95%</td>
<td>2.26 $0.226</td>
<td>10.47%</td>
<td>2.05 $0.205</td>
<td>7.50%</td>
<td>2.05 $0.205</td>
</tr>
<tr>
<td>Power</td>
<td>16.56 $1.656</td>
<td>56.13%</td>
<td>9.89 $0.989</td>
<td>45.92%</td>
<td>11.87 $1.187</td>
<td>43.44%</td>
<td>5.27 $0.527</td>
</tr>
<tr>
<td>Fuel</td>
<td>0.96 $0.096</td>
<td>3.25%</td>
<td>0.72 $0.072</td>
<td>3.34%</td>
<td>0.74 $0.074</td>
<td>2.70%</td>
<td>1.20 $0.120</td>
</tr>
<tr>
<td>Raw water</td>
<td>0.10 $0.010</td>
<td>0.35%</td>
<td>0.0 $0.000</td>
<td>0.0%</td>
<td>0.0 $0.000</td>
<td>0.0%</td>
<td>0.0 $0.000</td>
</tr>
<tr>
<td>Wages</td>
<td>4.65 $0.465</td>
<td>15.74%</td>
<td>3.18 $0.318</td>
<td>14.75%</td>
<td>7.38 $0.738</td>
<td>26.99%</td>
<td>8.33 $0.833</td>
</tr>
<tr>
<td>Packing</td>
<td>1.50 $0.150</td>
<td>5.08%</td>
<td>1.50 $0.150</td>
<td>6.96%</td>
<td>1.50 $0.150</td>
<td>5.49%</td>
<td>1.50 $0.150</td>
</tr>
<tr>
<td><strong>Conversion cost</strong></td>
<td>29.51 $2.951</td>
<td>100%</td>
<td>21.54 $2.154</td>
<td>100%</td>
<td>27.32 $2.732</td>
<td>100%</td>
<td>22.36 $2.236</td>
</tr>
</tbody>
</table>

**Index**

<table>
<thead>
<tr>
<th></th>
<th>100</th>
<th>73</th>
<th>93</th>
<th>76</th>
<th>111</th>
<th>92</th>
<th>171</th>
</tr>
</thead>
</table>

Source: Gherzi analysis
# Dyeing

Sheeting – Reactive Dyed, Medium Shade 20/1 K x 20/1 K 78 x 78, 60” Fin. Width

## Cost parameter

<table>
<thead>
<tr>
<th>Cost parameter</th>
<th>India</th>
<th>Bangladesh</th>
<th>Indonesia</th>
<th>Egypt</th>
<th>China</th>
<th>Pakistan</th>
<th>Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$/lm</td>
<td>%</td>
<td>$/lm</td>
<td>%</td>
<td>$/lm</td>
<td>%</td>
<td>$/lm</td>
</tr>
<tr>
<td><strong>Conversion cost</strong></td>
<td>14.35</td>
<td>38.51</td>
<td>15.38</td>
<td>50.82</td>
<td>15.38</td>
<td>46.00</td>
<td>15.38</td>
</tr>
<tr>
<td><strong>Dyes &amp; chemicals</strong></td>
<td>15.38</td>
<td>46.00</td>
<td>15.38</td>
<td>45.26</td>
<td>15.38</td>
<td>38.57</td>
<td>15.38</td>
</tr>
<tr>
<td><strong>Consumable &amp; spares</strong></td>
<td>2.05</td>
<td>5.50</td>
<td>2.31</td>
<td>7.62</td>
<td>2.56</td>
<td>7.67</td>
<td>2.05</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>6.91</td>
<td>18.54</td>
<td>4.13</td>
<td>13.64</td>
<td>4.95</td>
<td>14.81</td>
<td>2.20</td>
</tr>
<tr>
<td><strong>Fuel</strong></td>
<td>7.85</td>
<td>21.08</td>
<td>5.89</td>
<td>19.47</td>
<td>6.04</td>
<td>18.07</td>
<td>9.82</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>3.08</td>
<td>8.25</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Wages</strong></td>
<td>1.63</td>
<td>4.36</td>
<td>1.16</td>
<td>3.82</td>
<td>3.10</td>
<td>9.26</td>
<td>3.13</td>
</tr>
<tr>
<td><strong>Packing</strong></td>
<td>1.40</td>
<td>3.76</td>
<td>1.40</td>
<td>4.63</td>
<td>1.40</td>
<td>4.19</td>
<td>1.40</td>
</tr>
</tbody>
</table>

## Conversion cost

|               | 37.26  | 100   | 30.25  | 100   | 33.42  | 100   | 33.97  | 100   | 39.87  | 100   | 36.03  | 100   | 47.45  | 100   |

## Index

|             | 100   | 81    | 90    | 91    | 107    | 97    | 127    |

*Including cost of treating raw water and effluent*

Source: Gherzi analysis
# Bleached Sheeting – Bleached 20/1 K x 20/1 K 60 x 60, 224 Cm x 244 Cm

<table>
<thead>
<tr>
<th>Cost parameter</th>
<th>India</th>
<th>Bangladesh</th>
<th>Indonesia</th>
<th>Egypt</th>
<th>China</th>
<th>Pakistan</th>
<th>Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conversion cost</strong></td>
<td>$\text{cent/} \text{lm}$</td>
<td>%</td>
<td>$\text{cent/} \text{lm}$</td>
<td>%</td>
<td>$\text{cent/} \text{lm}$</td>
<td>%</td>
<td>$\text{cent/} \text{lm}$</td>
</tr>
<tr>
<td><em>Consumable &amp; spares</em></td>
<td>2.10</td>
<td>5.88</td>
<td>2.31</td>
<td>7.15</td>
<td>2.31</td>
<td>6.65</td>
<td>2.10</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>3.77</td>
<td>10.55</td>
<td>2.25</td>
<td>6.97</td>
<td>2.70</td>
<td>7.78</td>
<td>1.20</td>
</tr>
<tr>
<td><strong>Steam</strong></td>
<td>4.80</td>
<td>13.45</td>
<td>3.60</td>
<td>11.15</td>
<td>3.69</td>
<td>10.63</td>
<td>6.00</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>0.53</td>
<td>1.47</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Wages</strong></td>
<td>1.80</td>
<td>5.04</td>
<td>1.44</td>
<td>4.47</td>
<td>3.14</td>
<td>9.05</td>
<td>3.13</td>
</tr>
<tr>
<td><strong>Stitching</strong></td>
<td>2.00</td>
<td>5.59</td>
<td>1.47</td>
<td>4.55</td>
<td>1.65</td>
<td>4.75</td>
<td>2.00</td>
</tr>
<tr>
<td><strong>Packing</strong></td>
<td>12.00</td>
<td>33.61</td>
<td>12.00</td>
<td>37.15</td>
<td>12.00</td>
<td>34.57</td>
<td>12.00</td>
</tr>
<tr>
<td><strong>Conversion cost</strong></td>
<td>35.70</td>
<td>100</td>
<td>32.30</td>
<td>100</td>
<td>34.71</td>
<td>100</td>
<td>35.13</td>
</tr>
<tr>
<td><strong>Index</strong></td>
<td>100</td>
<td>90</td>
<td>97</td>
<td>98</td>
<td>108</td>
<td>96</td>
<td>153</td>
</tr>
</tbody>
</table>

*Including cost of treating raw water and effluent*

Source: Gherzi analysis
## EU27 – Imports [mn $]

Category 630221: bed linen (not knitted), printed, cotton

<table>
<thead>
<tr>
<th>Country</th>
<th>Calendar Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>World</td>
<td>726.0</td>
</tr>
<tr>
<td>Pakistan</td>
<td>243.1</td>
</tr>
<tr>
<td>Turkey</td>
<td>196.0</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>99.9</td>
</tr>
<tr>
<td>India</td>
<td>74.7</td>
</tr>
<tr>
<td>China</td>
<td>66.6</td>
</tr>
<tr>
<td>Rep of Moldovia</td>
<td>10.3</td>
</tr>
<tr>
<td>Switzerland</td>
<td>3.8</td>
</tr>
<tr>
<td>Egypt</td>
<td>6.6</td>
</tr>
<tr>
<td>Israel</td>
<td>14.1</td>
</tr>
</tbody>
</table>

Source: Comtrade
## EU27 – Imports [mn $]

Category 630260 - Toilet linen, kitchen linen, of terry towelling/similar terry fabrics, of cotton

<table>
<thead>
<tr>
<th>Country</th>
<th>Calendar Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td></td>
<td>955.5</td>
<td>1'009.6</td>
<td>1'149.2</td>
<td>927.2</td>
</tr>
<tr>
<td>Turkey</td>
<td></td>
<td>352.4</td>
<td>359.6</td>
<td>415.7</td>
<td>330.9</td>
</tr>
<tr>
<td>India</td>
<td></td>
<td>153.7</td>
<td>157.0</td>
<td>212.8</td>
<td>170.9</td>
</tr>
<tr>
<td>Pakistan</td>
<td></td>
<td>136.7</td>
<td>159.9</td>
<td>176.1</td>
<td>162.8</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td>179.2</td>
<td>197.8</td>
<td>201.8</td>
<td>148.7</td>
</tr>
<tr>
<td>Egypt</td>
<td></td>
<td>47.5</td>
<td>45.7</td>
<td>52.6</td>
<td>40.5</td>
</tr>
<tr>
<td>Bangladesh</td>
<td></td>
<td>23.3</td>
<td>23.5</td>
<td>31.9</td>
<td>29.5</td>
</tr>
<tr>
<td>Israel</td>
<td></td>
<td>17.8</td>
<td>22.4</td>
<td>18.2</td>
<td>13.4</td>
</tr>
<tr>
<td>Colombia</td>
<td></td>
<td>8.1</td>
<td>10.3</td>
<td>10.5</td>
<td>7.6</td>
</tr>
<tr>
<td>Indonesia</td>
<td></td>
<td>11.5</td>
<td>12.5</td>
<td>7.6</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Source: Comtrade
Editors: resisting with constant turnover / profitability

- Zimmer+Rhode (~50 mn €) buys Ado (2013)
- Christian Fischbacher (~70 mn €) expands its presence in France
- Creation Bauman (~ 45 mn €) increases its 2013 turnover by ca. 10%
- Caleffi (I) increased its 2013 turnover reaching 54 mn € (+8%)

Integrated companies: still suffering with stagnant / reduced turnover / profitability

- Zucchi/Bassetti: reduced consolidated turnover and increased loss (20/09/2013 vs. 20/09/2012)
  - Consolidated turnover of 103,6 mio/€ (vs. 105,8 mio/€ until 30/09/2012)
  - Negative Ebitda of 9 mio/€ (vs. minus 3,4 mio/€ until 30/09/2012)
- Gabel: stagnant turnover (~ 100 mn €) gained market shares

Source: online available data
# US – Imports [mio $]

## Category 361 – cotton sheets

<table>
<thead>
<tr>
<th>Country</th>
<th>Calendar Year</th>
<th>Year to date</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>1’402.4</td>
<td>1’422.9</td>
<td>1’321.5</td>
</tr>
<tr>
<td>India</td>
<td>530.8</td>
<td>638.3</td>
<td>595.4</td>
</tr>
<tr>
<td>China</td>
<td>328.7</td>
<td>308.8</td>
<td>277.7</td>
</tr>
<tr>
<td>Pakistan</td>
<td>318.5</td>
<td>262.8</td>
<td>248</td>
</tr>
<tr>
<td>Turkey</td>
<td>34.9</td>
<td>49.8</td>
<td>49.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>36.9</td>
<td>35.3</td>
<td>33.0</td>
</tr>
<tr>
<td>Bahrain</td>
<td>62.1</td>
<td>50.1</td>
<td>47.1</td>
</tr>
<tr>
<td>Italy</td>
<td>14.1</td>
<td>15.2</td>
<td>13.7</td>
</tr>
<tr>
<td>Cambodia</td>
<td>10.7</td>
<td>12.4</td>
<td>11.2</td>
</tr>
</tbody>
</table>
### US – Imports [mio $]

**Category 363 – cotton terry / other pile towels**

<table>
<thead>
<tr>
<th>Country</th>
<th>Calendar Year</th>
<th>Year to date</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>World</strong></td>
<td>1’427.8</td>
<td>1’460.4</td>
<td>1’358.952</td>
</tr>
<tr>
<td><strong>India</strong></td>
<td>494.2</td>
<td>531.2</td>
<td>494.7</td>
</tr>
<tr>
<td><strong>China</strong></td>
<td>354.6</td>
<td>382.6</td>
<td>358.6</td>
</tr>
<tr>
<td><strong>Pakistan</strong></td>
<td>348.0</td>
<td>326.6</td>
<td>302.5</td>
</tr>
<tr>
<td><strong>Turkey</strong></td>
<td>46.1</td>
<td>47.9</td>
<td>44.8</td>
</tr>
<tr>
<td><strong>Bangladesh</strong></td>
<td>60.6</td>
<td>56.2</td>
<td>52.5</td>
</tr>
<tr>
<td><strong>Colombia</strong></td>
<td>22.6</td>
<td>19.0</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Jordan</strong></td>
<td>5.5</td>
<td>18.3</td>
<td>16</td>
</tr>
<tr>
<td><strong>Egypt</strong></td>
<td>15.9</td>
<td>11.6</td>
<td>10.3</td>
</tr>
</tbody>
</table>
EU27 - Generalised System of Preferences [GSP+]

- Pakistan has been granted GSP+ status

- Duty free treatment for Pakistani products – covering 96% of products exported to the EU by Pakistan

- Only the second country in the entire South and South East Asian region to have duty free access to European Union

- Competitors in the T&C sector; China, India, Vietnam, Thailand, Indonesia have no duty free access as well as no preferential access – 10% to 14% duty advantage

- The scheme shall apply for a period of 10 years

- Every 2 Years the European Commission would present a report on the status of implementation of the Conventions to the European Parliament and the Council
The Trans-Pacific Partnership Agreement ("TPP") is a free trade agreement currently being negotiated by nine countries: The United States, Australia, Brunei Darussalam, Chile, Malaysia, New Zealand, Peru, Singapore, and Vietnam.

Source: http://tppinfo.org/
Summary Trends

• Market
  • EU: rather dull (picking up?)
  • US: faster recovery
  • Fast changing color cycles (amplitude and phase)
  • Increasing demand for online purchase possibilities

• Supply
  • Increasing need for optimized supply chain (logistics)
  • Competitively of the «usual suspects»: Pakistan, Turkey, India, China and Bangladesh
  • Rules of the game regarding «country supply structure» may change due to GSP+ (EU27) and TTP (US)
Thank You

For further information / questions please contact Giuseppe Gherzi
Gherzi Textil Organisation
Gessnerallee 28
8001 Zürich, Switzerland
Tel: +41 44 2196000
info@gherzi.com
q.gherzi@gherzi.com
Sustainable Textile Coalition Launched

In early 2013, a group of leading home textile retailers including Target, Yunus Textile Mills, Pakistan, Williams-Sonoma and Coyuchi have together launched a new initiative dubbed ‘The Sustainable Textiles Coalition’, which intends to work together with the Sustainable Apparel Coalition to develop an environmental index for the home and interior textiles sectors.
Sustainable Textile Coalition (STC) Founding Circle Members

TARGET

YUNUS

IKEA

Indo Count

KOHLS

Himatsingka

jcp

COYUCHI

WILLIAMS-SONOMA, INC.
The environmental and social challenges around the global textiles supply system affect the entire industry.

These challenges reflect systemic issues that no individual company can solve on its own.

Pre-competitive collaboration can accelerate improvement in environmental and social performance for the industry as a whole and create operational efficiencies for individual companies.

This collaboration enables individual companies to share investment and reduce costs.

Credible, practical, and universal standards and tools for defining and measuring environmental and social performance support the interests of all stakeholders including the entire supply chain.
Mission and Purpose

The Sustainable Textiles Coalition (STC) was founded by a group of leaders from global textile companies who recognize that addressing the industry’s social and environmental challenges are both a business imperative and an opportunity.

The Coalition seeks to lead the industry toward a shared vision of sustainability built upon a common approach for measuring and evaluating textile product sustainability performance that will spotlight priorities for action and opportunities for technological innovation.
The measurement tool is based on the Sustainable Apparel Coalition’s Higg Index

Covers entire product lifecycle

- Materials
- Packaging
- Manufacturing
- Transport
- Use & Service
- End of Life

Covers all major impact areas

- Water
- Energy/CO2
- Waste
- Chemicals
- Biodiversity
- Land Use
- Social
## Higg Index: Assessing Environmental Impact at Multiple Levels

<table>
<thead>
<tr>
<th>MODULES</th>
<th>DESCRIPTION</th>
<th>FREQUENCY</th>
</tr>
</thead>
</table>
| **Brand** | • Is the company aware of its product’s impacts?  
• Is it creating a platform of policy/programs that support reduced impacts? | • Once per brand (or company if brands do not differ)  
• Update as needed |
| **Product** | • What are the materials and their relative impacts in the product?  
• How was the product manufactured? | • Once per product SKU / line  
• Use in **design**, pre-production, post-production phases |
| **Facility** | • How are facilities managed where the product or product components come from?  
• Product independent | • Once per **facility**  
• Update as needed  
• Send to as many customers as needed |
### Higg Index: Example Indicators

<table>
<thead>
<tr>
<th>MODULES</th>
<th>IMPACT AREA</th>
<th>EXAMPLE INDICATOR</th>
</tr>
</thead>
</table>
| Brand   | Packaging   | **Design for Recyclable Packaging**  
- Brand employs packaging design and construction techniques to create recyclable packaging, while still maintaining packaging functionality. |
| Product | Materials   |  
- What materials (including trims) comprise the product?  
- How are those materials defined?  
  - Virgin, organic, recycled, verified chain of custody?  
  - Fabric coating, reduced water use in dyeing, part of chemical reduction program, etc. |
| Facility| Wastewater  |  
- Is all wastewater that is discharged from this site being treated with primary and secondary treatment?  
  - Where is the primary or secondary treatment occurring (on-site, off-site, or a combination of both)?  
  - If any treatment is occurring off-site, what is the treatment facility used (name and location)?  
  - Do you have a contingency (or backup plan) in case the treatment equipment or systems malfunction? If so, please describe briefly. |
STC is integrating with the Sustainable Apparel Coalition
What is Sustainable Apparel Coalition?

The **Sustainable Apparel Coalition** is a trade organization comprised of brands, retailers, manufacturers, government, and non-governmental organizations and academic experts, representing more than a third of the global apparel and footwear market. The Coalition is working to reduce the environmental and social impacts of apparel and footwear products around the world.

The focus of the Sustainable Apparel Coalition is The Higg Index – a suite of assessment tools that standardizes the measurement of the environmental and social impacts of apparel and footwear products across the product lifecycle and throughout the value chain.
Current Members

Brands:

adidas Group
asics
BURBERRY
The Coca-Cola Company
Columbia Sportswear Company
CWS
boco
Deisguie
ECCO
EILEEN FISHER
ESPRIT
FENIX
KINGIC
Levi's
Loosestate Organic
ADITYA BIRLA
MADURA F S
new balance
patagonia
Pentland
PUMA
PVH
rb
VF

Retailers:

ANN INC.
C&A
GAP
H&M
INDITEX

jcp
KOHLS
L.L.Bean
MOUNTAIN EQUIPMENT CO-OP
NORDSTROM
otto group
REI
Target
Walmart
Current Members

Suppliers:

Consumer Service Companies:
Current Members

Non-Profit, Government, and Academia:

Duke University

Solidaridad

Utrecht University

Industry Affiliates:

AAFA

Bureau Veritas

FLO-CERT

SGS

VERITE®
Higg Index Development: Ongoing Improvement

Released July 26, 2012

**Higg Index 1.0**
- Excel based
- Focuses on apparel
- Focuses on environment
- Qualitative questions

Released Dec. 11, 2013

**Higg Index 2.0**
- Web based
- Add footwear content
- Add social/labor content
- Other improvements

Future...

**Higg Index 3.0+***
- Soft home goods
- LCA-based metrics
- Consumer facing score
- Management indicators
- Other improvements

*Anticipated improvements
COTTON LEADS™

is a program that is committed to responsibly-produced cotton.
Built upon core principles that are consistent with sustainability, the use of best practices and traceability in the supply chain, Cotton LEADS™ offers cotton users the confidence and knowledge that their raw material is responsibly produced and identified. Specify the Cotton LEADS™ program as one of your preferred cottons, at no cost to your organization, and join Australia and the United States of America in leading the way towards responsible cotton production.
COMMITMENT
that sustainable and responsible cotton production requires continual improvement, investment, research and sharing of best practices information among growers and industry.

RECOGNITION
that sustainable and responsible cotton production requires continual improvement, investment, research and sharing of best practices information among growers and industry.

UNDERSTANDING
that leading change in responsible and sustainable cotton practices will have the most positive impact when implemented in collaboration among farm, regional, national and international programs.

BELIEF
in the benefit of working cooperatively with similar programs that seek to advance responsible and sustainable cotton production in an effort to keep global cotton competitive in world fiber markets.

CONFIDENCE
in cotton identification systems that ensure traceability from farm to manufacturer.
Cotton LEADS™ is based on the belief that national efforts create large-scale opportunities for responsible cotton production. That’s the Cotton LEADS™ difference. Positive change and continual improvement are being promoted and measured at national levels, providing accountability and ensuring progress.

**REGULATION**
- Strong regulatory and compliance systems.

**COMMUNICATION**
- Direct and comprehensive communication and extension with industry and producers.

**INVESTMENT**
- Industry-wide investments in leading technology, research and innovation.

**IMPROVEMENT**
- National-level data, measures for continual improvement.

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LABOR REGULATIONS</strong></td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>CONSUMER SAFETY</strong></td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>FOOD SAFETY</strong></td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>WORKPLACE SAFETY</strong></td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>CHILD PROTECTION</strong></td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>PESTICIDE REGULATION</strong></td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>WATER STEWARDSHIP</strong></td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>CONSERVATION PROGRAMS</strong></td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>
BUILDING A NATIONAL AND GLOBAL VIEW OF RESPONSIBLE COTTON PRODUCTION

With more than 20 million cotton producers in 77 countries, sustainability initiatives that work at the farm level face challenges due to the high cost of providing individual farm assistance and the overhead costs of certification. Although these initiatives are well intentioned, they represent only small volumes and may result in increased costs throughout the supply chain. Cotton LEADS™ offers the global cotton industry a solution to increase the supply of responsibly-produced cottons by including cottons from countries that demonstrate responsible production practices. Cottons currently in the program are produced in Australia and the United States of America.
COTTONS INCLUDED UNDER COTTON LEADS™

Cotton LEADS™ includes upland and pima cotton varieties grown in Australia and the United States. Cottons can be conventionally grown and organically grown.

CONVENTIONALLY GROWN

Often described as modern and efficient cotton, these cottons are readily available on the world market. Conventional cottons can be grown using combinations of biotechnology, conservation tillage, non-synthetic and synthetic inputs, integrated pest management and cutting edge technologies to maximize efficiencies. The use of these modern technologies has resulted in tremendous gains in yield, enhanced fiber quality and more sustainable cotton production.

ORGANICALLY GROWN

Refers to a method of farming without the use of synthetic inputs or biotechnology. Organic production relies primarily on non-synthetic pesticides for pest control, hand hoeing and tillage for weed control, and the use of manures and legume cover crops for fertilizers. Organic cotton is produced within a set of strict standards and management practices, enforced through audits and field inspections by national organizations.
In Australia,
cotton growers produce high yielding, high quality, contamination-free cotton, largely due to leading production practices and an industry-wide commitment to continuous improvement. Australia’s cotton industry is regulated by a highly stable and extensive government and a strict legislative framework is applied at federal, state and local government levels. Industry organizations also work to implement regulations and ensure compliance.

The Office of the Gene Technology Regulator (OGTR) approves and monitors the use of biotechnology, and the Australian Pest and Veterinary Medicines Authority (APVMA) regulates the registration and use of pesticides. Other legislative and monitoring agencies include the Federal Departments of Environment, Agriculture and Employment, Food Standards Australia New Zealand (FSANZ), State Environmental Protection Authorities, the Fair Work Ombudsman and Safe Work Australia.
myBMP
Leaders in Environmental Stewardship

The Australian cotton industry’s flagship environmental program, myBMP (Best Management Practices) has radically changed the way cotton is grown in Australia. myBMP is the main vehicle for transferring research and development into tools for growers to achieve best practice and maximize efficiency on the farm. This program is used as a model for environmental management in other industries. Australia’s cotton industry has continuously improved its environmental performance for over 20 years, and has a united vision for further positive change. No other agricultural industry in Australia has so closely monitored its environmental track record or been as responsive to on-farm change through best management practices.

Independent Environmental Assessment
of the Australian Cotton Industry 1990-2013 finds:

- Substantial reduction in chemical use
- Major gains in water use efficiency of 3-4% per year
- Improved soil and native vegetation management
- Significant uptake of integrated pest management (IPM)
A WATER-EFFICIENT INDUSTRY
More Crop per Drop.

40% less water

The Australian cotton industry has achieved a 40% increase in water productivity over the last decade.

Australia’s cotton industry is considered among the most water-efficient in the world. Appropriate varieties, a world-class research effort, use of the latest technologies and cutting edge farm practices all combine to produce Australian cotton fiber that is farmed with less water per hectare than at any other time in history.

WATER USE (ML) PER TONNE OF COTTON
PEST MANAGEMENT

Protecting Our Crops with Less

In Australia, over 100 types of pests attack cotton. If these pests are left unmanaged, crops are badly damaged, resulting in major yield and quality losses.

Australian cotton growers use a combination of integrated pest management (IPM) techniques and biotechnology to control pests with a major focus on reducing the need for traditional chemicals.

89% reduction in insecticide use over the past 15 years.
Australian cotton is grown by about 1,250 family farmers in some of the country’s most productive agricultural regions. Today’s modern cotton industry is efficient, community minded, resilient and technologically advanced.

30% less land is required to produce one tonne of cotton lint compared to 1999.

Nearly three times less land is required to produce one metric tonne of cotton fiber compared to the rest of the world. In 2012-13, Australia produced world record cotton yields of over 2,354 kg/hectare.
Healthy, Biodiverse Farms

Biodiversity refers to the variety of life forms found in an environment including animals, plants, bacteria and other micro-organisms. Largely due to best management practices from growers, Australia’s cotton farms contain vibrant, active ecosystems where both nature and cotton production can happily thrive.

Most Australian cotton growers use zero or minimum tillage and crop rotations to conserve and improve soil health.

40% of the area on an Australian cotton farm is native vegetation.

Over 300 native bird species are found in cotton-growing regions, representing more than one-third of all Australian land birds.
Despite being a very minor contributor to agriculture’s greenhouse gas emissions, the Australian cotton industry has invested in climate change research to understand further opportunities for cotton farms to reduce or capture emissions.

Cotton growing has a better than neutral carbon footprint. Net on-farm emissions of GHGs in cotton growing are actually negative because the plant stores more carbon (for example in the lint and seed) than is released from fuel and fertilizer use during growth.

On-farm case studies have indicated that adoption of minimum tillage has reduced energy costs and greenhouse emissions by 12% since 2000.

Australian cotton growers continue to improve energy efficiency and reduce greenhouse gas emissions through innovations like:

- Fuel-efficient farm machinery
- Controlled traffic systems
- Round module pickers
- Minimum-tillage systems
both conventional and organic cotton are food crops and are regulated by government agencies, including the Food and Drug Administration (FDA), the United States Department of Agriculture (USDA), and the Environmental Protection Agency (EPA), in the same way as other food crops under the provisions of the U.S. Food Quality Protection Act (FQPA). For organically-produced cottons, the USDA enforces National Organic Program (NOP) standards.
Cotton production in the United States continues to lead in the implementation of best management practices and continual improvement in key environmental indicators.

The result of continuous improvement is significant reductions in all five resources to produce one kilogram of cotton fiber and 1.4 kilograms of seed.

- **Land use**: 30% reduction
- **Soil erosion**: 68% reduction
- **Irrigation water applied**: 75% reduction
- **Energy use**: 31% reduction
- **Greenhouse gas emissions**: 22% reduction

Results presented per unit of production.

In the U.S., cotton is grown both with and without irrigation. Cotton only accounts for about 4% of the agricultural water use in the U.S. and is often grown because it is the only crop sufficiently tolerant to drought to grow in a region such as West Texas, without irrigation.

81% of U.S. cotton producers recognize the need for efficient irrigation. From 1988 to 2008, the percentage of irrigation delivered by efficient water delivery systems more than tripled in the U.S.

Since 1980, irrigation water applied per pound of cotton has declined.

1980: 75%
2011: 25%
PEST MANAGEMENT

Pesticides, including herbicides, insecticides and fungicides, help farmers around the world stabilize yields in order to produce an abundant and affordable supply of food and fiber by preventing crop losses due to weeds, pests and diseases.

In the U.S., there has been a 50% reduction in the number of insecticide applications over the last 25 years.

According to a survey of U.S. cotton growers in 2008, 44% of U.S. cotton farms had fields that required no foliar insecticides and nearly one-third of U.S. cotton acreage required absolutely no insecticide applications at all. Only about 5.17 grams of total pesticides are applied per kilogram of U.S. cotton produced, on average.
Due to technological advances in production and best management practices in the U.S., cotton yields have doubled and land devoted to cotton production has declined over time.

Soil conservation is the prevention of soil losses due to natural elements such as wind and rain. Modern production practices allow cotton growers to achieve high levels of soil conservation and input efficiencies that both increase yield and reduce production cost.

In the U.S., there has been a 30% reduction in land required to produce one kilogram of cotton lint since 1980.

Two-thirds of U.S. growers use some form of conservation tillage and soil loss has been reduced by 68% in the last 30 years.
From field to bale, cotton production is energy positive.

The energy required to produce cotton is actually less than the energy stored in the cottonseed. Stored energy can be captured directly, such as biodiesel or other biofuels, or indirectly as feed for dairy cows and aquaculture. About 1,400 kilograms of seed are produced per hectare of cotton, on average in the U.S., which equates to over 220 liters of biodiesel per hectare. The total energy stored in the cottonseed is more than required to grow and gin the cotton crop.
Energy conserving innovations such as reduced number of tillage passes and more efficient irrigation systems have reduced greenhouse gas emissions.

In the U.S., there has been a 22% improvement per kilogram since 1980.

There is more carbon stored in cotton fiber and soil than emitted during production.

Conservation tillage has increased the amount of CO₂ captured from the air into the soil, improving soil quality.
TRACEABILITY

From the field to the mill, Cotton LEADS™ is leading the way in traceable, transparent and efficient cotton production. Comprehensive tracking and identification systems are in place throughout the cotton production supply chain in both Australia and the U.S.

Cotton produced in Australia and the U.S. is identified on-farm by a module ticket. When the cotton is ginned, each bale is assigned a unique bale identification number. In Australia, the bale identification is linked to the module and cotton quality data. In the U.S., the bale identification is linked to the gin, classing office and cotton quality data.

These identification programs are already established and create transparency throughout the production supply chain.
1 **HARVESTING**

Harvested cotton is formed into large rectangular or round units called modules. In both Australia and the U.S., each module is identified by a module identification tag, allowing the gin to link a module to the location where it was grown.

2 **GINNING**

Upon arrival at the gin, each module identification is logged into a database. After ginning, each bale is labeled with a permanent bale identification tag. A sample, taken from each side of the bale, is collected and identified with the same number. In Australia, samples are sent to a number of independent classing offices, and in the U.S., to one of ten USDA classing offices.

3 **CLASSING**

Classing offices receive bale samples from the gin and measure the fiber properties of each sample. In Australia, all cotton is tested on HVI (high volume instrument), and color and leaf grade is assigned according to the USDA Universal standards in independent classing offices that are accredited under Best Management Practices (BMP). In the U.S., all cotton is tested using HVI methods by the USDA. Australian quality data is available from the merchant shipper, and U.S. cotton quality data is available from the USDA database.
Every bale of cotton that enters the market from Australia and the U.S. is labeled with a unique bale identification number and barcode identifier. In Australia, the identification number and barcode identifies the unique bale and links it to both the farm and gin. In the U.S., the identification number identifies the gin, classing office and unique bale.

In Australia, after ginning, cotton bales are labeled, classed and warehoused ready for shipment. In the U.S., after ginning and classing, cotton bales are warehoused and ready for purchase. Cotton purchases and sales are typically managed by merchants, as well as cooperatives in the U.S. Spinning mills have the ability to trace bales back to their origin and can access data on each bale.

**Breakdown of Permanent Bale ID (PBI):**

<table>
<thead>
<tr>
<th>Classing Office</th>
<th>Gin Code</th>
<th>Bale Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>365</td>
<td>0009957</td>
</tr>
</tbody>
</table>
LEADING THE WAY

TRACEABLE TRANSPARENT EFFICIENT
Cotton LEADS™ represents a commitment to cotton that is leading the way in responsible production practices. Part of that leadership is a commitment among Cotton LEADS™ partners to share information and best practices that can contribute to an overall improvement in the global conditions for producing cotton.

Cotton LEADS™ is committed to working with national and international organizations that have similar principles and objectives.
Cotton LEADS™ is actively involved in benchmarking beyond the agriculture boundary. The Cotton Life Cycle Inventory (LCI) aims to provide a global comprehensive inventory of data relating to cotton production and textile manufacturing. The associated Life Cycle Assessment (LCA) utilizes global LCI data to present a comprehensive cradle-to-grave examination of representative cotton products, specifically knit golf shirts and woven pants, and includes garment creation, consumer product use and maintenance, transportation and product end-of-life. Available at www.cottonleads.org, the LCA is another way that Cotton LEADS™ is leading the way in sustainable cotton supply chains.
Research and development into more responsible farming practices is ongoing. Over the coming decades, cotton will continue to play an important role in serving the world’s growing population, through responsible production.

Retailers, brands, and manufacturers can get involved in Cotton LEADS™ by supporting research at the field level, disseminating best practices, and creating partnerships for continuous improvement in cotton production around the globe.
MOVING FORWARD WITH COTTON LEADS™

Integrate Cotton LEADS™ into your cotton supply chain.

By specifying the Cotton LEADS™ program as one of your preferred cottons, you can have confidence that your cotton is responsibly produced. Your organization will get full recognition for your support of these practices.
COTTON LEADS™ is a program founded by an alliance of industry organizations in Australia and the United States of America. The program is based on a commitment to core principles and national-level capabilities to effect change and continual improvement.

A committee, consisting of three members from Australia, three members from the United States, and two members from partnering industry organizations, oversees the activities and use of funds for the Cotton LEADS™ program. For more information or to contact Cotton LEADS™, please visit www.cottonleads.org.
REFERENCES

The Australian Cotton Water Story, 2012
Birds on Australian Cotton Farms book, Cotton CRC
Bremen Cotton Exchange 2013 Yearbook
Cotton Australia Production Tables
Cotton: Green & Growing & Natural Resources Survey, 2009
Cotton Grower Survey 2011 (CRDC and Cotton CRC)
Cotton Australia from ICAC and USDA data (Productivity Graph)
CRDC from Australian Cotton Yearbook and Australian Bureau of Statistics data (Water Efficiency Graph)
Field to Market: The Keystone Alliance for Sustainable Agriculture, 2012 Report
ICAC Cotton This Month, 1 August 2013
National Cotton Council, Beltwide Cotton Conferences Cotton Insect Loss Data 2011
Report of the Task Force on Cotton Identity Programs to the 72nd Plenary Meeting of the ICAC, 2013
USDA (Agricultural Chemical Usage 2007 Field Crops Summary; Cotton and Wool Yearbook 2011; 2007 Census of Agriculture)
Various sources regarding Environmental Impact Quotient, 1992-2009