

# “Organic” Textiles : Promises and Reality

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## Schemi di Certificazione

| Schema di certificazione   | Norme di riferimento                          | Marchi  |
|--|---|---|
| <b>QUALITA'</b><br>Settore tessile / abbigliamento<br>Settore calzaturiero | UNI EN ISO 9001:2008<br>UNI EN ISO 13485:2004 | <br><b>CERTITEX</b><br><br><b>CERTICALZ</b> |
| <b>GESTIONE AMBIENTALE</b>   | UNI EN ISO 14001: 2004                        | <br><b>CERTITEX-ECO</b>  |
| <b>SALUTE E SICUREZZA NEI LUOGHI DI LAVORO</b>                             | OHSAS 18001:1999                              | <br><b>CERTITEX-H&amp;S</b>  |
| <b>RESPONSABILITA' SOCIALE</b>   | SA 8000: 2001                                 |   |
| <b>CONVALIDA EMISSIONI GAS SERRA</b>                                       | Direttiva EU 2003/87                          | <b>ETS</b>  |
| <b>PRODOTTO</b>  | Disciplinare Marchio<br>Seri.co               |    |
| <b>DICHIARAZIONE AMBIENTALE DI PRODOTTO</b>                                | ISO 14025                                     | <b>EPD</b>  |

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# Promises and reality of the “organic” Textiles

- At the present “sustainability” in textile seems often to depend on some standards that import into the textiles principles and requirements from the “organic” ( or “bio”, in Italian) food industry.
- Are these standards a credible answer to the strong demand of “sustainability” which comes from the consumers and the public opinion?
- Are acceptable the “green claims” based on these standards? And are “organic” textiles really opposite to the conventional?
- Is “organic” the start point of a new age for textile industry?

# Summary

1. The standards
2. Apprehensions, Concerns and Claims
  - ◆ Raw material: organic ( BIO) cotton versus “biotech” cotton
  - ◆ The integrity of the organic chain
  - ◆ Textile processes and organic textiles
3. Conclusions

# The standards

“Organic” in principle includes all materials made with fibers produced from an agricultural crop that meets the requirements of “Organic Farming”.

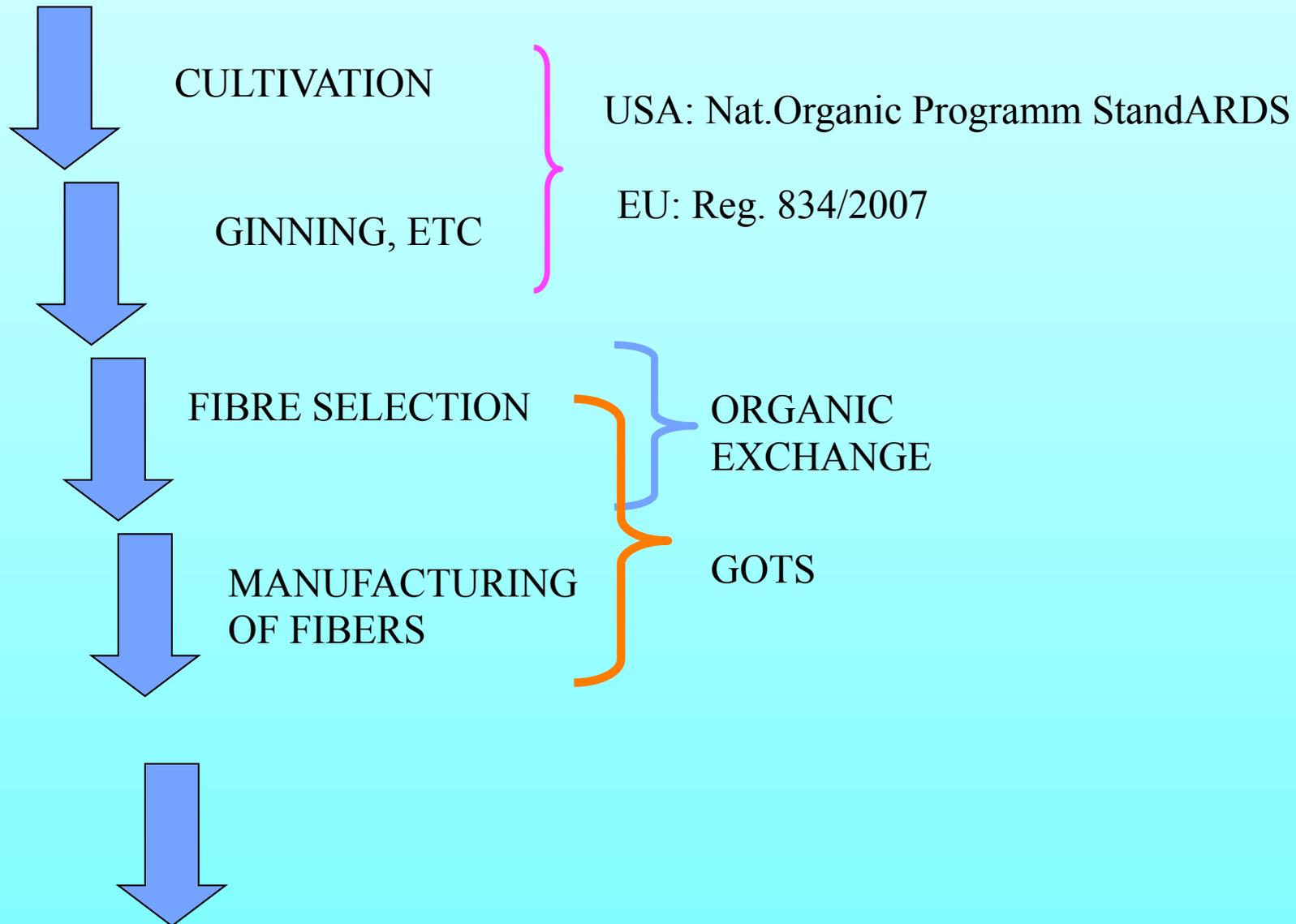
“Organic” is a successful case for cotton. Is a niche market for animal fibers (wool), and linen.

The case of cellulose material is controversial: it's possible to have a forest “organic”, but was not approved the use of chemicals in the subsequent process to regenerate the cellulose and transforms it into fibers.

# The Standards

- GOTS (Germany ) and ORGANIC EXCHANGE (USA) are the two main standards in use for textiles:
  - They don't set requirements on the ingredients of the textile (=fibers), as far as they accept e.g. the national/ European criteria for agricultural products.
  - ORGANIC EXCHANGE will only guarantee the claims relatives to the quality of the fibers used in the products;
  - GOTS sets also criteria for the processes and for the chemicals (and also some other requirements on ethical aspects of the sustainability)

# The Standards



# Promises and (first )indications

| REQUIREMENT  | PROMISES  | DIFFICULTIES   |
|--|---|--|
| <b>Ban of synthetic fertilizers, herbicides and pesticides</b> | <ul style="list-style-type: none"> <li>• Increase of fertility</li> <li>• Costs reduction for chemicals</li> </ul>          | <ul style="list-style-type: none"> <li>• Increase of damages by Lepidoptera</li> <li>• Reduction of yields.</li> <li>• A “premium price” becomes necessary.</li> </ul> |
| <b>Defoliant and desiccant are banned</b>                      | <ul style="list-style-type: none"> <li>• No accumulation of toxical substances in the ground</li> </ul>                     | <ul style="list-style-type: none"> <li>• Mechanical picking becomes more difficult</li> </ul>  |
| <b>CROP Rotation</b>   | <ul style="list-style-type: none"> <li>• Protection of biodiversity</li> </ul>  | <ul style="list-style-type: none"> <li>• Other organic crops are necessary</li> </ul>  |
| <b>No GMO</b>  | <ul style="list-style-type: none"> <li>• Protection of natural selection and biodiversity</li> </ul>                        | <ul style="list-style-type: none"> <li>• No benefit for the quality of the fibers and the plants.</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>• Freedom from the patented seeds an from the multinational corporations!</li> </ul> | <ul style="list-style-type: none"> <li>• Scarcity of seeds</li> </ul>  |

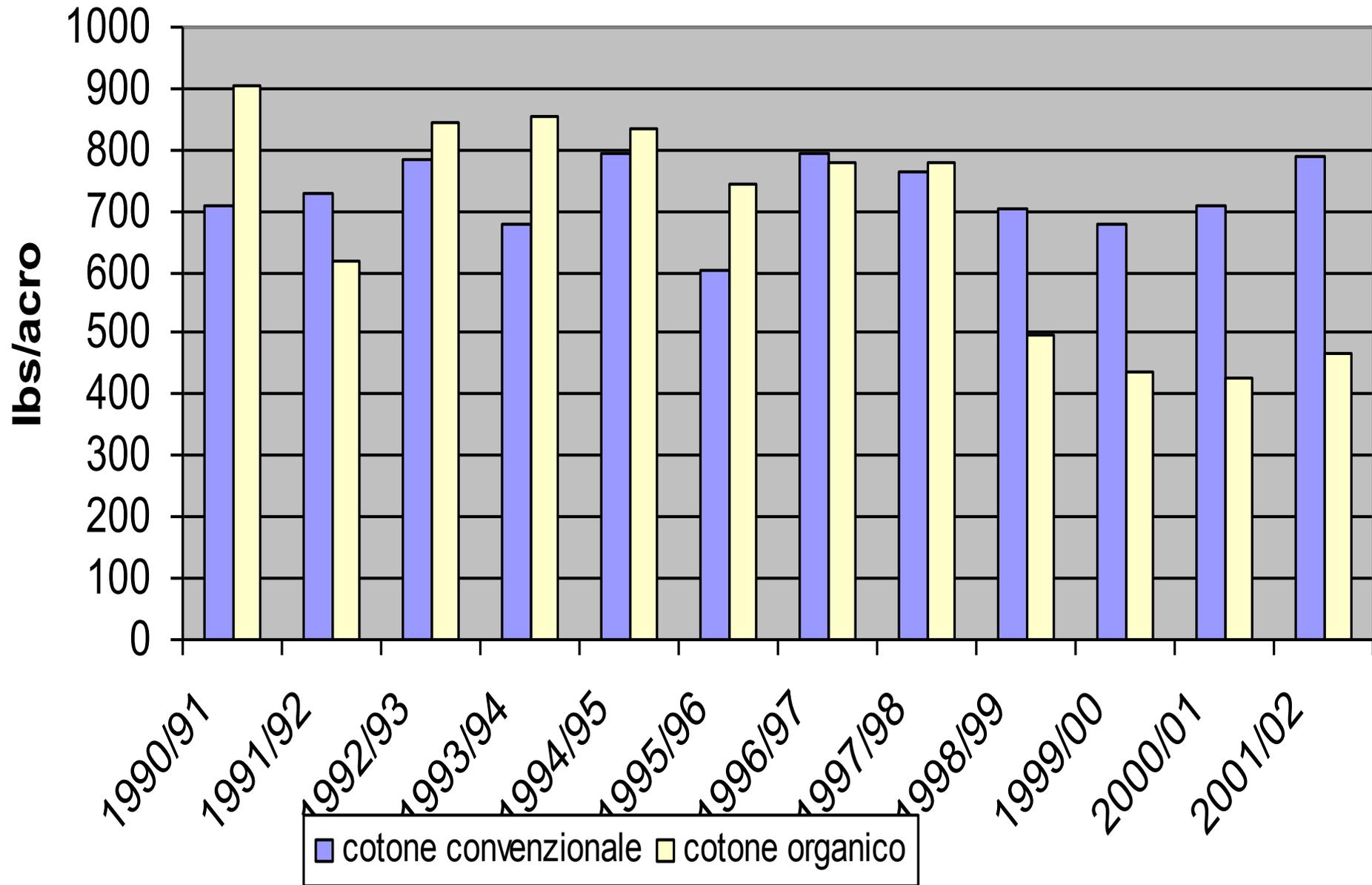
# “Organic cotton”: questions still open

|                                    |   |
|------------------------------------|---|
| <b>World production (2007/08)</b>  | <b>Tons 145,872 (ha 161,000) = 0,55 % of the world production</b> |
| <b>Number of countries</b>         | <b>22</b>   |
| <b>Bigger producers</b>            | <b>Turkey, India e Syria ( 87% of the total output)</b>           |
| <b>Quality indicators and data</b> | <b>Not available</b>  |

Fonte: FERRIGNO S. –LIZARRAGA A.: 2009

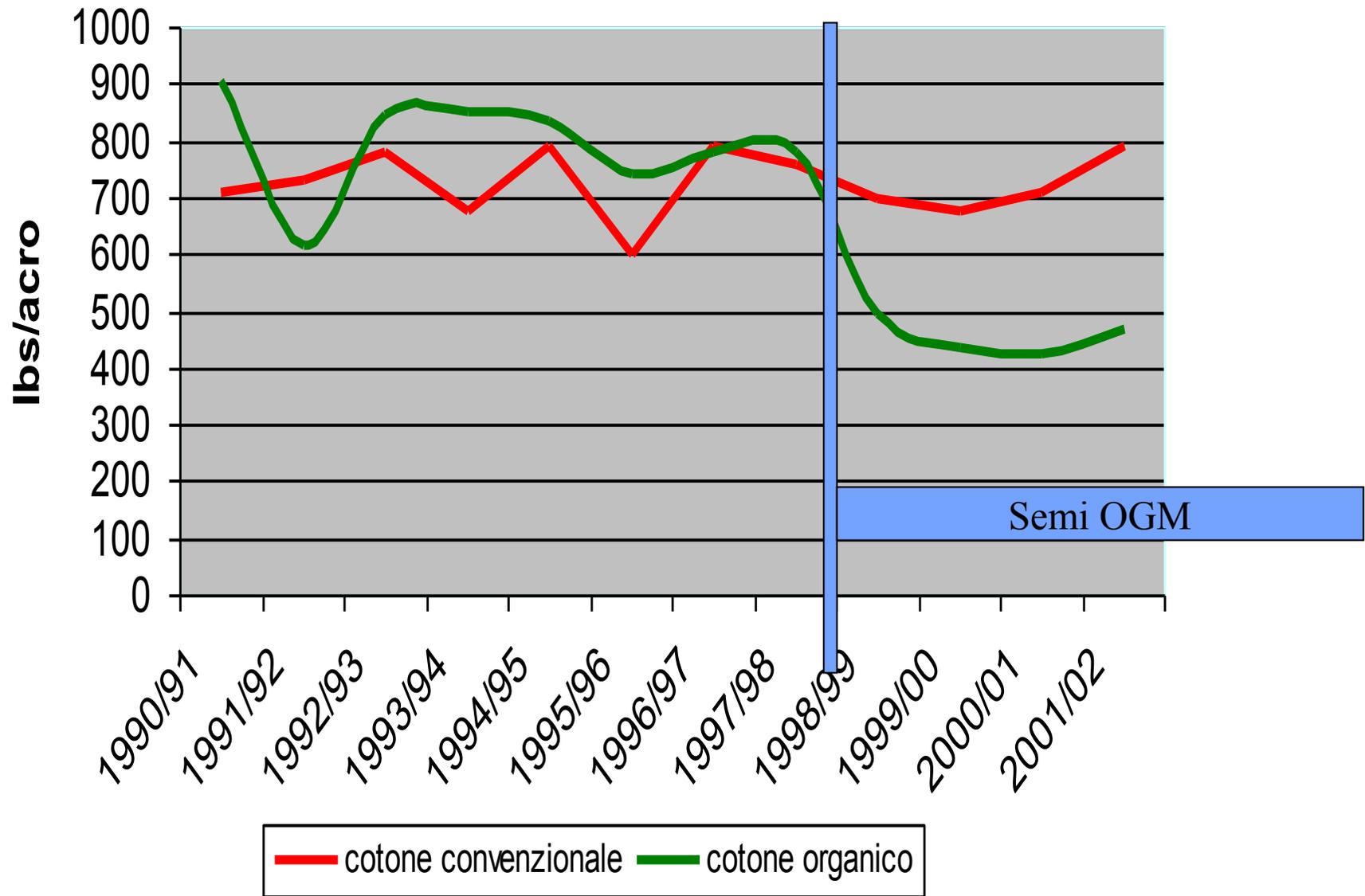
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# US Cotton- Yield /acre



fonte: Limitations on Organic Cotton Production, THE ICAC RECORDER, March 2003

# US Cotton- Yield /acre



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## Organic cotton: productivity ?

- The crop yield can vary in the years
- But in the last 12 years the average is lower (- 6%)
- The average yield of organic cotton in the last 6 years decreased of 24,5 % in comparison with the conventional cotton, and in the last 3 years the decrease has been of the 39% !
- The decrease in the last three years corresponds to the spread and diffusion in the USA of the GMO seeds !

**fonte: Limitations on Organic Cotton Production, THE ICAC  
RECORDER, March 2003)**

# Organic cotton economic sustainability?

- How far could be the Organic Cotton an economical solution?
  - (No data on costs production are available: a lot of project for organic cotton are based on donations and public/private financial helps)
- Actually, the output of organic cotton is less than 1% of the total output in the world. What can happen expanding the organic farming in a massive way?
  - For the same quantity of fibers much more arable land is requested
  - More arable land for cotton = less food

# Organic Cotton : Danger of Integrity?

## 1) CONTAMINATIONS AND FRAUDS

“ In India about the 60% of the non- GMO seeds is contaminated with GMO seeds “. Non-GMO seeds are not available in the market.

**(A. Bischof, Summary of the Organic Cotton Community discussion about „Seeds availability for organic cotton production“(10th November – 30th November 2009)**

Even all the organic cotton should be placed in the market only if certified, the scarcity of the seeds favors the increase of frauds.

# Organic Cotton : Danger of Integrity?

## 2 ) CERTIFICATION AT RISK

- Several chemicals - that are banned - could not be found in the fibers and in the ground: it's an attractive opportunity for someone...
- There are expensive tests to detect GMO material (in the seeds and raw fibers) . But the absence of GMO is not enough to prove a cotton fiber as “organic” and not “conventional”. [> 40% of the conventional cotton is “GMO free”]
- Certification could become more trustful only if more expensive

# Organic Cotton : Danger of Integrity?

## H&M und C&A Opfer von Biobaumwoll-Betrug

Online gestellt: 22.01.2010 10:31 Uhr Aktualisiert: 22.01.2010 10:38 Uhr

Es gibt **3**

Unternehmen wie H&M, C&A und Tchibo sind einem Medienbericht zufolge Opfer eines Betrugs mit angeblicher Biobaumwolle aus Indien geworden.

Große Mengen an die Konzerne als "bio" verkaufter Baumwolle aus Indien seien gentechnisch verändert worden -was den strengen Ökostandards widerspreche, mit denen große Handelsketten bei entsprechenden Produkten werben, wie die "Financial Times Deutschland" am Freitag berichtete. Es gehe um Betrügereien in "gigantischem Ausmaß", sagte Sanjay Dave, Direktor der indischen Agrarbehörde Apeda, dem Blatt. Aus Indien kommt dem Bericht zufolge rund die Hälfte der gesamten Biobaumwolle.

Als "bio" verkaufte Baumwolle aus Indien wurde gentechnisch verändert - ©AP

wenigen gentechnisch veränderter Baumwolle in den Handel. Textilhändler arbeiten für ihre Biolabel üblicherweise mit privaten Zertifizierern zusammen. Diese sollen für sie überprüfen, ob Produzenten die Ökostandards einhalten. Im indischen Betrugsfall belangten die Behörden die Anbieter Ecocert aus Frankreich und Control Union aus den Niederlanden laut Apeda-Direktor Dave mit Geldstrafen in Höhe von umgerechnet mehreren Zehntausend Euro. Control Union arbeitet auch für H&M, C&A oder Tchibo.

Eine H&M-Sprecherin sagte der Zeitung, das Unternehmen sei über den Vorfall informiert und habe mit dem Zertifizierer gesprochen, "damit sich ein solcher Fehler nicht wiederholt". Zudem räumte die Kette ein, dass sie "nicht ausschließen könne, dass etwas von dieser Baumwolle für H&M-Kleidungsstücke verwendet worden sein könnte". Nach wie vor bewirbt H&M seine Linie Organic Cotton. In dem Bericht zufolge überrascht. Dass Biobaumwolle aus Indien gentechnisch belastet wurde, kündigte an, seine Ware im Labor testen zu lassen.



# Organic Cotton

## Why the Ban of GMO ?

- Genetic Modified Organism are incompatible with the concept of organic production, Therefore shall not be used in organic farming and fibers.
- Behind the consumers' perception, the real harm or risk of harm of GMO products is still waiting for demonstration....
- Specially for industrial crops, the “precautionary principle” could only depress the research for better conditions...

# Organic Cotton

## Why the Ban of GMO ?

### Targets and Goals for GMO in textile crops

#### **GOALS achieved (1995-2005)**

- **Herbicides Tolerance**
- **Insects Resistance**

#### **COTTON WORLD PRODUCTION (2008/09)**

- **Hectares** **48%**
- **Crop** **54%**

Fonte: Rapiq Chaudry, Update in Biotechnology in cotton, ICAC 2009

# Organic Cotton

## Why the Ban of GMO ?

### BENEFITS

- Increase of the yields (Y/N)
- Less pesticides (Y)
- Less expense for insects control (Y)
- Reduction of production costs (Y)

### FUTURE TARGETS

- Reduced water consumption
- Reduced energy consumption energy
- Quality improvement of the fiber (length and strength)

Fonte: Rapiq Chaudry, Update in Biotechnology in cotton, ICAC 2009

# Organic Cotton

## Why the Ban of GMO ?

- “ Thanks to GMO seeds countries like India are become from importers net exporters of cotton” (*International Service for the Acquisition of Agri-biotech Applications. Report 23 feb 2010*)
- Even pushed by the “animal spirit” of the private companies, the genetic bio-engineering seems to be more conscious of the big challenges for the next future, also for textiles.
  - The “organic” model looks, in this perspective, seductive but inappropriate.

# The organic standards and the textile processes : more safety?

## Critical substances

- Trace of the chemicals used in the crops are practically absent in raw fibers;
- “Recombined” proteins in the GMOs’ material” are toxic only to the Lepidoptera and break up when the plant dies” (cit.)
- Contaminations with biocides are always possible for any kind of finished products.
- The GOTS requirements for chemicals are quite similar to the criteria set in other schemes, e.g. ECOLABEL, OEKOTEX, or by the REACH Regulation.

# Is there an "organic" textile process?

## ORGANIC PROCESSES ?

The use of term "organic" (or "biologic" in Italian, German etc.) in the products **made from** "organic" fibres is allowed by the GOTS standard.

We note that:

- this use doesn't meet the common (scientific) meaning of "organic" in the scientist community;
- the manufacturing textile processes covered by the standard are the traditional ones, the same used also for non-organic products
- As per the UE Regulation 834, this use of the term is an abuse !

Any claim of an "organic finished textile product " is an example of a "green ambiguous and vague claim" (see: ISO 14021) !

## Enlarging the view....

To make more sustainable textile products, the contribute from OE and GOTS is sound and important, but must be judged for what it is: **only partial.**

Any step forward, any progress should be based on a broad and complete LCA (Life Cycle Analysis) of a product.

The standards of Organic Cotton & Textiles (but they are not alone) skip some critical aspects and phases of life of the products, from which depends if at long term one textile will be sustainable or not.

# Extended LC for Textile Products

| <b>Aspects</b><br><b>Phases Of the LC</b> | Soil fertility | Water consumption | Energy consumption | Natural resources | GHG    | Soil consumption | Air and Water emissions |             |
|---|----------------|-------------------|--------------------|-------------------|--------|------------------|-------------------------|-------------|
| <b>Raw material production</b>            | Yellow         | Orange            | Red                | Yellow            | Orange | Orange           | Yellow                  | Light Green |
| <b>Spinning and Weaving</b>               | Light Green    | Orange            | Red                | Light Green       | Orange | Light Green      | Yellow                  | Light Green |
| <b>Dyeing and Finishing</b>               | Light Green    | Orange            | Red                | Light Green       | Orange | Light Green      | Yellow                  | Light Green |
| <b>Making Up and Packaging</b>            | Light Green    | Light Green       | Red                | Light Green       | Orange | Light Green      | Light Green             | Light Green |
| <b>Distribution</b>                       | Light Green    | Light Green       | Red                | Light Green       | Orange | Light Green      | Light Green             | Light Green |
| <b>Care</b>                               | Light Green    | Light Green       | Red                | Light Green       | Orange | Light Green      | Light Green             | Light Green |
| <b>Duration</b>                           | Red            | Red               | Red                | Red               | Orange | Light Green      | Light Green             | Light Green |
| <b>End of Life</b>                        | Orange         | Orange            | Orange             | Orange            | Orange | Orange           | Orange                  | Orange      |

# Conclusions

Even the supporters of organic farming present their project not as a new model for agriculture, but as an example useful to improve the sector.

The' "Organic Farming" is not only a model of crop management but – in principle - a business model, based on different systems of relationships:

- (1) A “community”, to manage the environmental, social, technical and economic aspects ;
- (2) A system of certification, training, and management of traceability of materials ;
- (3) A close and transparent relationship model between fibers producers, fibers manufacturers, distributors and end users.

This is the aspect that entitles the “organic” to reward our gratitude: is one example of a transparent and integrated supply chain, put together not by the invisible hand of the market, but by the strength of an idea!

The road opened must be extended, with less prejudice and the eyes open to all concerns about the future.

Thanks for your attention