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**Importance of safeguarding non-GM seeds for the Future of Organic Cotton**

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Input for Round Table for Organic Cotton Inauguration in Hong Kong 3<sup>rd</sup> October 2012



**Influence of GM cotton on Organic Cotton**

- › **Fast spread of GM cotton in the last 10 years**
  - › Globally 24.7 million hectares GM cotton (86%)
  - › **Bt cotton:** India, China, Pakistan, Myanmar, Burkina Faso, Brazil, USA, Argentina, Australia, Colombia, Costa Rica
  - › **Bt & Herbicide resistant cotton:** USA, Argentina, Australia, Brazil, Mexico, Colombia, South Africa
- › **Co-existence of organic and GM cotton extremely difficult**
  - › Risk of physical contamination during storage, ginning, transport etc.
  - › Risk of genetic contamination due to outcrossing of pollen from neighboring GM cotton plants and by seed mixtures
  - › Severe economic losses due to rejection of contaminated cotton as well as high costs for installation of respective monitoring systems, which has to be paid by the organic sector

**Influence of GM cotton on Organic Cotton**

- › **Commercial seed companies focus on mainstream market and globally adapted genotypes with large distribution areas**
  - › **GM cotton** is not accepted by consumers of organic products; few gene constructs introduced into global cotton germplasm → high risk of breakdown of resistance → new epidemics
  - › **High yielding hybrids** bred for optimal conditions depend to a large extent on external inputs (i.e. fertiliser, pesticide, irrigation) in order to realize maximal yield per acre. These hybrids might not be suited for low external input and rainfed farming as different traits are needed under such conditions
  - › **Neglect of endemic more robust Desi cotton species** (*G. arboreum* and *G. herbaceum*) → Loss of genetic diversity in farmers fields → increased vulnerability to climate change
  - › Organic or low external input agriculture is **too small sector** to receive necessary attention of commercial seed companies

**Why does the Organic Cotton sector need to become active on the seed issue?**

- › India is the main producer of organic cotton (up to 80%), however the dominance of GM cotton puts high pressure on the organic production → After continuous yearly increase of 5 -10%, the organic cotton production dropped the first time by 37% in the last season 2011/12
- › **The erosion of conventional non-GM seeds threatens the organic cotton sector**
  - › Today, cotton farmers depend on a diminishing supply of non-GM cotton seed of spurious quality and of old cultivars
  - › The private seed companies have little interest to invest in non-GM cotton and farmers have lost their traditional knowledge on seed production as they totally rely on seed traders
- › **Immediate action is needed to improve seed availability, seed access and seed quality of non-GM cotton varieties adapted to organic and low input conditions to maintain the organic cotton production**

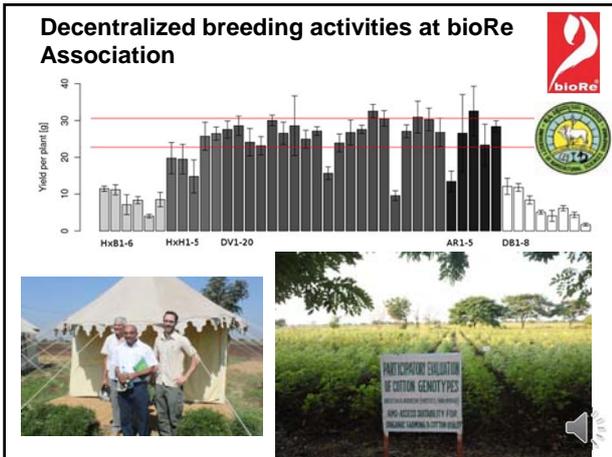
**How can non-GM cotton seed be safeguarded?**

- › **Shortterm action: Secure seed supply**
  - › Establish networks with public and private cotton stakeholders that share the same interests (Dharwad declaration)
  - › Training & Capacity building of organic cotton growers in on farm cultivar testing and seed multiplication
  - › Provide information of suitability of cultivars under local smallholders' organic growing conditions
- › **Mid- and longterm action: Improve cotton cultivars adapted to organic farming and climate change**
  - › Collection and utilization of the full diversity of the cotton germplasm, especially the more robust endemic Desi cotton (*G. arboreum*, *G. hirsutum*)
  - › Establishing decentralized participatory cotton breeding programs focusing on the growing conditions of organic cotton producers
  - › Regain seed sovereignty of high quality cotton germplasm

**First Steps: The Dharwad Declaration**

- › **National Workshop June 21st 2011: «Disappearing non-GM cotton - ways forward to maintain diversity, increase availability and ensure quality of non-GM cotton seed»**
- › Jointly organized by bioRe India Ltd., FiBL Switzerland, University of Agricultural Sciences Dharwad including main stakeholders
- › To combine forces for immediate action and support of:
  - › Collaboration & Exchange, e.g. private public partnership
  - › Desired Policy Changes, e.g. establishing GM-free zones
  - › Evaluation and multiplication of existing cotton cultivars under organic and low-input conditions
  - › Establishing and optimizing the non-GM seed chain
  - › Continuous improvement of non-GM cultivars





- ### Role of Round Table for Organic Cotton ???
- › **Promote unique selling point of organic cotton compared to other labels concerning**
    - › Consumers' expectation and perception
    - › Socio-economic aspects
    - › Comprehensive sustainability assessment
  - › **Support political lobbying to improve framework for organic cotton production in the different countries**
    - › GM-free regions
    - › Public support of non-GM cotton research
  - › **Provide synergies and financial support for**
    - › Immediate action for the establishment of a non-GM cotton seed chain in India and other countries
    - › Concerted action for the installment of decentralized non-GM cotton breeding programs in different countries as longterm engagement
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