Cotton Incorporated Sustainability Strategy

Activities that provide environmental, economic and quality of life benefits…..

Right now and for generations to come

Historical Timeline

- PROFITABILITY AND EFFICIENCY
  - 1970 - 2005
- DEFENSIVE
  - To provide fact-based, scientific information in response to NGO's false claims about cotton
- PROACTIVE
  - Getting the message out through workshops, stakeholder visits
  - Website
  - Natural Resource Survey (NRS) concluded October 2008
  - 2nd Ag. Sustainability Video February 2009

40 Years of Progress cotton

Historical Timeline

- COLLABORATIVE
  - Field to Market Alliance for Sustainable Agriculture
  - Better Cotton Initiative
  - Sustainability Consortium
  - Brands/retailers
  - Life Cycle Analysis
- FUTURE FOCUSED
  - Cotton byproducts
  - Innovative uses for cotton

40 Years of Progress cotton

Proactive

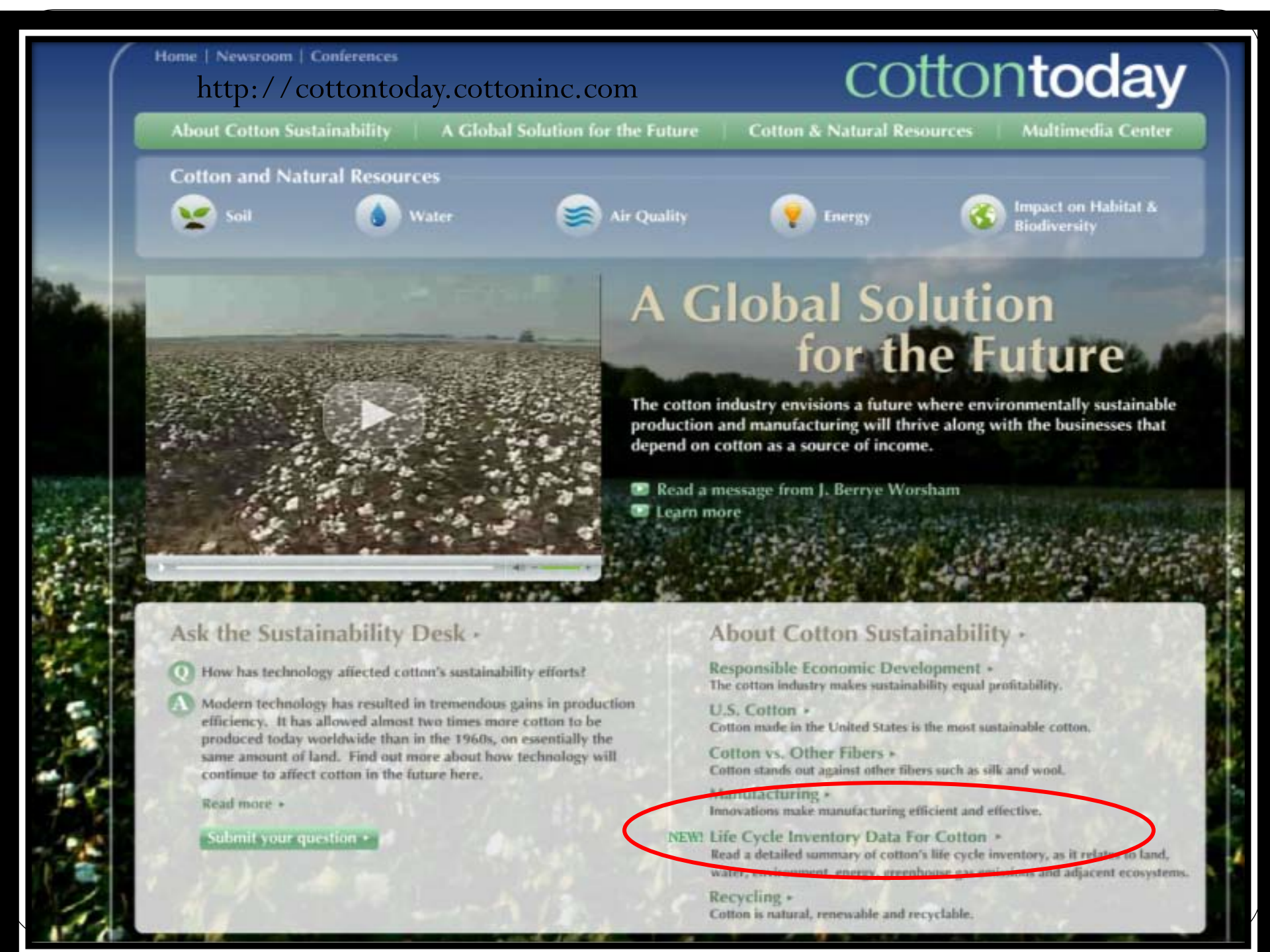
- Getting the message out through workshops, stakeholder visits
- Website
- Natural Resource Survey (NRS) concluded October 2008
- 2nd Ag. Sustainability Video February 2009

40 Years of Progress cotton

adidas®

Ahlstrom

Discover
natural
fibres
2009


Home | Newsroom | Conferences
http://cottontoday.cottoninc.com
cottontoday
About Cotton Sustainability
A Global Solution for the Future
Cotton & Natural Resources
Multimedia Center
Cotton and Natural Resources
Soil
Water
Air Quality
Energy
Impact on Habitat & Biodiversity
A Global Solution for the Future
The cotton industry envisions a future where environmentally sustainable production and manufacturing will thrive along with the businesses that depend on cotton as a source of income.
Read a message from J. Berrye Worsham
Learn more
Ask the Sustainability Desk
How has technology affected cotton's sustainability efforts?
Modern technology has resulted in tremendous gains in production efficiency. It has allowed almost two times more cotton to be produced today worldwide than in the 1960s, on essentially the same amount of land. Find out more about how technology will continue to affect cotton in the future here.
Read more
Submit your question
About Cotton Sustainability
Responsible Economic Development
The cotton industry makes sustainability equal profitability.
U.S. Cotton
Cotton made in the United States is the most sustainable cotton.
Cotton vs. Other Fibers
Cotton stands out against other fibers such as silk and wool.
Manufacturing
Innovations make manufacturing efficient and effective.
NEW! Life Cycle Inventory Data For Cotton
Read a detailed summary of cotton's life cycle inventory, as it relates to land, water, environment, energy, greenhouse gas emissions and adjacent ecosystems.
Recycling
Cotton is natural, renewable and recyclable.

Cotton & Natural Resources

Over the last half-century, U.S. cotton growers and researchers have collaborated to improve the conservation of the natural resources used in cotton production – soil and water – while protecting air quality and improving energy efficiency throughout cotton's life cycle. Modern technology has enabled growers, for example, to double cotton yield on less land with less water and with fewer pesticides.

Read more ▸

Soil

Cotton growers are making great strides in reducing soil erosion, which, when unchecked, depletes one of agriculture's most fundamental resources.

Learn more ▸

Water

New irrigation systems and strategies used today, particularly in the U.S., are substantially more water efficient than in previous decades.

Learn more ▸

Habitat & Biodiversity

Tremendous gains in production efficiency now allow U.S. cotton growers to produce 50% more cotton on the same amount of land compared to decades past. Modern agricultural practices are helping to preserve natural habitats while improving fiber and food security.

Learn more ▸

Air Quality

Improving air quality is a continuous focus area for the U.S. cotton industry.

Learn more ▸

Energy

Cottonseed can be converted into biodiesel and animal feed co-products.

Learn more ▸

Fieldprint Calculator

A tool for learning how your operation practices relate to natural resource management.
Available at fieldtomarket.org.

Learn more ▸

2008 Natural Resource Grower Survey Published in ICAC Recorder

US growers are responsible stewards of the environment.

Learn more ▸

A Global Solution for the Future

Envision a future where

Multimedia Center

Ask the Sustainability Desk

Q **Is it true that cotton uses a large amount of water compared with other crops?**

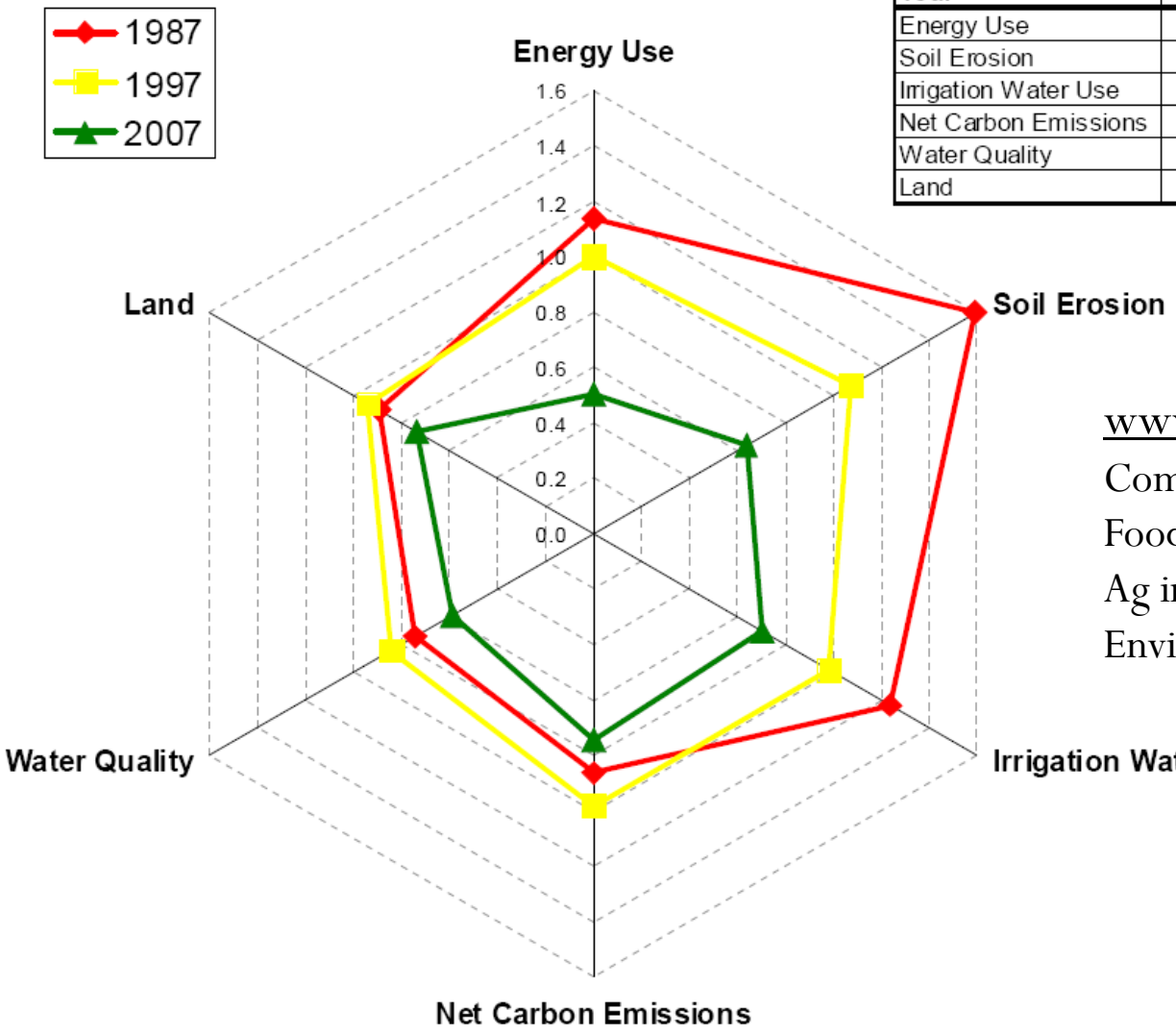
Collaborative

- Field to Market Alliance for Sustainable Agriculture
- Better Cotton Initiative
- Sustainability Consortium
- Brands/retailers
- Life Cycle Analysis

40 Years of Progress cotton

Field-To-Market Progress Report

(cotton's foot print has steadily improved)



Year	2000	Unit
Energy Use	0.012	Million Btu/pound
Soil Erosion	8.7	Pounds soil/pound cotton
Irrigation Water Use	1.5	Gallons/Irrigated pound
Net Carbon Emissions	0.8	Pounds carbon/pound cotton
Water Quality	100.0	Index
Land	0.002	Acres/pound

www.fieldtomarket.org

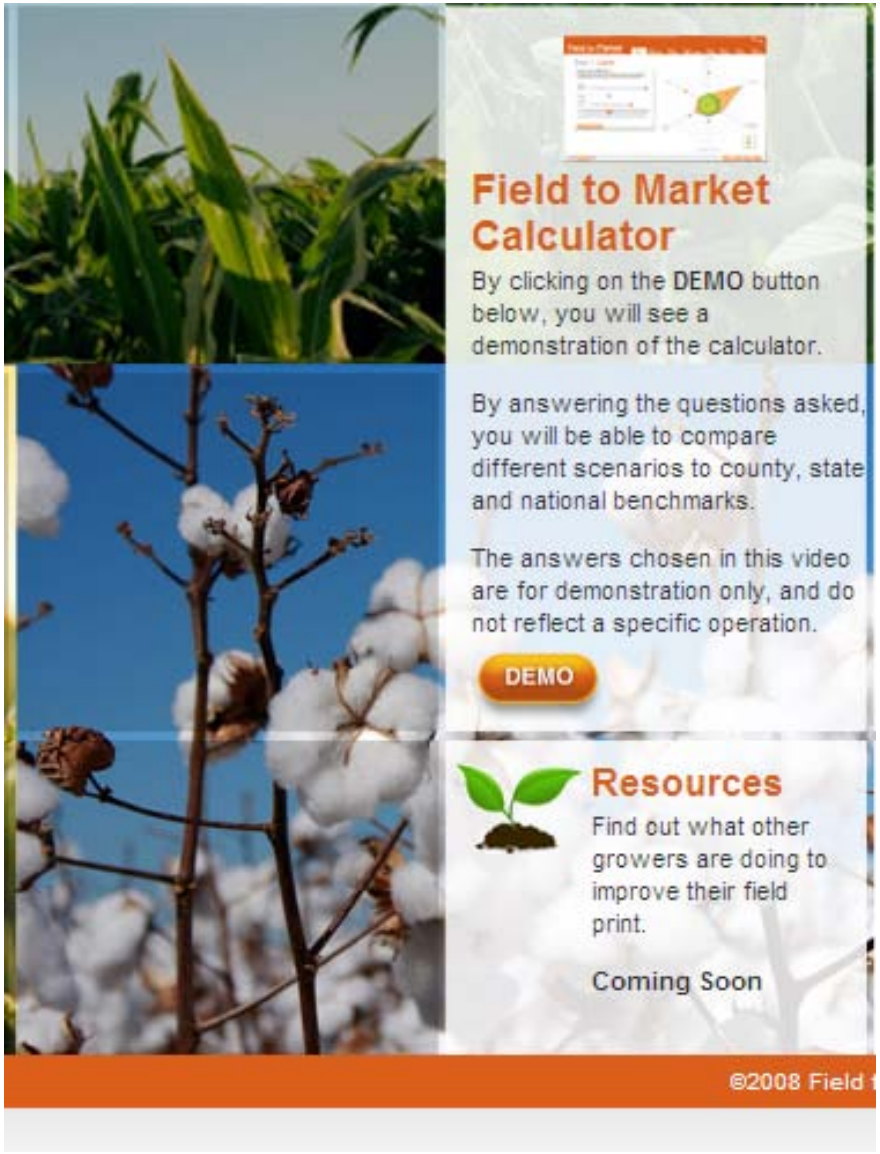
Commodity organizations

Food companies

Ag input suppliers

Environmental organizations

“Field Print” Calculator



- Get grower’s involved
- Allows grower comparison with:
  - State and National averages
  - Alternative cotton production practices
- Educate growers about practices that lower their environmental footprint

Better Cotton Initiative (BCI)

- Emphasizes farmer training and fair wage
- Not organic, allows GM
- Source as for conventional
- No certification
- No price premium
- No label

SUSTAINABILITY CONSORTIUM

Walmart

Innovations and Applications for a Global Community

Jointly administered by:
Arizona State University
University of Arkansas

Home | About | People | Members | Participate | Meetings | FAQ | Contact | Blog

WWF

CLOROX

Disney

DELL

COLGATE-PALMOLIVE

EARTH FRIENDLY PRODUCTS

General Mills

SC Johnson
A FAMILY COMPANY

syngenta

BEST BUY

L'ORÉAL

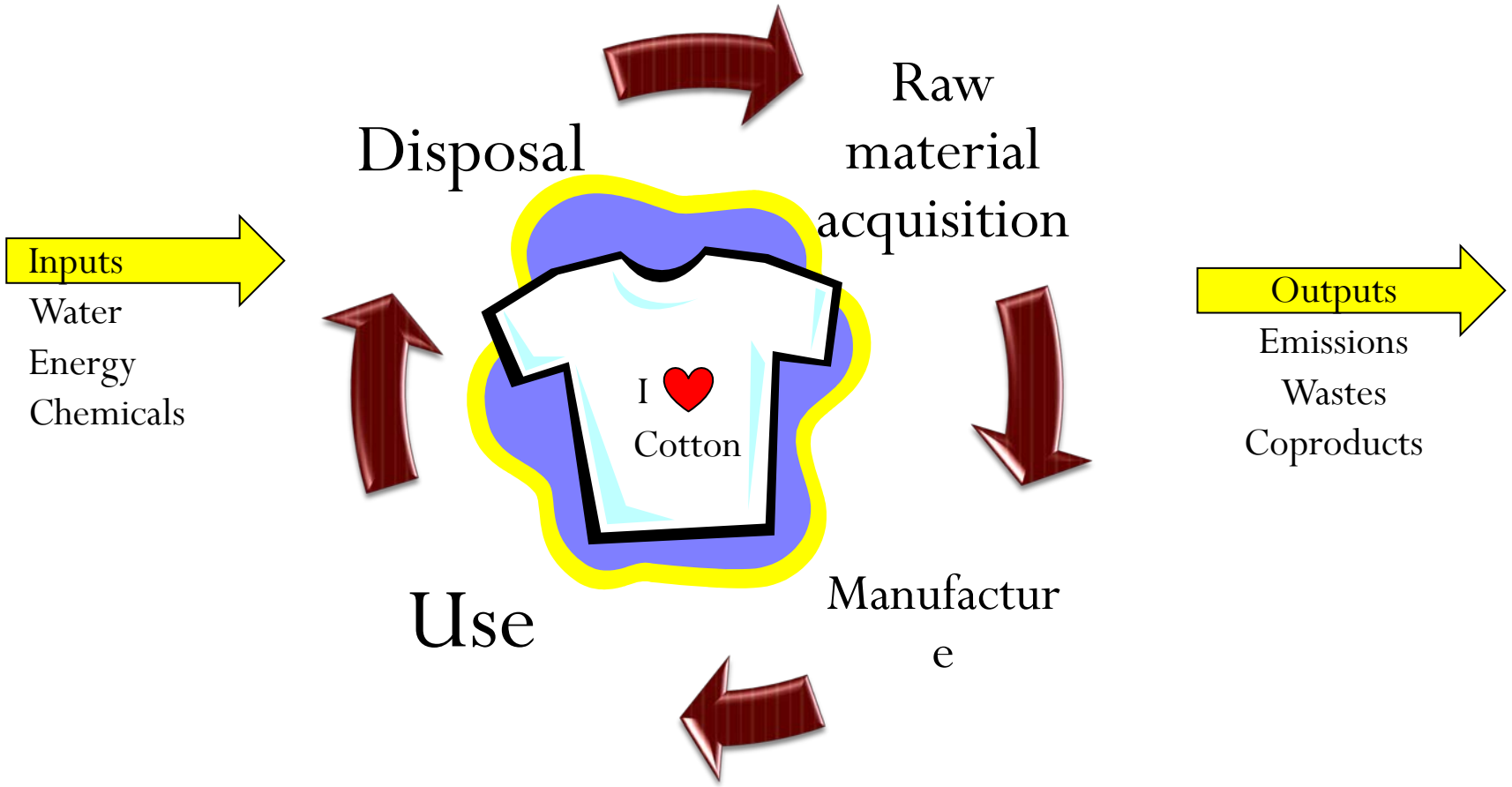
adidas®

Ahlstrom

Discover
natural
fibres
2009

What is Life Cycle Assessment (LCA)?

- Environmental footprint of a product from raw material to disposal



Future-focused

- Cotton byproducts
- Innovative uses for cotton

40 Years of Progress cotton

Cottonseed: A New Food?

- Some lines show 98% reduction in gossypol

HEALTH

Edible Cotton. Genetic engineers have removed a powerful toxin from cottonseed, which is rich in protein

1. *Genetically modified cotton in a field trial in Texas* 2. *A new lab technique keeps toxin from forming in protein-laden seeds* 3. *Leaves still contain the toxin to protect against bugs*

BY BRYAN WALSH

IT'S AS TRUE IN TODAY'S WORLD as it was in the antebellum South: cotton is king. The plant has been cultivated for its fiber for over 7,000 years, and today it's grown by more than 10 million farmers in some 80 countries. But while cotton accounts for nearly 40% of the fiber used worldwide to make clothing, there's one thing the plant has never been able to do well: feed people. Cottonseeds are a rich source of protein—the current cotton crop produces enough seeds to meet the daily requirements of half a billion people a year. But the seeds can be consumed only after an extensive refining process removes the gossypol, a toxic chemical that helps protect the plant from insect and microbe infestation. "People, pigs, chickens—none of us can stomach gossypol," says Kater Hake, vice president of agricultural research for the industry group Cotton Inc. Only cows and other ruminants can handle it.

Remove the gossypol, however, and you'd have a cheap and abundant form of protein for everyone. But get rid of all the gossypol, as plant breeders did in the 1950s, and insects will devour the defenseless cotton. Enter Keerti Rathore, a professor at Texas A&M University, who found a way around the problem through genetic engineering. In new field trial data, Rathore's team demonstrated that it can turn off the genes that stimulate the production of gossypol in the cottonseeds while the rest of the plant keeps its natural defenses. "This research potentially opens the door to utilizing safely the more than 40 million tons of cottonseed produced annually as a large, valuable protein source," says Norman Borlaug, an American agronomist who won the Nobel Peace Prize in 1970 for developing high-yield wheat varieties that have helped increase the world's food supply.

HALLELUJAH?

44 MILLION

Number of metric tons of cottonseed produced annually; a toxic compound keeps humans from eating it

23%

Percentage of cottonseed that is protein

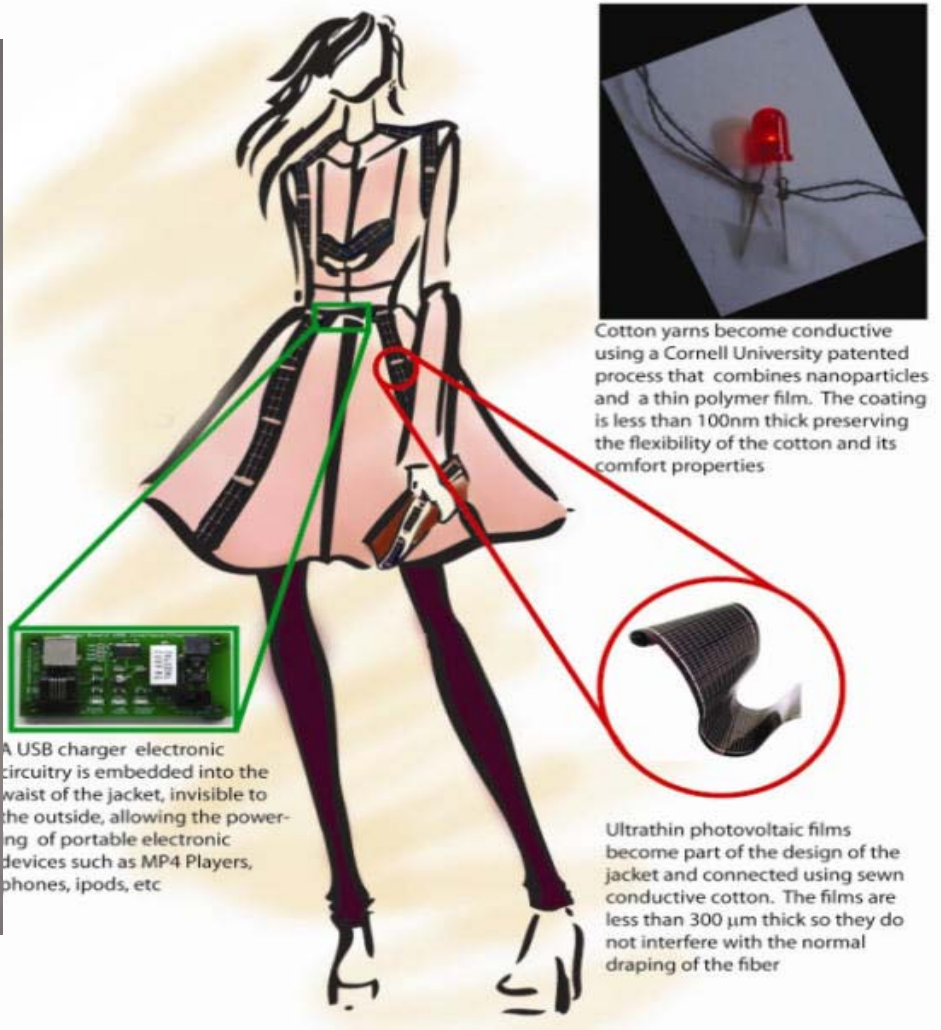
500 MILLION

Number of people whose protein needs could be met with detoxified cottonseed at current cotton production levels

Rathore used a new technique, called RNA interference, to construct a genetic sequence that blocked the gossypol-producing enzyme in the seeds only. After succeeding in the lab, he began a test in a greenhouse to see if the genetically modified cotton plant would survive and pass on its new trait. Rathore's just-compiled data show that the modified cotton appears to be normal in every way other than the fact that it has instantly edible seeds. "What works in the greenhouse should hold true in the fields," he says.

Genetically modified cottonseeds will need government approval before they hit grocery shelves, and they're more likely to be used first to supplement fish or animal feed. But with the global population still on the rise and farm land limited, the planet can use free protein. And you might even like it. "It's not bad," says Rathore, who has popped a few seeds. "Tastes like chickpeas." ■


EcoCradle™ Packaging



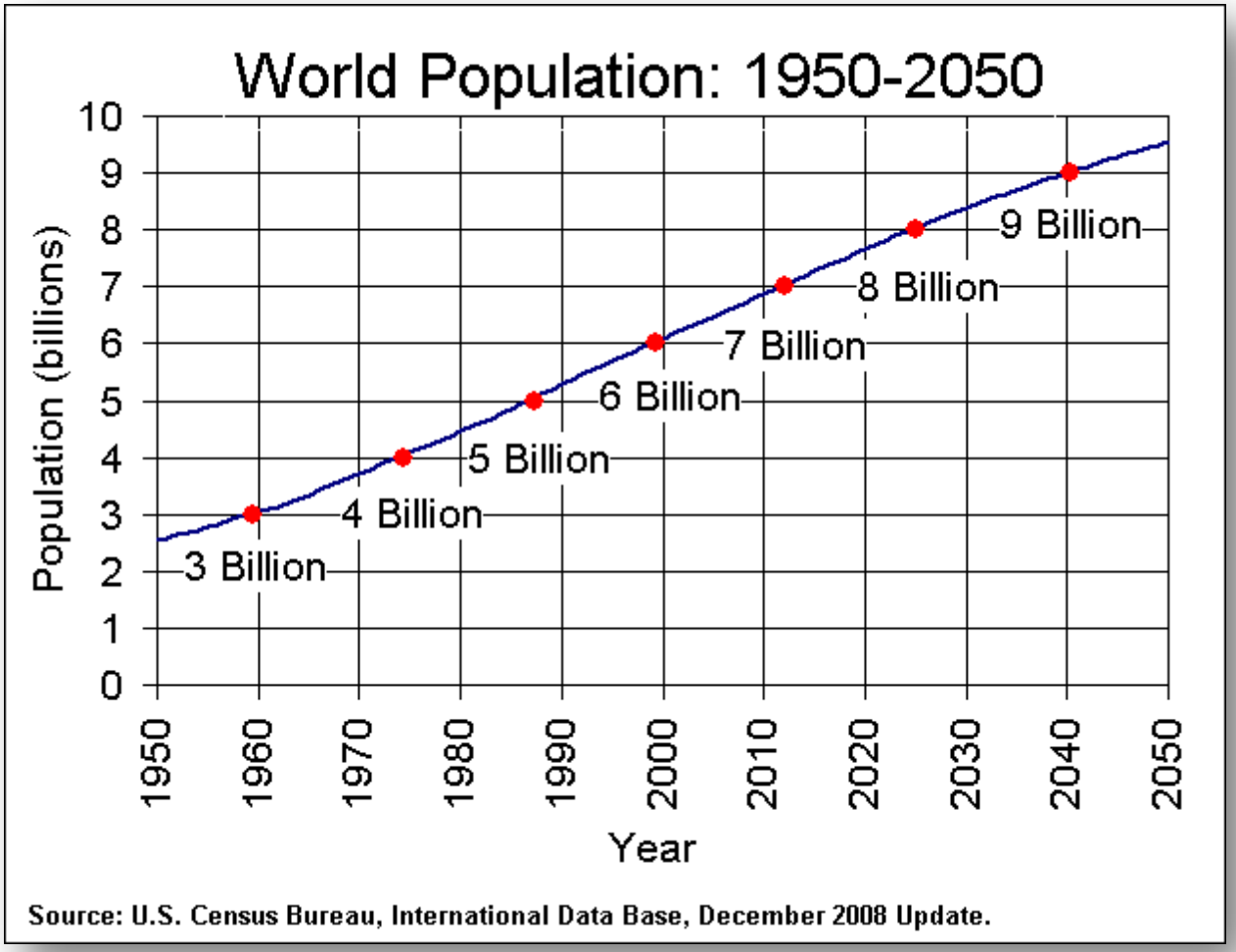
Cotton yarns become conductive using a Cornell University patented process that combines nanoparticles and a thin polymer film. The coating is less than 100nm thick preserving the flexibility of the cotton and its comfort properties

A USB charger electronic circuitry is embedded into the waist of the jacket, invisible to the outside, allowing the power-ing of portable electronic devices such as MP4 Players, phones, ipods, etc

Ultrathin photovoltaic films become part of the design of the jacket and connected using sewn conductive cotton. The films are less than 300 μm thick so they do not interfere with the normal draping of the fiber

Cotton. From Blue to Green.™

Provide Food, Feed and Fiber to a population that will increase by 50% in the next 40 years



40 Years of Progress cotton