

Slide 2

Some GE Products

- Virus resistant Papaya (1991, USDA-1998)
- food): corn, soy, canola, cotton, alfalfa, sugar beet
- Also: A multitude of GE drugs, vitamins, additives.

Slide 3

Status of GE crops

- USA

- India: Cotton

Farmers worldwide support GE technology!

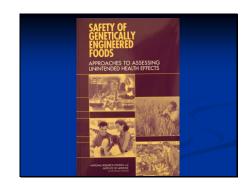


Slide 5

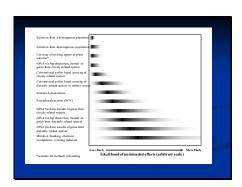


Slide 6





Slide 8



Slide 9

NAS/IOM findings

- The risks of GE are similar to the risks posed by traditional forms of plant breeding
- - Allegations of harm are plentiful, but all unfounded
 Update: Still true as of April, 2014.



Slide 11

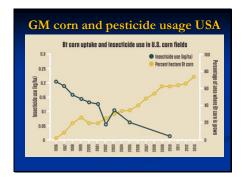
US: NAS, 2010. Impact of GE crops on farm sustainability in the US ■ Also see: ■ Brookes and Barfoot, 2014 ■ Bonny, 2011 ■ Qaim, 2009

Slide 12

Sustainability Impacts in the USA

- NAS Conclusions: Planting GE crops generally:
- Is better for the environment than conventional crops
- Uses less pesticide
- Uses safer pesticides than those used in conventional cropping systems
- Reduces tillage, leading to improvements in
 - Soil
- BUT: may lead to reliance on a single pesticic

Slide 13

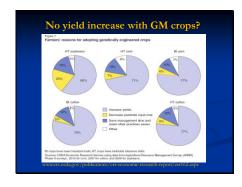


USDA-ERS (2014)

- Insecticide use has decreased with the adoption of insect-resistant crops
- Herbicide-tolerant crops have enabled the substitution of glyphosate for more toxic and persistent herbicides
- Overreliance on glyphosate and a reduction in the diversity of weed management practices have contributed to the evolution of glyphosate resistance in some weed species.

www.ers.usda.gov/publications/err-economic-research-report/err162.asp

Slide 15



Conclusions

- Wherever farmers have been allowed to grow GM crops, they have been successful
 There is NO verified documentation of any
- There is NO verified documentation of any harm, to either health or environment, due to GM crops and foods
- In spite of various political and regulatory obstacles, agricultural biotechnology is a proven valuable tool in providing safe, sustainable food, feed and industrial products.

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