

## Global Biotech Crop Revolution: Are Wheat Growers Missing Out?

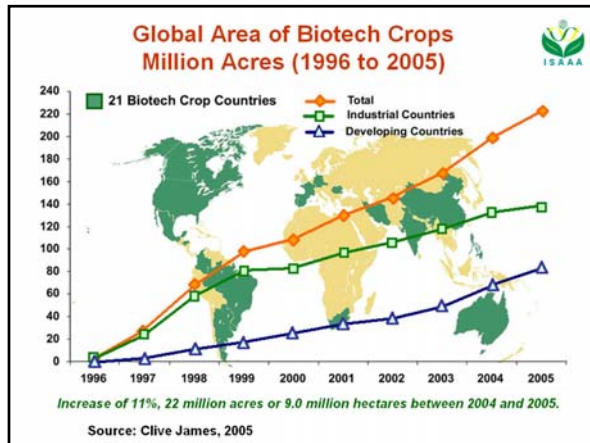
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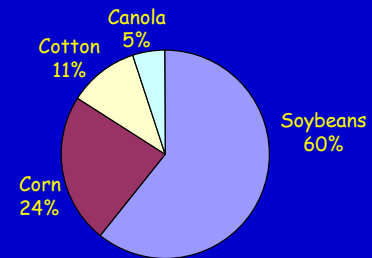
Western Canadian Wheat Growers Association, March 2006

## Outline of Talk

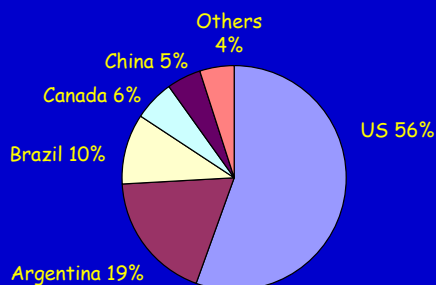
1. Crop Biotech Revolution.
2. Trends in N. American Wheat Industry.
3. GM Wheat Non-Release in N. America.
4. Economics of GM Wheat Adoption.



## Global Biotech Crop Acreage Share: 2005



## Global Biotech Country Acreage Share: 2005



## Biotech Crops in Developing Countries

- Insect resist. big problem in China before Bt cotton; fields sprayed up to 40 times.
- China's farmers saved 20% in costs & pesticide use has fallen sharply.
- India has now adopted Bt cotton.
- Brazil has moved to zero till with GM soy.
- China will soon commercialize GM rice; 20% of world's rice area; lose 10%/yr to disease/pests.
- Iran is growing GM rice.

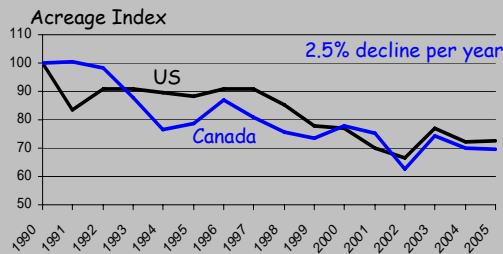
## Is Biotech Wheat Different from other GMOs?

- Wheat is a food grain, whereas corn, and soybeans are mainly used for feed.
- Edible oils largely exempt from labeling regulations in the Japan & elsewhere.
- Plenty of GM food now eaten in EU, Japan, & China.
- Disease & weeds a common problem in wheat production. GM wheat & rice have common acceptance issues.

## Market Acceptance Issues

- "Hovis to stop N. America imports if GM wheat planted." (World-Grain.com, June 5, 2003)
- "...82% of Canadian farmers' markets for CWRS still indicate that they would not, or could not, buy GM wheat." Ken Ritter, chairman of CWB, 2003.
- "...If US produces GMO wheat, the industry in Japan will shift its source of supply & if that is not possible, they will revert back to rice." US Wheat Associates

## Canadian Prairie and US Wheat Acreage Indexes: 1990-2003



Note: Figures are harvested acreage and exclude durum. In 1990 prairie wheat acreage was 28.2 m. and U.S. acreage was 69.1 m. Source: Statistics Canada and NASS

## RR Wheat Release Strategies

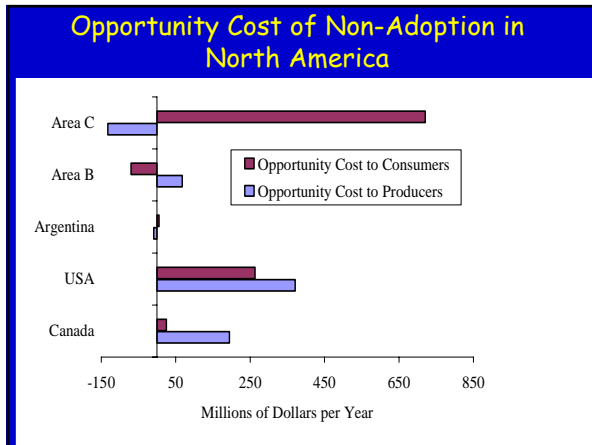
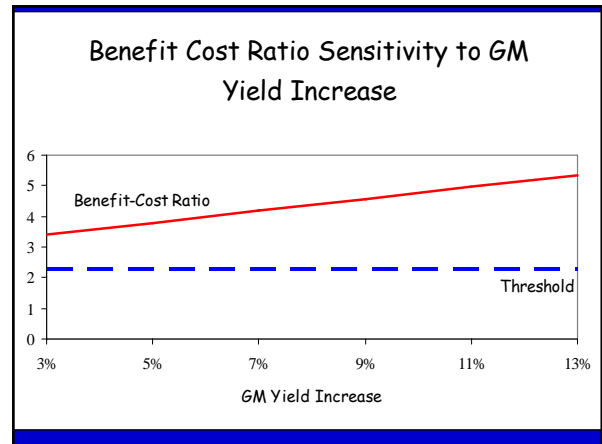
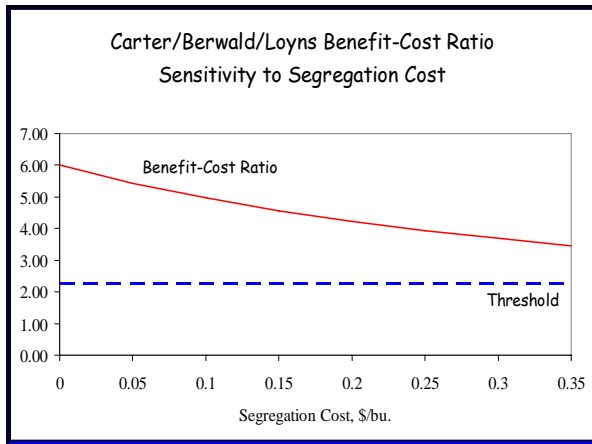
1. Canada & the US simultaneously?
2. US only?
3. Neither country- shelf technology?
4. Shift to Developing Countries?

## Political Economy Players

- Canadian Wheat Board
- US Wheat Associates
- US National Association of Wheat Growers
- N. American Grain Merchants
- N. American Food Processors
- Japan/UK & other importers

## Political Economy

- At outset, U.S. wheat industry (primarily U.S. Wheat Associates) insisted on simultaneous release of biotech wheat in the U.S. & Canada.
- "The cost-benefit analysis for Round-Up Ready wheat was clearly negative, and that is why there was so much agreement among farmers that it was the wrong product at the wrong time." CWB, *Grain Matters*, July/Aug 2004. Repeated in Feb. 2006.



### Conclusions

- Biotech wheat offers potential to turn around the N. American wheat industry.
- Political Economy killed release in N. America, with producers losing.
- Release in other countries is inevitable as research is progressing elsewhere.
- Failed release of RR wheat will affect release of other GM wheats such as *fusarium-resistant* varieties.