



**Soybean Premiums in US and  
Adoption of Biotechnology in Brazil.  
Is There a Connection?**

**Dr. Roger Borges - UWEX Soybean Agronomist**



# GMO TIMELINE IN BRAZIL

- August 31, 1981. Law #6,938 requests environmental impact study for construction and activities capable of causing any kind of harm to the environment.
- January 1995. National Bio-Security Commission (CTNBio) is created by law under the Secretary of Science and Technology and given the responsibility to regulate GMOs in Brazil. Three secretaries (Agriculture, Environment, and Health) must agree to legalize a GMO in Brazil. 800 requests 1997-1999.
- Sept. 1997. Greenpeace sues Ceval/Bungy for selling GM soybean oil in Brazil.
- June 1998. Monsanto requests approval of RR technology to CTNBio.





# GMO TIMELINE IN BRAZIL

- July 1998. Federal Judge, in response to the Green Peace suit, orders labeling of GM soybean oil
- Sept. 16, 1998. Federal judge in response to Brazilian's Consumer Defense Institute (IDEC) suit prohibits the Federal Government to register commercial production of GM soybeans in Brazil before technical evaluation of their environmental impact.
- Sept. 24, 1998. CTNBio release report favorable to legalizing GM Soybean.
- Nov. 27, 1998. Restriction on government approval of GM soybean is lifted.
- May 5, 1999. Monsanto requests registration for five RR varieties.





# GMO TIMELINE IN BRAZIL

- May 14, 1999. Green Peace and IDEC challenge CTNBio's recommendation due to lack of environment impact data collected in Brazil.
- May 17, 1999. Ag secretary supports RR variety registration. Secretaries of Health and Environment responding to pressure fueled by Monarch butterfly/BT corn episode delayed their decision.
- June 18, 1999. Federal judge in response to IDEC suit prohibits planting and sale of GM soybeans until the government defines safety and labeling rules on GM soybean products. He also requests a study of environmental impact from Monsanto.
- July 1999. Monsanto appeals and loses





# GMO TIMELINE IN BRAZIL

- March 26, 2003. Facing an undeniable amount of illegal RR acreage in the state of Rio Grande do Sul, the federal government issued Decree 113 authorizing the sale of GM soybean at the Brazilian domestic market in 2003 only. No provision was made for the 2003/04 season.
- August 12, 2003. One out of a team of three judges at the Federal Tribunal lifts the ban on GMO.
- September 8, 2003. The two other judges reverse the ruling.





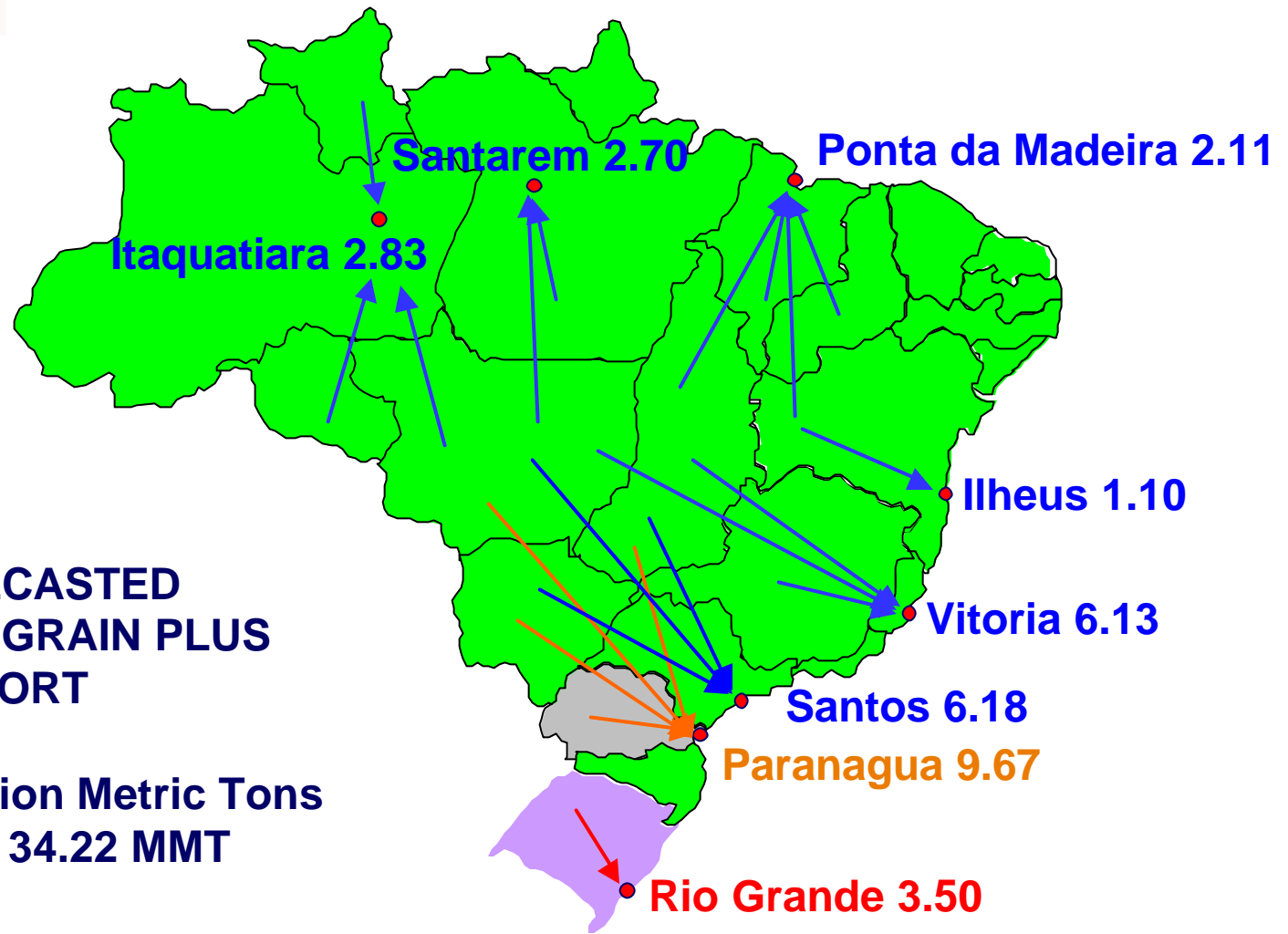
# GMO TIMELINE IN BRAZIL

- September 25, 2003. Decree 131 authorizes the planting until 12/31/03 of GM soybean seed produced and saved by the same grower in 2003 (Signed by vice-president). GM soybean seed can not be sold. It has to be planted in the same state where it was grown. The grain has to be sold by 01/31/05. Whole grain and sub-products of GM soybeans have to be segregated and labeled accordingly. GM Soybean growers must sign a contract of Commitment, Responsibility, and Conduct Change by 12/09/03.
- October 14 2003. Parana passes law prohibiting the planting, processing, and marketing of GM soybeans throughout the state. It also prohibits the export and import of any GMO through Parana ports.
- December 15, 2003. Decree 131 is converted to Law # 10,814 with the exception that growers are no longer solely responsible for potential damage to environment or third parties.





# Brazil Soybean Export by Port



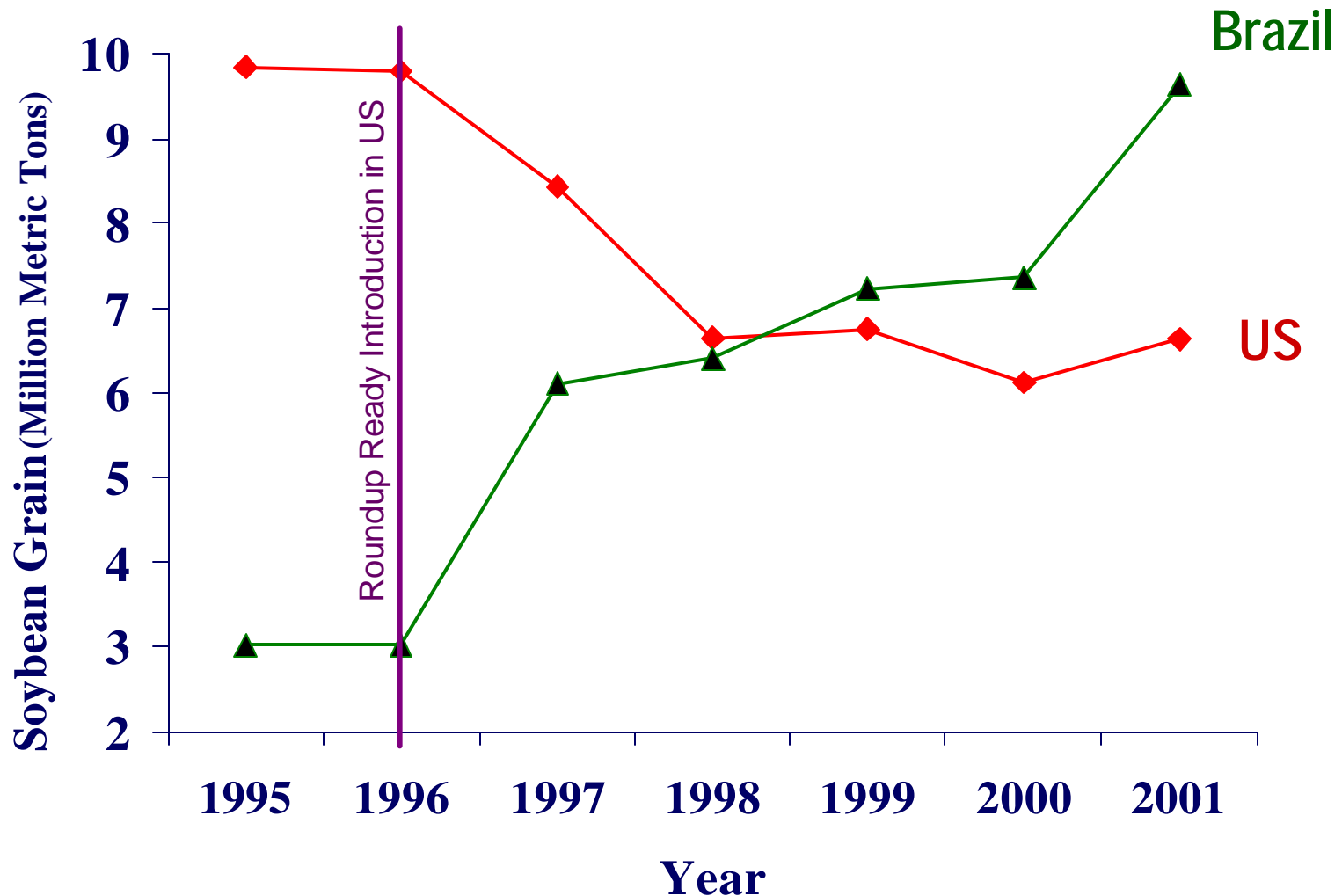
**2005 FORECASTED  
SOYBEAN GRAIN PLUS  
MEAL EXPORT**

**UNIT = Million Metric Tons  
TOTAL = 34.22 MMT**





# Soybean Exports to Europe





# IT IS ALL ABOUT CHOICE!

- GMO free zone - Organic farmers want to preserve green status.
- GMO as an option - Other farmers may want to grow GM crops.
- Labeling - Consumers want to know what they are eating.
  - The biotech industry strongly opposes it.
- Regional marketing strategy - Regions of Europe and Brazil want to be GMO-free.





# THE INFORMATION ARGUMENT

- United States Position

- ✓ There is not enough info to prove that GMOs are *unsafe*.

- Brazilian's Consumer Protection Agency, Green Peace, and many consumers around the world.

- ✓ There is not enough info to prove that GMOs are *safe*.





# AGRICULTURAL TECHNOLOGY BREAKTHROUGHS

- About 9,000 years ago slash and burning was discovered
  - ✓ Cheap, fast, efficient, higher yields
  - ✓ Widely adopted on all seven agriculture centers of origin
  - ✓ Soil Organic Matter impoverishment
  - ✓ Areas abandoned and people forced to relocate.
- About 8,000 years ago irrigation was discovered
  - ✓ Highly effective raising yields
  - ✓ Fast and widely adopted (Nile, Tigris, Euphrates, and Indus)
  - ✓ Salinization buildup
  - ✓ Caused the rise and fall of the Mesopotamia civilization
  - ✓ Previously fertile soil rendered sterile to this date.





# AGRICULTURAL TECHNOLOGY BREAKTHROUGHS

- In 1939 Paul Muller accidentally discovered DDT
  - ✓ Quickly and widely adopted for insect control
  - ✓ Won Nobel Prize in 1948
  - ✓ Rachel Carlson published Silent Spring in 1962
  - ✓ DDT banned in 1972





# TO REFLECT

- How long it took for the Mesopotamians to realize the salinization effect of inadequate irrigation practices?
  - ✓ Did irrigation go away?
- How long it took for the top scientific minds of the 20<sup>th</sup> century to realize the ecological impact of synthetic insecticides?
  - ✓ Did insecticides go away?
- How long you think it will take for us to fully understand the impact of GM technology?
  - ✓ Will GMO go away?



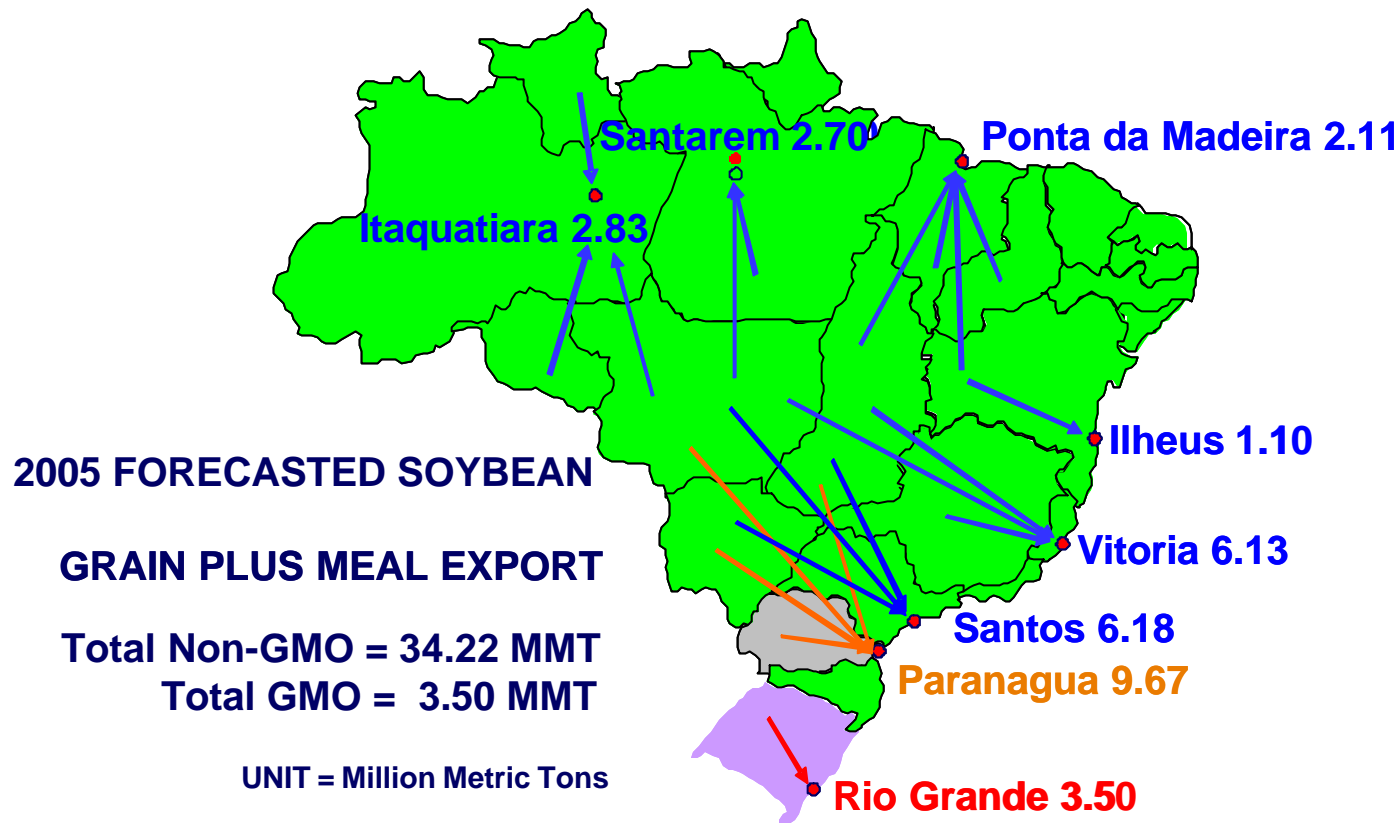


# Non-GMO PREMIUMS

- Once legalized, GM soybeans will likely be readily adopted by Brazilian farmers.
- Similarly to the Organic Market, non-GMO premiums will likely be the most effective tool consumers will use to promote non-GM soybean production.
- Iowans and Minnesotans would pay 14% less for GMO labeled food (vegetable oil, tortilla chips, and russet potatoes). Wallace Huffman - Distinguished Professor of Agriculture and Charles F. Curtiss - Economics Professor. ISU 2001



# Would you expect non-GMO premium to increase if Brazil stops exporting 1.1 billion bushels of GMO-free Soybean?





# OPEN QUESTIONS

- Will Brazil legalize GM soybean nationwide? If so, when?
- If Brazil legalizes GM soybean production, how much premium European and Asian consumers would be willing to pay for non-GM Soybeans?
- Will the combination of issues such as higher premiums, seed tech fee, weed resistance, and market opportunity justify an increase of conventional soybean acreage in the US?





**THANK YOU!**

**QUESTIONS?  
COMMENTS?**

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