



## **Social Acceptance of Biotechnology: Global Perspectives**



Dr. Thomas J. Hoban  
Professor of Sociology  
and Food Science  
North Carolina State University



## **Biotechnology and Society**



The potential benefits of biotechnology will only be realized if society accepts the science and new products as safe and ethical.

***Such acceptance is not guaranteed.***

## **History of Technological Controversies**

- Society has questioned dramatic scientific shifts in the past (Galileo, Darwin)
- New technologies are initially resisted (hybrid corn, pasteurization, margarine, microwaves)
- Scientists were the first to see the need to limit genetic research in 1975 (Asilomar, Cal)
- Organized opposition from environmental activists began in Europe and elsewhere
- European opposition to biotechnology now limits innovation and denies global benefits

## **Challenges of Introducing Biotechnology into Society**

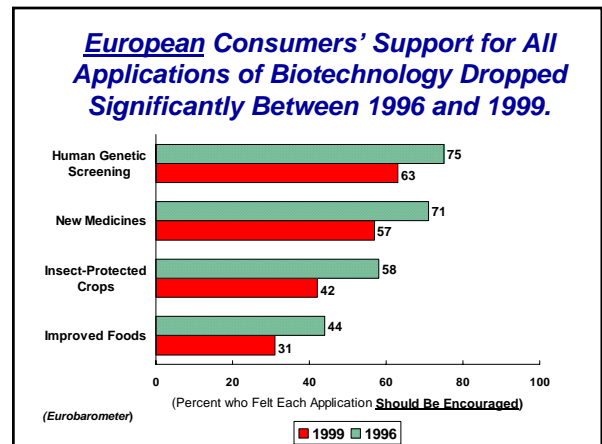
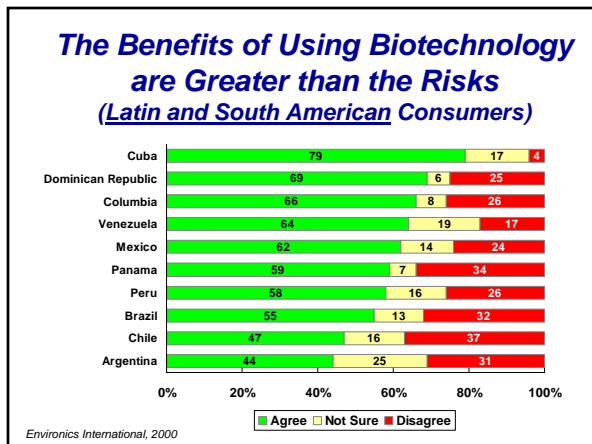
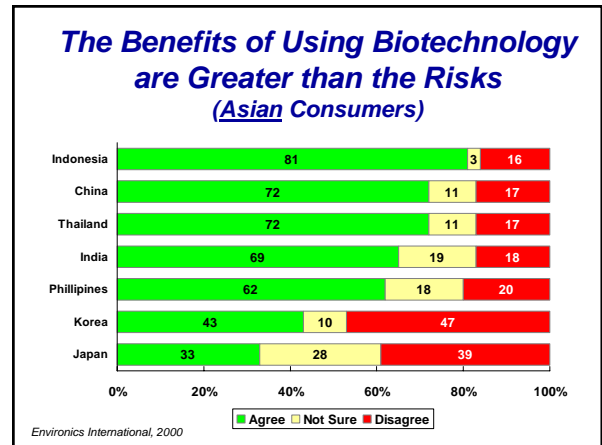
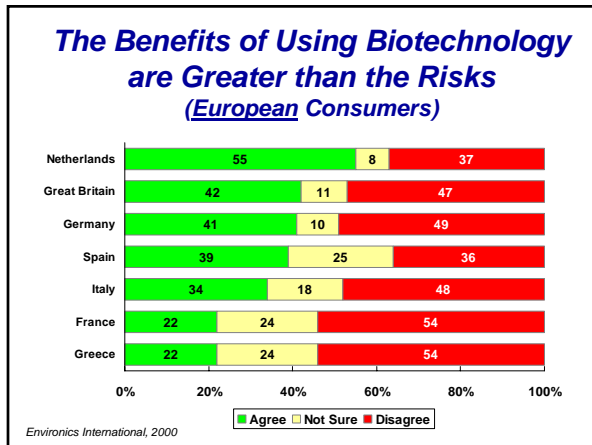
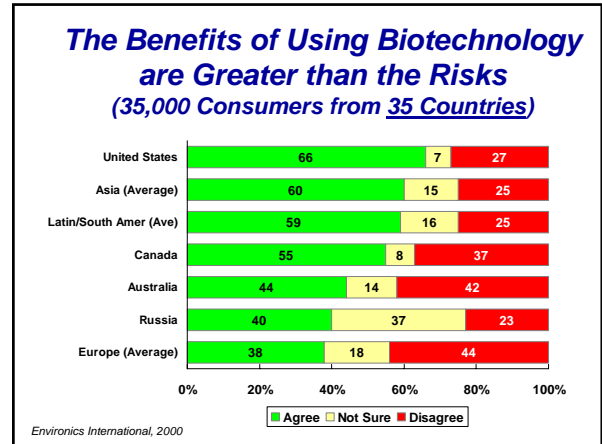
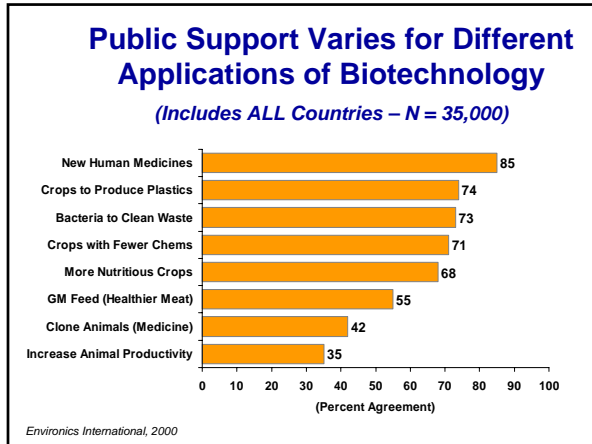
- The more powerful the technology, the greater potential concern and need for communication.
- Most people have limited knowledge about and interest in science and agriculture.
- When the protest industry attacks the biotech industry this impacts whole food chain.
- Politics and economics are driving decisions (not science or humanitarian needs).
- Biotechnology raises complex ethical and social issues which need attention (much more so with humans and animals than plants or microbes).

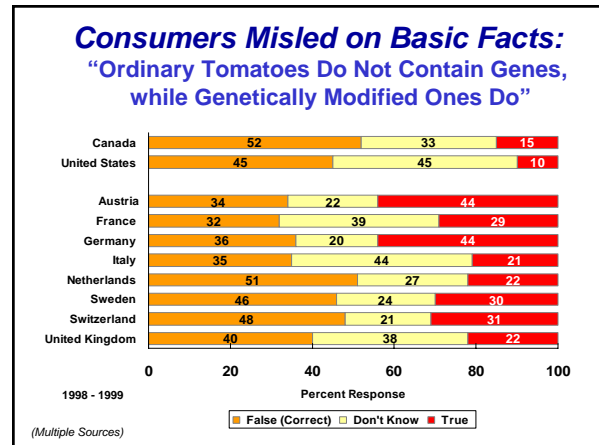
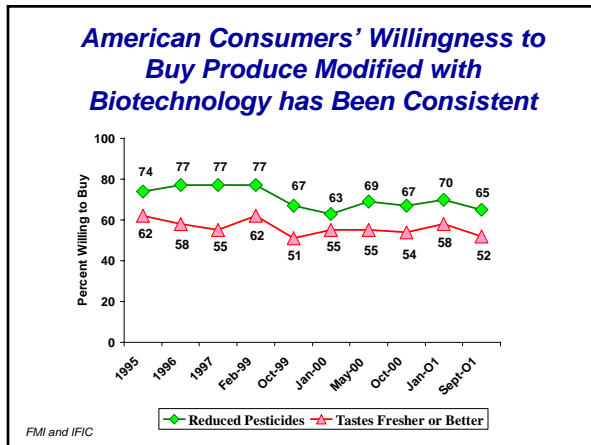
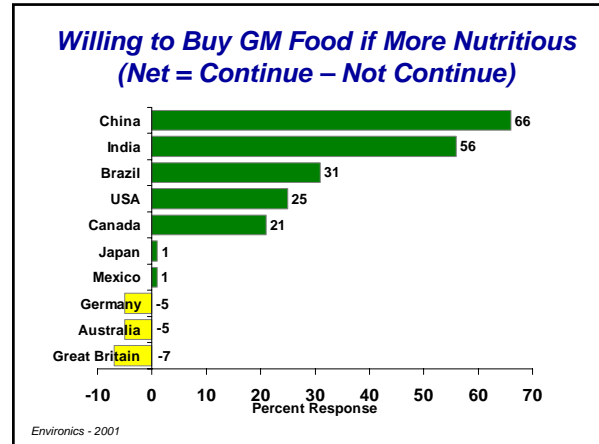
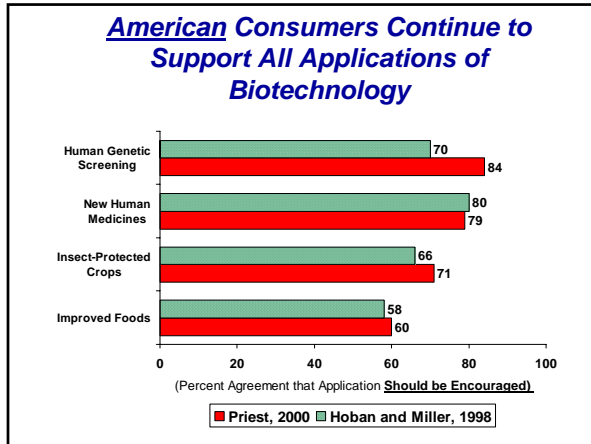
## **Lessons from US on Introducing Biotechnology into Society**

- Preparation is the key (not reactive).
- Conduct ongoing background research.
- Communicate with consistent and carefully tested messages using credible sources.
- Target the "right" audiences (media).
- Build confidence in government and credibility of scientists (open-ness).
- Stress the benefits of the technology.
- Understand and neutralize the opposition.



## **Consumer Acceptance Varies for Different Types of Applications and Between Countries**

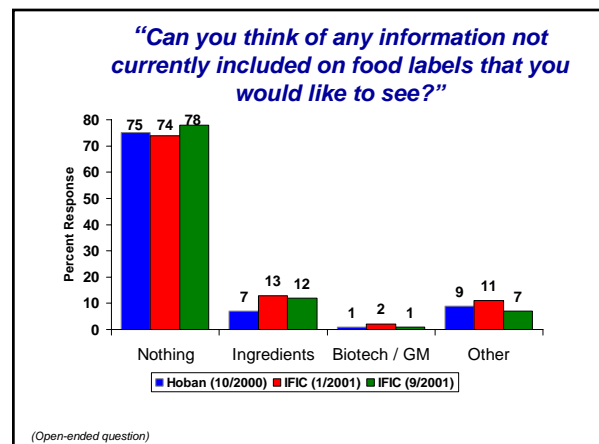


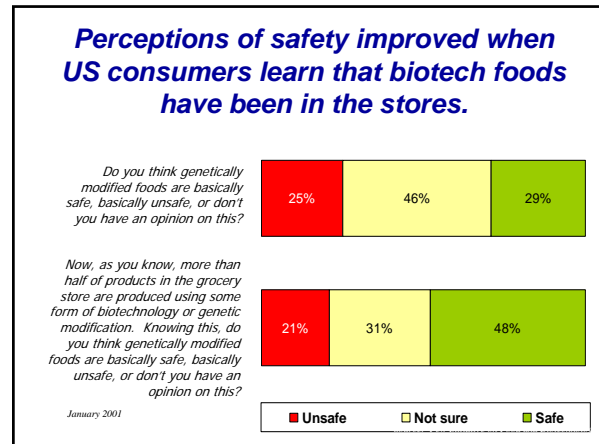
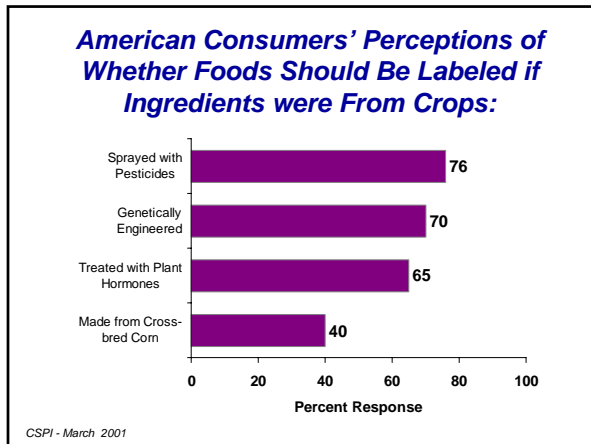


### Labeling Preferences and Issues

- People are already overwhelmed by information and choice (lack of time).
- Many claim to want information about everything (e.g., harvesting), but the most important information involves nutrition.
- Less need for labels on processed foods (or meat) compared to whole produce items
- Unwillingness to pay for labels ("just let the companies pay").
- Voluntary labeling on "Non-GM" foods allow concerned consumers choice (organic)

Source: Hoban, 2000





## Conclusions and Implications

- ### Steps to Enhance Market Acceptance of Biotech
- Speed up the development of products with clear consumer benefits.
  - Provide balanced information through a variety of credible sources.
  - Improve and maintain confidence in science and the government regulatory system.
  - Work to develop a cost-effective and efficient identity preservation system.
  - Address global policy challenges (e.g., the nonsense of traceability).
- Hoban, 2001

- ### Top Ten Reasons Why the EU Does Not Want Biotechnology
- ✓ Mad cows and dioxin chickens
  - ✓ Low trust in government or scientists
  - ✓ Media feeding frenzy (esp in UK)
  - ✓ Greedy greens and grocers
  - ✓ Don't let the US mess with our food (or our culture)

- ### Top Ten Reasons Why the EU Does not Want Biotechnology
- ✓ Save our small, inefficient farms for weekend visits and economic stability
  - ✓ There were no obvious benefits for EU consumers in first generation products
  - ✓ Unprepared politicians from countries who don't get along anyhow
  - ✓ Easy to attack US multinational corporations
  - ✓ They are behind in the biotech race and need time to catch up.

### **Outlook for Europe**

- Current policy of "Don't Ask, Don't Test, and Don't Tell" misleads EU consumers.
- If food prices reflect true costs of traceability consumers will not really want GM-free.
- More difficult and costly to source non-GM soybeans (esp. once Brazil approves).
- Consumer education could be effective if led by European leaders and scientists.
- Leaders want a reasonable way out of mess.
- They should even start feeling guilty for their impacts on developing countries.

Hoban, 2001

### **Influential Messages about Biotechnology**

- Biotechnology is already providing benefits to society and promises even more in the future (environmental, nutrition, and humanitarian)
- Scientists and governments have determined the products of biotechnology are as safe or safer.
- There are risks with any technology and any from biotechnology are examined and managed.
- Biotechnology is the latest in a series of tools that have "modified" plants and animals (more precise).
- Biotechnology is vital for future economic prosperity.

Hoban, 2002

### **US Assistance for Asian Biotechnology Acceptance**

- Share experience and expertise (lessons learned).
- Build capacity of local scientists and leaders to make own decisions.
- Help with market research and development.
- Help identify and manage emerging issues.
- Facilitate partnerships (US-Asia, public & private, multidisciplinary).
- Bring the EU back to reality!!

Hoban, 2002

### **Center for Biotechnology in Global Society (CBIGS)**

- Focus on the social acceptance and impacts (especially in developing countries).
- Virtual network of leading universities.
- Build capacity of world leaders to address challenges and ensure benefits
- Provide credible source of information and inspiration (Internet and library)
- Conduct market analysis, social science research and related tasks.

### **Our Key Responsibility**



Ensure that society has enough knowledge and foresight.

Continue to confirm safety before products are introduced into the environment and food supply.



### **For More Information:**

TOM@SA.NCSU.EDU