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Why Doesn't The World Want Our GMO Grains?

Like the microwave oven or pasteurization, acceptance takes time

Thomas J. Hoban, Professor of Sociology and Food Science
at North Carolina State University Speaks with *Strategic Agribusiness Review*

Remember, when the microwave oven first came out? People didn't want to use it. They were scared about the effects of radiation.

Yet once people were assured of the microwave oven's safety the convenience it offered outweighed the initial fear. Now a standard bearer of modern convenience, it represents a scientific innovation that changed the way food is heated in kitchens, convenience stores, and restaurants the world over.

Pasteurization took a similar route. People were wary of it. Then boom, pasteurized milk and other products became the norm, found on every grocery store shelf. In much the same way, with better marketing and management, genetically modified grains could eventually be accepted as the norm.

One reason this has not occurred already is that these products were developed without a consumer market. While it's true that genetically modified seeds achieved tremendous acceptance by farmers, there was no apparent or immediate benefit to the food processor or consumer in the first generation of products. All the benefit has been for the farmers and technology providers.

In order to gain further acceptance, we need to understand how we reached a place of animosity in consumers' minds, consider their needs in future development processes and educate them about the benefits of genetically modified organisms (GMOs).

In his presentation on the *Top Ten Reasons the World Doesn't Want Biotechnology*, Thomas J. Hoban, Professor of Sociology and Food Science at North Carolina State University, agrees. "Biotechnology must serve the needs of society. The potential benefits of biotechnology will only be realized if society accepts the science and new products as safe and ethical."

Strategic Agribusiness Review recently interviewed Dr. Thomas Hoban to get his perspective on why there is so much resistance towards biotech foods, how biotech firms can avoid going the way of the tech dot.com pioneers and what the industry should do to turn things around.

SAR: Why don't Europeans like GMOs?

Hoban: Part of it is bad timing. Biotechnology arrived on the European market on the heels of the mad-cow disease and other food safety problems. The European consumers did not see any benefits from the first generation of GMOs. Plus, unresolved questions remain about the long-term safety for the environment and human health. Another key factor is that Europeans resent Americanization, particularly when it comes to food (i.e. McDonalds).

There's also a suspicion that the EU is dragging its heels on GMO acceptance because the EU's ag biotech industry lags the US in terms of product development. Blocking GMOs gives EU companies a chance to catch up.

One argument I reject is that EU opposition to GMOs is a form of protectionism to prop up their own domestic grain producers. EU farmers are very minor producers of soybeans yet the EU prohibits GMO soybean imports. So it's not a simple trade conflict. The roots are much deeper.

SAR: How are American consumers reacting to GMOs?

Hoban: US consumer support for biotechnology in food production is declining. Like their European counterparts, American consumers have doubts about the motives and management of biotech firms and the effectiveness of government regulation.

In my presentation, *Top Ten Reasons the World Doesn't Want Biotechnology*, I provide these staggering statistics from a Rutgers University study

73% agree: Most GM foods are created because scientists are able to make them, not because the public wants them.

68% agree: Companies involved in creating GM crops believe profits are more important than safety.

SAR: In light of this attitude, why are GMOs being developed?

Hoban: There are many economic benefits for the farmer, and because the US is losing its position as the world's low-cost producer of grain, our farmers need this technology to remain competitive in global markets.

Some GMO grains are appearing with enhanced nutrient content or better processing qualities.

But many food companies are saying, "That's not necessary; we can fortify the foods or modify them in production."

And there remains the promise of being able to produce valuable pharmaceutical or industrial raw materials from farm fields—another ray of hope for the American farmer and the technology providers. But this aspect of GMOs is something that the food industry is very concerned about.

SAR: Sounds like food manufacturers and the crop production industry aren't on the same page.

Hoban: So far, the US food industry has stood behind biotech crops. But things are heating up as the food industry voices opposition to using food crops as factories for pharmaceuticals or industrial chemicals. Food manufacturers don't want even a faint possibility that these GMOs could contaminate food grains. The Starlink situation was just a glimpse at what could happen. A mistake with a less-benign GMO would be devastating for a food brand—and food brands have much more at stake than ag brands.

Another issue is that food companies will be forced to either source non-GMO grains for all products in the European market or label their foods accordingly. This is a costly proposition for food companies and could further restrict markets for US GMO grain.

It will be interesting to see how this plays out in the market and regulatory arenas. If you look at sheer corporate power, Philip Morris, Nestle and Unilever have far more power and resources than the titans of the ag industry. Ag biotech executives must tread lightly as the food industry has the upper hand, because of their size and clout with consumers.

SAR: Who regulates GMOs?

Hoban: Currently, the regulatory system is basically voluntary. Three years ago, the FDA hosted hearings on regulation. Food processors, consumer groups, and the biotech industry all agreed that the FDA system for GMOs should move from voluntary to mandatory.

In fact, a recent Pew Study found that 89% of American consumers agree that "companies should be required to submit safety data to the FDA for review, and that no GMO food

product should be allowed on the market until the FDA determines it is safe." This was the consensus from FDA Hearings in 1999.

That same Pew study found that only 35% agree that companies should be allowed to put a GM food product on the market without any special review by the FDA. This, unfortunately, is the current federal policy.

SAR: What are the top 10 reasons the world is against GMOs?

Hoban: 10th reason: Europe is setting the tone.

The resistance is primarily driven by the European marketplace. The majority of GMOs are grown in the US. Farmers' adoption of GMOs is widespread and going through the roof. Just look at soybeans. GMO soybeans are everywhere. But the global food industry, driven by European objections, doesn't want the headaches associated with GMO foods.

A product dominating the farm fields, without a welcome home, is a wobbly chair to straddle. If handled differently, the industry could be sitting comfortably.

9th Reason: Activists have discovered that GMOs are an effective fundraising tool.

The European position is driven by activists blocking the market. The debate is being set by Greenpeace and others.

In 1996, Greenpeace went after the UK supermarkets, which had just suffered through the economic impact of the mad cow disease. The conflict became science versus ideology. The activist groups are ideologically opposed to the modern industrialized farm system.

8th Reason: When dealing with food, people don't want to take a chance on safety.

Unlike medicine, where people are willing to take risk in hopes of curing illness, they avoid any risk when it comes to food, their daily sustenance. Most people believe that there are unique risks associated with GMOs. The recent Rutgers poll found that:

80% agree "Humans are not perfect, so serious accidents involving GM foods are bound to happen."

74% agree "Nature is so complex it is impossible to predict what will happen with GM Crops."

7th Reason: Market rejection of crops with agronomic traits limits the availability of consumer-friendly products.

For example, Monsanto developed a potato with less water and more starch. The French Fries absorbed less oil. It would have been an exciting product for McDonalds. But, McDonalds made a deal with the activist groups, not to use biotech potatoes. That position shut down Monsanto's efforts to market the "super potato."

6th Reason: The US is seen as force-feeding GMOs onto the world.

The US government, farm groups and the biotech firms act like they're trying to get a baby to eat squash. You can pretend the spoon is an airplane, but the baby just sees it as an attempt to push squash in its face.

5th Reason: The food industry is caught in the middle with nothing to gain and much to lose.

If the food industry uses GMO crops, they can't sell the finished products in Europe. They'll also have a tougher sell marketing the products in the US, considering how the organic market is the fastest growing segment.

4th Reason: Developing countries resent being used as pawns.

This is how it's shaping up with the recent World Trade Organization (WTO) case. The US administration is touting humanitarian goals while the biotech industry uses images of starving people as their PR tactics in this global chess game.

3rd Reason: People value nature for its own sake.

People are nervous about things that sound unnatural. They're concerned about introducing a new gene into the food chain. They're worried it will hurt the environment or threaten human health. Plus, many consumers romance the notion of agriculture. They view it like the "American Gothic" painting of 50 years ago, with the pitchfork and bale of hay.

2nd Reason: The Biotech Companies are too busy touting the benefits, while not addressing the risks or ethical issues.

Many firms are not acknowledging the risks that are inherent in any new technology. For instance, the biotech firms made a soybean using the Brazilian nut for its lysine content. In the middle of development, they found out there could be an allergic reaction, because many people are allergic to nuts. They shut down the research on it. The product never got commercialized.

1st Reason: The US Government is making things worse with their WTO stand and weakening of regulations.

The US has asked the WTO to rule against Europe, which put a barrier on trade. This is an attempt to force Europe to approve GMOs. This may sour the European appetite for US products and may lead to future retaliation for non-ag commodities.

SAR: How does the industry prevent further GMO rejection?

Hoban: Realize where this rejection is coming from and take action with the following:

- ? Recognize that concerned consumers and food companies are already moving towards organic foods.
- ? Speed up development of crops with real consumer benefits (healthier oils, better taste, and longer shelf life).
- ? Don't cause any more problems for the food industry (no food crops for pharmaceutical production).
- ? Ensure FDA maintains a strong regulatory program for food safety.
- ? Make sure all farmers comply with the requirements for insect resistant management (IRM) identity preservation, and global regulatory approval (not just in the US and Canada.).

SAR: What do you recommend for biotech firms?

Hoban: Biotech firms need to act smarter and start providing products that consumers really want, instead of being driven by short-term profits. Plus, the industry should encourage the FDA to require mandatory pre-market notification of all their GMOs.

Remember, to look at things in context. It took pasteurization 40 years to gain acceptance; it took microwave ovens decades. The biotech industry is probably eight to 10 years away from going main stream; provided there are no problems.

Just because you have the science to do something is not reason enough to expect societal acceptance. Focus on what agriculture and food is all about and keep an ear close to the food industry and the consumers.

[Dr. Thomas J. Hoban](#) is a professor in the College of Agriculture and Life Sciences at North Carolina State University. He is a member of both the Department of Sociology and the Department of Food Science. For the past ten years, he has focused on how American agriculture, the food industry and others can most effectively respond to the important issues related to biotechnology. His research on consumer perceptions of biotechnology is widely used by groups from around the world.