

## *Q+A on the Safety and Benefits of GM-Food*

Tamara Walid, Senior Features Writer for “Arabian Business” in Dubai, United Arab Emirates, posed a series of questions to the Center that provide insight into concerns and attitudes about GM-foods grown in the United States and exported to the Arab world. Her August 5, 2007 questions, and Dr. Benbrook’s answers follow.

Tamara Walid – “Do you think GM foods should be sold in supermarkets?”

As a practical matter, it is too late to ask this question in the case of corn, canola, and soybeans, and all conventional products and animal products derived from them. In terms of future and new genetically engineered crop varieties, I do not know of any that have been adequately tested for stability of gene expression, unanticipated side effects, allergenicity, and impacts on human reproduction (e.g., sexual development, birth defects).

“Do you encourage research and development in this area?”

"This area" is very broad. I strongly support work on genomics and molecular biology that is designed to understand the genetic basis of valuable crop traits, and crop-genetic-environment interactions. I support "marker assisted" breeding to move desirable traits into agronomic crops. I do not support any further applications in crops headed for direct human consumption of invasive and unstable GE techniques that have been developed to move DNA across species barriers.

“Do you believe some foods might be harmful for people and animals?”

In my mind, such a judgment should not be a matter of belief, although I know and respect the fact that GE technologies are incompatible with some religions. My judgment is based on the global scientific literature. Sufficient risks have been demonstrated to support a "go slow" approach, especially for major human foods consumed in raw, or light processed forms.

”What are the precautions that need to be taken to ensure these products are safe?”

Two things. First, development and application of advanced systems to test for allergenicity, birth defects and other reproductive impacts, and stability of gene expression. Second, such work should be done by qualified and independent scientists and publicly supported research institutions, and the results and acceptability of any risks

identified, should be openly discussed and debated through a process that provides all impacted stakeholders with a fair chance to make their views known.

“The Arab world imports a great percentage of products from the United States. It is suspected that many products in our supermarkets are GM but are not labeled as such. Do you think that is the case? Can you give examples from your own observation?”

Yes, of course, most processed foods and animal products from the U.S. are grown from GE corn and soybeans, or produced with the grain harvested from fields planted to GE corn and soybeans. The only way to avoid GM food from the U.S. is to purchase certified organic products.

”Currently an experiment under the name Enviropig is being conducted in Canada while the US is looking at drafting federal laws on the amount of GM products entering supermarkets. The Enviropig experiment could create a whole new breed of genetically modified animals that could be sold to people in the future. Do you see this happening?”

Not likely for many, many years. "Enviropig" is a crazy way to go about achieving a laudable goal -- protecting water quality from excessive runoff of nutrients that are applied to crop fields in the form of animal manure. There are many ways to accomplish this goal – reducing excessive nutrient runoff from farm fields. If pigs were spread more evenly across the landscape, as they used to be, animal manures could be applied to cropland at safe levels, helping build soil quality.

The need for an "Enviropig" is driven by the size of farms and the degree of concentration in our pig industry. There are easy, direct, low-cost, and safe ways to solve the underlying problem. At some point, people will figure this out and shut down just dubious applications of genetic engineering technologies, like the project hoping to develop a GE "Enviropig."

”Do you think people will buy these products?”

Depends on the product, but in the case of GE livestock, enough people will seek out organic and non-GE products to render the technology a "loser" in the marketplace.